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The Netherlands
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Fax : +31 184 41 49 59
E-mail : sales@vanbeest.com
Website : www.vanbeest.com

Dear Customer,

For over 90 years the production of high tensile shackles has been our core business and competence.
Dirk van Beest founded the Van Beest company in 1922, initially as a supplier of iron works to the dredging industry, which was strongly developed in the Sliedrecht area.
From the very beginning, the company has been forging shackles. Its ironwork expertise gave the Van Beest shackle an edge over the competition and this was the start of a network of professional users that now stretches across the globe. In 2007 Van Beest acquired Excel®. Under this brand grade 8 and grade 10 lifting chain accessories are produced in our French factory. The designs and quality standards of our products are the result of requirements put forward over the years by our customers in markets throughout the world.
Our shackles are branded Green Pin®, our chain fittings Excel®, we are the sole proprietors of these two brands.

Production

At Van Beest we were faced with a labour-intensive production unit. Over the years Van Beest invested, with its own engineers, in the development of production lines of high quality output. The highly automated machines in our two factories are custom built to Van Beest's requirements and thus to those of our customers.

The same technicians demand the quality of the products during production and therefore guarantee quality to our customers. Each individual Green Pin® shackle or Excel® hook is marked with the steel grade and a traceability code. But quality is not only a matter of the product itself, it stretches across the entire organization. Since 1993 our company has been ISO certified by Lloyds; currently we are ISO 9001-2008 certified.

Accessories

Our products are used by professionals in many different environments such as the offshore industry, naval construction, the fishing industry, mining, and general industry, to mention just a few.
The Green Pin® shackle or Excel® hook is usually the final connection, and to serve our customers best, we have added a wide range of other steel wire rope and chain accessories which complement our full range of high quality products. These accessories are engineered by Van Beest and carefully sourced from certified suppliers to ensure they represent the same high quality performance as our own products.

Distribution

Both our Green Pin® shackles and Excel® hooks are inspected and stored at our main warehouse in Sliedrecht, 30 km from Rotterdam, where we offer our wide range of products from stock. Rotterdam is the main seaport to Europe inbound and has sailing connections to all the major business centres across the world outbound.

Storage efficiency is optimized by the latest computer software, enabling us to make maximum use of our storage facilities.
A customer order can be shipped from our warehouse within 4 hours from placing the order. Additionally, wholesalers throughout the world maintain stocks of our Green Pin® shackles and Excel® hooks in order to serve their own target markets best. In over 80 countries worldwide Green Pin® shackles and Excel® hooks are available from storage at our various distributors. We will be pleased to advise you of the Green Pin® or Excel® supplier nearest to you to obtain supplies.



We trust this catalogue will be a helpful business tool for you and that it will assist you in serving your customers' needs. In addition, our skilled salespeople and technicians are always at your service. Please do not hesitate to contact us for any question related to shackles, hooks or other wire rope and chain accessories in general.

We are convinced that with the full range of our products and services you have found an excellent source that enables you to meet your needs in the global marketplace.

Kind regards,

C. Boer
Managing Director

R.M. Meer
Vice President Sales

P.S.: For general business terms and conditions see page 176

Member of AWRF
Associated Wire Rope Fabricators

Van Beest B.V., manufacturer and supplier of wire rope and chain fitings.
Registered trade marks 'Green Pin' and 'Excel'. Member of Van Beest International.

Rabobank: account No. 35 93 43 155, IBAN code : NL86RABO0359343155, SWIFT/BIC code : RABONL2U. VAT No. NL0091.33.835.B01. Chamber of Commerce Rotterdam - No. 23009317. All our offers and contracts are subject to our General Conditions of Sale as registered with the District Court in Dordrecht on March 12, 2012 under number AL 5/2012.

Two brands: Green Pin® and Excel®

In 2007 Van Beest acquired the Excel factory in France. In this factory we manufacture lifting chain accessories. The Excel® range of chain accessories is very complete; you will find everything you need to make a chain assembly in the program. From the master link to the hook, fitted with an eye, swivel or clevis.
And the range not only contains grade 8 products; almost every product can also be supplied in grade 10.
Van Beest also offers a range of top quality stainless steel chain accessories.

Over the last few years Van Beest further improved the Excel® range and expanded it with new types and sizes. Please check our Excel® catalogue for details of this range.

EXCEL®







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We reserve the right to make amendments on specifications mentioned in this catalogue without prior notification. Specifications show general compliance with the various standards and should not be taken to meet all terms of the contract or purchase order.

Chamber of Commerce Rotterdam, Registration Number 23009317
VAT Number NL 0091.33.835.B01

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Member of Van Beest International

Member of AWRF Associated Wire Rope Fabricators

VAN BEEST B.V., manufacturer and supplier of wire rope and chain fittings.
Registered trade marks:

Memberships

Van Beest is a member of several organizations which promote common interests in our industry. Companies with similar interests come together to share ideas and solutions for industry issues. These organizations spread (technical) information via publications, internet and meetings, and represent the interests of their members on a collective basis. Some of them also organize trade missions, seminars, workshops, member meetings and collective participation in exhibitions worldwide.

FME CWM

membre du cisma

NABC

LEEA

Member of AWRF Associated Wire Rope Fabricators

Fenedex

GEP AFTP

Holland Marine Equipment
Masters of Innovation

IRO

Distributors

Distributors throughout the world maintain stocks of our Green Pin® shackles and Excel® hooks in order to serve their own target markets best. In over 80 countries worldwide our products are available from stock at our various distributors. We will be pleased to direct you to the supplier nearest to you to obtain supplies.

Please contact us at: sales@vanbeest.nl



References

Some companies that have used Green Pin® products in projects:

- Acergy
- Aker Marine Contractors
- Bechtel Corporation
- Damen Shipyards Group
- Dockwise Ltd.
- Heerema Marine Contractors
- Hyundai Heavy Industries Co., Ltd.
- IHC Merwede
- Jumbo Shipping
- Keppel Offshore & Marine
- Maersk Drilling
- McDermott
- Petrobras
- Saipem
- Subsea 7
- Technip







General

In case you do not use the products yourself but are reselling these as a part of a product manufactured by yourself, please take our general cautions and warnings into account and make these known to your customers as well. In any case, we do not accept any responsibility or liability, nor can we be held responsible for any misuse or damage with, by or at your customers due to negligent use.

Definitions

Material

For the production of shackles and other lifting devices, different raw materials are used, depending on the use of the finished product. For shackles for example, depending on the specific use, the following raw materials can be applied:

- mild steel, untreated, comparable to grade 3;
- high tensile steel, untreated, or normalized, which is comparable to grade 4;
- high tensile steel, quenched and tempered, which is comparable to grade 6;
- alloy steel, quenched and tempered, which is comparable to grade 8.

Load

Following terms are used to define a load:

- Working Load Limit or WLL: the maximum load the product is designed to support, in general use and in a straight pull.
- Proof Load or PL: this is the load applied on proof testing the product. At this load the product may not show visual deformation. For further specific information as to the proof load applied, we refer to the separate paragraph on testing further on.
- Minimum Breaking Load or MBL: the minimum load at which the product may fail or no longer support the load. Where applicable the details on the MBL are given specifically for each product range, at the beginning of each chapter.
- Shock Load: a load resulting from a very rapid application of the load on the product. Shock loads are to be avoided in practice since these increases the stress on the product significantly and may affect its product life.

The unit that is used in this catalogue to indicate WLL, PL and MBL is t, the metric ton.

Safety factor

This factor gives the ratio between the Minimum Breaking Load and the Working Load Limit.
For the standard range of Green Pin® shackles for example, the safety factor is 6:1, meaning that the shackle may only break once it is overloaded by a factor of at least 6 (6 times its designed Working Load Limit).

Product dimensions

All product dimensions in this catalogue are nominal dimensions. Product design, materials and/or specifications can be subject to alterations without prior notification.

Finish

Products can have following finish:

- Self coloured: the product is delivered in the condition it has been forged or machined and has undergone no specific finish treatment.
- Electro-galvanized: the product is electro-galvanized according to the customary standards, after the actual production of the product. The thickness of the coating is at least 5 μm.
- Hot dipped galvanized: the product is hot dipped galvanized according to the customary standards, after the actual production of the product. The thickness of the coating is at least 70 μm.
- Painted: the product is painted in a specific colour after the production.

Standard

These refer to the specific standards indicated for the product.

Temperature range

This indicates the temperature range at which the product can be used. Outside the temperature range the WLL of a product may be affected.

Certificates

Depending on the type of product and certificate availability for a certain product, following certificates are used in this catalogue:

- works certificate in accordance with EN 10204 - 2.1;
- material certificate in accordance with EN 10204 - 3.1;
- manufacturer test certificate;
- EC Declaration of Conformity in accordance with annex IIA of the machine directive 2006/42/EC and the latest amendments;
- DNV Type Approval certificate to DNV 2.7-1;

- proof load test certificate;
- certificate with the actual breaking load experienced on tested samples;
- test report of Magnetic Particle Inspection (M.P.I.) in accordance with EN 10228;
- test report of Ultrasonic Inspection (U.S.) in accordance with EN 10228.

The first five of the above mentioned certificates can be supplied at no extra charge. For all other certificates, additional costs will be charged.

Please refer to the relevant product chapter for further details on certificates.
On request we can test under supervision of a classification bureau like LROS, DNV, BV, etc..

Abbreviations
The following abbreviations are used in this catalogue:

C	Carbon steel
A	Alloy steel
R	Stainless steel
S	Self coloured
P	Painted
E	Electro-galvanized
G	Hot dipped galvanized



Testing

Generally the following proof loads are applied to the load rated products and certificates can be supplied upon request. For further conditions on certificates please consult the general price list.
For Green Pin® shackles, the actual proof load depends on the shackle type and dimension and is applied as follows:

working load limit	Green Pin® standard shackles polar shackles heavy duty shackles proof load	Green Pin® super shackles proof load	Green Pin® sling shackles proof load
t	t	t	t
0.33	0.66		
0.5	1		
0.75	1.5		
1	2		
1.5	3		
2	4		
3.25	6.5		
3.3		6.6	
4.75	9.5		
5		10	
6.5	13		
7		14	
8.5	17		
9.5	19	19	
12	24		
12.5		25	
13.5	27		
15		30	
17	34		
18		36	36
21		42	
25	50		
30		60	60
35	70		
40		80	80
42.5	85		
55	110	110	110
75			112.5
85	170	170	
120	180	240	
125			187.5
150	225	225	225
175		262.5	
200	300		300
250	375		375
300	450		450
400	600		532
500	750		665
600	900		798
700	1050		931
800	1200		1064
900	1350		1197
1000	1500		1330
1250	1875		1663
1500	2250		1995

General cautions and warnings

All Working Load Limits (WLL) indicated in this catalogue or in other Van Beest literature or publications are only applicable to recently supplied, new and unused products, which are used under normal conditions.
Should extreme circumstances or shock loading be applicable, this must be taken into account when specifying the products to be used.

The Working Load Limit should be applied in a straight pull and overloads should not be applied. Side loads should be avoided, as the products are not designed for this purpose and the application of a side load may significantly decrease product life.
The Working Load Limit for the product corresponds to static use. In case of dynamic use (breaking, accelerations, shocks), the effective stress on the product increases significantly which can lead to product failure.

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure.
Inspection should take place at least every six months and even more frequently when the products are used in severe operating conditions.

In accordance with our on-going policy to improve our products, some dimensions or product markings may differ from those stated. The characteristics mentioned in this catalogue or in other Van Beest literature or publications are given merely as an indication. Van Beest reserves the right to make all suitable modifications to any product, even after acceptance of the customer order. In any case, the essential characteristics and performances of the products shall not be negatively affected by such modifications. Any dimension considered to be critical should be verified with our engineering department.

Conversion factors

To convert from	to	multiply by
Length		
mm	inch	0.0393701
inch	mm	25.4
Mass		
US tons	metric tons	0.9071847
metric tons	US tons	1.1023113
metric tons	pounds	2204.6226218
pounds	metric tons	0.0004536
metric tons	kilogram	1000
kilogram	metric tons	0.001
metric tons	kilo Newton	9.8066500
kilo Newton	metric tons	0.1019716
pounds	kilogram	0.4535924
kilogram	pounds	2.2046226
Torque		
Newton meter	foot pound-force	0.7375621
foot pound-force	Newton meter	1.3558180











1	Shackles	14	1
2	Thimbles	52	2
3	Wire Rope Clips	62	3
4	Sleeves	68	4
5	Sockets	72	5
6	Turnbuckles	82	6
7	Links	96	7
8	Swivels	100	8
9	Hooks	104	9
10	Eye Bolts/Eye Nuts	108	10
11	Loadbinders	112	11
12	Chain	116	12
13	Plate Lifting Clamps	118	13
14	Blocks	124	14
15	General Hardware	134	15
16	Stainless Steel Products	146	16



Applications

Shackles are used in lifting and static systems as removable links to connect (steel) wire rope, chain and other fittings. Screw pin shackles are used mainly for non-permanent applications. Safety bolt shackles are used for long-term or permanent applications or where the load may slide on the pin causing rotation of the pin.

Chain or dee shackles are mainly used on one-leg systems whereas anchor or bow shackles are mainly used on multi-leg systems.

Range

Van Beest offers a wide range of bow and dee shackles, depending on the application on which the shackle is going to be used; the range stretches from Working Load Limit (WLL) 0.33 tons to 1500 tons. Therefore, our customers have a very extensive range to choose the shackle exactly suitable for the application. Most of the shackles are directly available from stock. Furthermore, shackles can be supplied to many standards such as the US Federal Specification RR-C-271, EN 13889, British Standard 3032, DIN 82101, DIN 82016 etc.
Polar shackles are for use in extreme climatic conditions with material properties guaranteed up to temperatures of -40°C, and furthermore we offer a wide range of general commercial shackles, which are not suitable for lifting but merely for fixing purposes.

Design

All Van Beest shackles have a specific design for a specific application. Examples are the “Super” shackles which are made out of grade 8 steel enabling the dimensions of the shackles to be minimized for use in limited space conditions, without loss of functionality or Working Load Limit.
Or sling shackles for use with large slings, to provide a better radius to the sling being used. Another example of functional design is the use of shackles where the pin has a square sunken hole so as not to obstruct the use of fishing nets. These are all examples of a highly functional design, to optimize the use of the Van Beest shackles in daily use.

Furthermore, shackles used for lifting applications are stamped with the following marks, to specify the quality and safety of use of the shackles:

- Working Load Limit	■ i.e. WLL 25 T
- manufacturer’s identification symbol	■ i.e. GP, indicating Green Pin or Bs, indicating Van Beest
- traceability code	■ i.e. HA pertaining to a particular batch
- steel grade	■ i.e. 4, 6, 8
- CE conformity code	■ i.e. CE, Conformité Européen

Van Beest Green Pin® shackles meet all relevant requirements of the Machinery Directive 2006/42/EC and all latest amendments.

CAD drawings

Green Pin® shackles are used in a wide variety of applications; from a simple lift to move an item from A to B in a workplace, to very complex lifting systems for offshore applications. In the latter case, engineers use computer programs like AutoCAD to develop a 2D or 3D specification of the entire system.

For standard products usually a CAD drawing library is used. The use of these kind of libraries saves considerable design time and costs. And of course it prevents mistakes that may occur whilst copying data from a product catalogue into the design program.

To help the engineers, Van Beest have made their shackle drawings available in various formats. These drawings can be integrated in almost every design program.
Currently there are drawings available for Green Pin® Standard, Polar, Super, Sling and Heavy Duty shackles.
Product designs are available in various formats, like: DWG, IGES, PDF, SAT and STEP.

The drawings can be downloaded from our server. Please contact our sales department to receive the download instructions.

Finish

Shackles supplied by Van Beest can be either hot dipped galvanized, electro-galvanized, painted or self coloured, depending on the type of shackle and its application.

You can find the finish of each type of shackle in the product section further on.



Certification

Upon request at time of order, all load rated shackles can be supplied with any of the following documents or certificates:

- works certificate in accordance with EN 10204 - 2.1;
- material certificate in accordance with EN 10204 - 3.1;
- manufacturer test certificate;
- EC Declaration of Conformity in accordance with annex IIA of the machine directive 2006/42/EC;

- proof load test certificate;
- certificate with the actual breaking load experienced on tested samples;
- test report of Magnetic Particle Inspection (M.P.I.);
- test report of Ultrasonic Inspection (U.S.).

The first four of the above mentioned certificates can be supplied at no extra charge. For all other certificates, additional costs will be charged.

The test certificates can be supplied surveyed by all official classification societies, such as Lloyd's, Det Norske Veritas, British Standards Bureau, American Bureau of Shipping, Germanischer Lloyd's or any other officially certified inspection body.

Green Pin® Standard Shackles and Green Pin® Polar Shackles are DNV type approved to certification Note 2.7-1, lifting sets for offshore containers.

Instructions for use

Shackles should be inspected before use to ensure that:

- all markings are legible;
- the body and pin are both identifiable as being of the same size, type and make;
- the threads of the pin and the body are undamaged;
- never use a safety bolt type shackle without using a securing pin;
- the body and the pin are not distorted or unduly worn;
- the body and pin are free from nicks, gouges, cracks and corrosion;
- shackles may not be heat treated as this may affect their Working Load Limit;
- never modify, repair or reshape a shackle by machining, welding, heating or bending as this will affect the Working Load Limit.

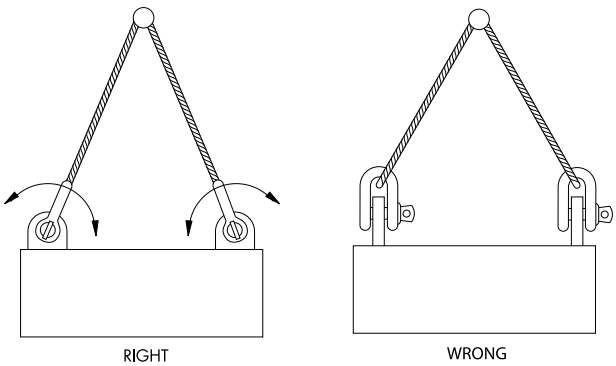
Assembly

Ensure that the pin is correctly screwed into the shackle eye, i.e. tighten hand-tight, then secure using a wrench or other suitable tool so that the collar of the pin is fully seated on the shackle eye. Ensure that the pin is of the correct length so that it penetrates the full depth of the screwed eye and allows the collar of the pin to seat on the surface of the shackle eye.

Incorrect seating of the pin may be due to a bent pin, too tight fitting thread or misalignment of the pin holes. Do not use the shackle under these circumstances. Never replace a shackle pin except with one of the same size, type and make as it may not be suitable for the loads imposed.

Select the correct type of shackle and its Working Load Limit for the particular application. Should extreme circumstances or shock loading be applicable, this must be well taken into account on selecting the correct shackle. Please note that commercial shackles are not to be used for lifting applications.

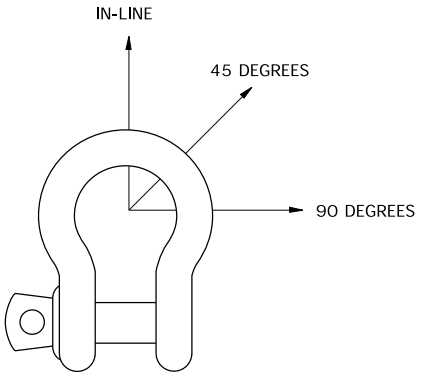
Make sure that the shackle is supporting the load correctly, i.e. along the axis of the shackle body centreline, avoid introduction of bending loads, unstable loads and do not apply overloads.



Side loads

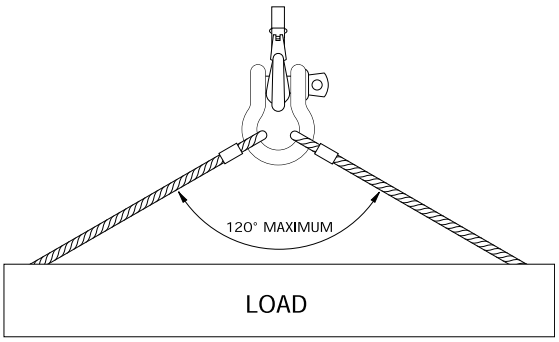
Side loads should be avoided as well, as the products are not designed for this purpose. If side loads cannot be avoided, the following reduction factors must be taken into account:

Load angle	Reduction for side loading New Working Load Limit
0 °	100% of original Working Load Limit
45 °	70% of original Working Load Limit
90 °	50% of original Working Load Limit



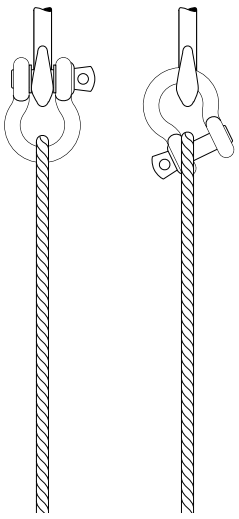
In-line loading is considered to be a load perpendicular to the pin and in the plane of the bow. Load angles in the table are the deviating angles from the in line loads.

When using shackles in connection with multi-leg slings, due consideration should be given to the effect of the angle between the legs of the sling. As the angle increases, so does the load in the sling leg and consequently in any shackle attached to that leg.



When a shackle is used to connect two slings to the hook of a lifting device, a bow type shackle must be assembled with the slings in the shackle body and the hook engaged with the shackle pin. The angle between the slings should not exceed 120°. If symmetrically loaded the shackle may be used to the full WLL.

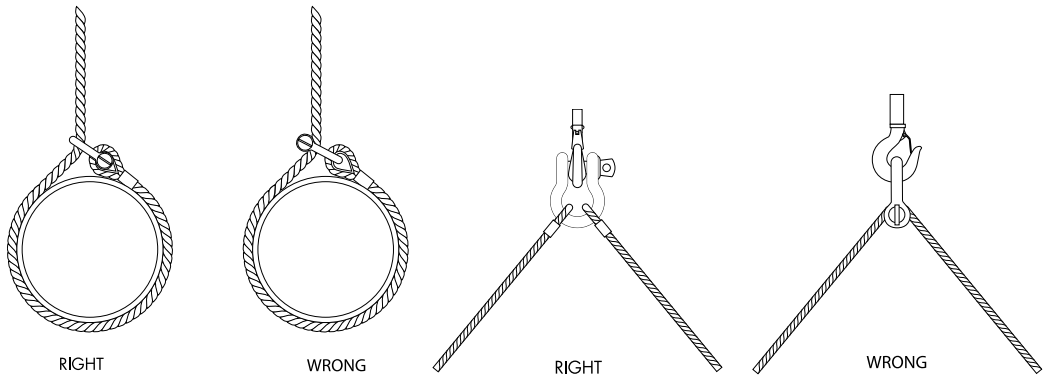
To avoid eccentric loading of the shackle a loose spacer may be used on either end of the shackle pin. Do not reduce the width between the shackle jaws by welding washers or spacers to the inside faces of the eyes or by closing the jaws, as this will affect the properties of the shackle.



RIGHT WRONG

When a shackle is used to secure the top block of a set of wire rope blocks the load on this shackle is increased by the value of the hoisting effect.

Avoid applications where due to movement (e.g. of the load or the rope) the shackle pin can rotate and possibly be unscrewed. If such an application is necessary or when the shackle is to be left in place for a prolonged period or where maximum pin security is required, use a shackle with a safety bolt, nut and pin cotter pin.



Shackles should not be immersed in acidic solutions or exposed to acid fumes or other chemicals that are potentially harmful for the shackle. Please be aware that these types of chemicals are used in certain production processes.

Point loading

Most of the time the load bearing component that is in connection with a shackle is of a rounded shape. Point loading of shackles is allowed but the minimum diameter of a rounded component should be equal or bigger than the bow size of the shackle being used.
Bigger diameters and/or flat parts (at shackle pin side) to increase contact area can be beneficial. Sharp edges should be avoided.

Temperature

If extreme temperature situations are applicable, the following load reduction must be taken into account:

Temperature	Reduction for elevated temperatures New Working Load Limit
up to 200°C	100% of original Working Load Limit
200 - 300°C	90% of original Working Load Limit
300 - 400°C	75% of original Working Load Limit
> 400°C	not allowed

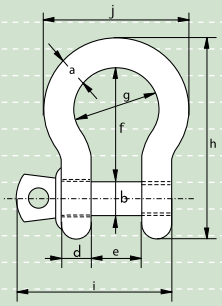
The rating of shackles to EN 13889 assumes the absence of exceptionally hazardous conditions. Exceptionally hazardous conditions include offshore activities, the lifting of persons and the lifting of potentially dangerous loads such as molten metals, corrosive materials or fissile materials. In such cases a competent person should assess the degree of hazard and the safe working load should be reduced accordingly from the Working Load Limit.

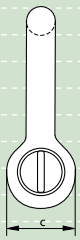
Inspection

It is required that the shackles are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure. Inspection should take place at least every six months and even more frequently when the shackles are used in severe operating conditions.



G-4161





Green Pin® Standard Shackles

bow shackles with screw collar pin

- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 2, Grade A
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20°C up to +200°C
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 2 t can be supplied with DNV 2.7-1 certificate.
- **Note** : for details on dimensions and tolerances please consult our CAD drawings, these are available on request.

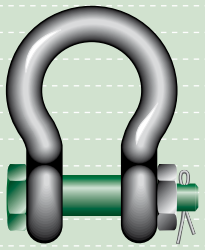
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	weight each
	a	b	c	d	e	f	g	h	i	j	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.33	5	6	12	5	9.5	22	16	36	29.5	26	0.02
0.5	7	8	16.5	7	12	29	20	48.5	38	34	0.05
0.75	9	10	20	9	13.5	32	22	56	46.5	40	0.1
1	10	11	22.5	10	17	36.5	26	63.5	54	46	0.14
1.5	11	13	26.5	11	19	43	29	74	59.5	51	0.19
2	13.5	16	34	13	22	51	32	89	73	58	0.36
3.25	16	19	40	16	27	64	43	110	89	75	0.63
4.75	19	22	46	19	31	76	51	129	103	89	1.01
6.5	22	25	52	22	36	83	58	144	119	102	1.5
8.5	25	28	59	25	43	95	68	164	137	118	2.21
9.5	28	32	66	28	47	108	75	185	153	131	3.16
12	32	35	72	32	51	115	83	201	170	147	4.31
13.5	35	38	80	35	57	133	92	227	186	162	5.55
17	38	42	88	38	60	146	99	249	203	175	7.43
25	45	50	103	45	74	178	126	300	243	216	12.84
35	50	57	111	50	83	197	138	331	272	238	18.15
42.5	57	65	130	57	95	222	160	377	310	274	26.29
55	65	70	145	65	105	260	180	433	344	310	37.6

In inch

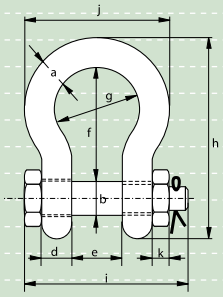
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	weight each
	a	b	c	d	e	f	g	h	i	j	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
0.33	3/16	1/4	1/2	3/16	3/8	7/8	5/8	1 13/32	1 5/32	1 1/32	0.05
0.5	1/4	5/16	21/32	9/32	15/32	1 5/32	25/32	1 29/32	1 1/2	1 11/32	0.11
0.75	5/16	3/8	25/32	11/32	17/32	1 1/4	7/8	2 7/32	1 27/32	1 9/16	0.22
1	3/8	7/16	7/8	13/32	21/32	1 7/16	1 1/32	2 1/2	2 1/8	1 13/16	0.3
1.5	7/16	1/2	1 1/32	7/16	3/4	1 11/16	1 5/32	2 29/32	2 11/32	2	0.42
2	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	2 7/8	2 9/32	0.79
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	3 1/2	2 15/16	1.38
4.75	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	4 1/16	3 1/2	2.22
6.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	4 11/16	4 1/32	3.31
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	5 13/32	4 21/32	4.86
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	6 1/32	5 5/32	6.97
12	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	6 11/16	5 25/32	9.49
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	7 5/16	6 3/8	12.24
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	8	6 7/8	16.37
25	1 3/4	2	4 1/16	1 25/32	2 29/32	7	4 31/32	11 13/16	9 9/16	8 1/2	28.31
35	2	2 1/4	4 3/8	1 31/32	3 9/32	7 3/4	5 7/16	13 1/32	10 23/32	9 3/8	40.01
42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	8 3/4	6 5/16	14 27/32	12 7/32	10 25/32	57.96
55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	10 1/4	7 3/32	17 1/16	13 17/32	12 7/32	82.89

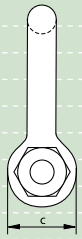
Green Pin® Standard Shackles

bow shackles with safety bolt



G-4163





- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 3, Grade A
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20°C up to +200°C
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 2 t can be supplied with DNV 2.7-1 certificate.
- **Note** : for details on dimensions and tolerances please consult our CAD drawings, these are available on request.

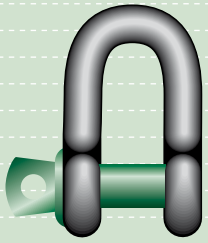
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.5	7	8	16.5	7	12	29	20	48.5	42	34	4	0.06
0.75	9	10	20	9	13.5	32	22	56	50	40	5	0.11
1	10	11	22.5	10	17	36.5	26	63.5	60	46	8	0.16
1.5	11	13	26.5	11	19	43	29	74	67	51	11	0.22
2	13.5	16	34	13	22	51	32	89	82	58	13	0.42
3.25	16	19	40	16	27	64	43	110	98	75	17	0.74
4.75	19	22	46	19	31	76	51	129	114	89	19	1.18
6.5	22	25	52	22	36	83	58	144	130	102	22	1.77
8.5	25	28	59	25	43	95	68	164	150	118	25	2.58
9.5	28	32	66	28	47	108	75	185	166	131	27	3.66
12	32	35	72	32	51	115	83	201	178	147	30	4.91
13.5	35	38	80	35	57	133	92	227	197	162	33	6.54
17	38	42	88	38	60	146	99	249	202	175	19	8.19
25	45	50	103	45	74	178	126	300	249	216	23	14.22
35	50	57	111	50	83	197	138	331	269	238	26	19.85
42.5	57	65	130	57	95	222	160	377	301	274	29	28.33
55	65	70	145	65	105	260	180	433	330	310	32	39.59
85	75	83	162	73	127	329	190	527	380	340	39	62

In inch

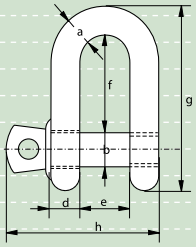
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
0.5	1/4	5/16	21/32	9/32	15/32	1 5/32	25/32	1 29/32	1 21/32	1 11/32	5/32	0.13
0.75	5/16	3/8	25/32	11/32	17/32	1 1/4	7/8	2 7/32	1 31/32	1 9/16	3/16	0.25
1	3/8	7/16	7/8	13/32	21/32	1 7/16	1 1/32	2 1/2	2 3/8	1 13/16	5/16	0.34
1.5	7/16	1/2	1 1/32	7/16	3/4	1 11/16	1 5/32	2 29/32	2 5/8	2	7/16	0.48
2	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	3 7/32	2 9/32	1/2	0.92
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	3 27/32	2 15/16	21/32	1.62
4.75	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	4 1/2	3 1/2	3/4	2.59
6.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	5 1/8	4 1/32	7/8	3.9
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	5 29/32	4 21/32	31/32	5.69
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	6 17/32	5 5/32	1 1/16	8.06
12	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	7	5 25/32	1 3/16	10.81
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	7 3/4	6 3/8	1 5/16	14.42
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	7 15/16	6 7/8	3/4	18.06
25	1 3/4	2	4 1/16	1 25/32	2 29/32	7	4 31/32	11 13/16	9 13/16	8 1/2	29/32	31.34
35	2	2 1/4	4 3/8	1 31/32	3 9/32	7 3/4	5 7/16	13 1/32	10 19/32	9 3/8	1 1/32	43.77
42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	8 3/4	6 5/16	14 27/32	11 27/32	10 23/32	1 5/32	62.46
55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	10 1/4	7 3/32	17 1/16	13	12 7/32	1 1/4	87.27
85	3	3 1/4	6 3/8	2 7/8	5	12 15/16	7 15/32	20 3/4	14 31/32	13 3/8	1 17/32	136.69

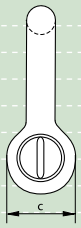
DNV
TYPE APPROVED PRODUCT
CERTIFICATION NOTE 2.7-1
CERTIFICATE NO. S-5623

VGS VINÇOTTE



G-4151





Green Pin® Standard Shackles

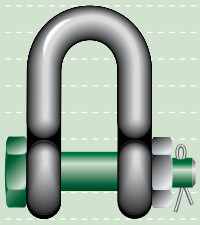
dee shackles with screw collar pin

- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVB Class 2, Grade A
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 2 t can be supplied with DNV 2.7-1 certificate.
- **Note** : for details on dimensions and tolerances please consult our CAD drawings, these are available on request.

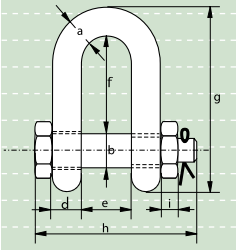
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	weight each
	a	b	c	d	e	f	g	h	
t	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.33	5	6	12	5	9.5	19	33	29.5	0.02
0.5	7	8	16.5	7	12	22	41.5	38	0.05
0.75	9	10	20	9	13.5	26	50	46.5	0.09
1	10	11	22.5	10	17	32	59	54	0.14
1.5	11	13	26.5	11	19	37	68	59.5	0.19
2	13.5	16	34	13	22	43	81	73	0.32
3.25	16	19	40	16	27	51	97	89	0.54
4.75	19	22	46	19	31	59	112	103	0.87
6.5	22	25	52	22	36	73	134	119	1.34
8.5	25	28	59	25	43	85	154	137	2.08
9.5	28	32	66	28	47	90	167	153	2.77
12	32	35	72	32	51	94	180	170	3.72
13.5	35	38	80	35	57	115	209	186	5.14
17	38	42	88	38	60	127	230	203	6.85
25	45	50	103	45	74	149	271	243	11.45
35	50	57	111	50	83	171	305	272	16.86
42.5	57	65	130	57	95	190	345	310	24.61
55	65	70	145	65	105	203	376	344	32.65

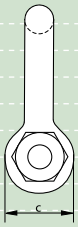
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	weight each
	a	b	c	d	e	f	g	h	
t	inch	inch	inch	inch	inch	inch	inch	inch	lbs
0.33	3/16	1/4	15/32	3/16	3/8	3/4	1 5/16	1 5/32	0.04
0.5	1/4	5/16	21/32	9/32	15/32	7/8	1 5/8	1 1/2	0.11
0.75	5/16	3/8	25/32	11/32	17/32	1 1/32	1 31/32	1 27/32	0.2
1	3/8	7/16	7/8	13/32	21/32	1 1/4	2 5/16	2 1/8	0.3
1.5	7/16	1/2	1 1/32	7/16	3/4	1 15/32	2 11/16	2 11/32	0.42
2	1/2	5/8	1 11/32	1/2	7/8	1 11/16	3 3/16	2 7/8	0.7
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2	3 13/16	3 1/2	1.19
4.75	3/4	7/8	1 13/16	3/4	1 7/32	2 5/16	4 12/32	4 1/16	1.92
6.5	7/8	1	2 1/16	7/8	1 13/32	2 7/8	5 9/32	4 11/16	2.95
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 11/32	6 1/16	5 13/32	4.59
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	3 17/32	6 9/16	6 1/32	6.1
12	1 1/4	1 3/8	2 27/32	1 1/4	2	3 11/16	7 3/32	6 11/16	8.2
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	4 17/32	8 7/32	7 5/16	11.33
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5	9 1/16	8	15.1
25	1 3/4	2	4 1/16	1 25/32	2 29/32	5 7/8	10 21/32	9 9/16	25.23
35	2	2 1/4	4 3/8	1 31/32	3 9/32	6 23/32	12	10 23/32	37.17
42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	7 15/32	13 19/32	12 7/32	54.26
55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	8	14 13/16	13 17/32	71.98



G-4153





Green Pin® Standard Shackles

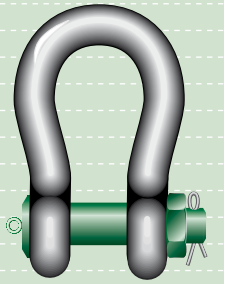
dee shackles with safety bolt

- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVB Class 3, Grade A
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 2 t can be supplied with DNV 2.7-1 certificate.
- **Note** : for details on dimensions and tolerances please consult our CAD drawings, these are available on request.

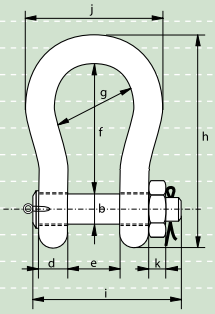
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
2	13.5	16	34	13	22	43	81	82	13	0.39
3.25	16	19	40	16	27	51	97	98	17	0.67
4.75	19	22	46	19	31	59	112	114	19	1.08
6.5	22	25	52	22	36	73	134	130	22	1.66
8.5	25	28	59	25	43	85	154	150	25	2.46
9.5	28	32	66	28	47	90	167	166	27	3.4
12	32	35	72	32	51	94	180	178	30	4.51
13.5	35	38	80	35	57	115	209	197	33	6.1
17	38	42	88	38	60	127	230	202	19	7.63
25	45	50	103	45	74	149	271	249	23	12.88
35	50	57	111	50	83	171	305	269	26	17.35
42.5	57	65	130	57	95	190	345	301	29	25.94
55	65	70	145	65	105	203	376	330	32	35.33
85	75	83	162	73	127	229	427	380	39	52.97

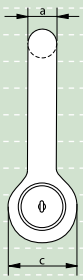
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
2	1/2	5/8	1 11/32	1/2	7/8	1 11/16	3 3/16	3 7/32	1/2	0.85
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2	3 13/16	3 27/32	21/32	1.48
4.75	3/4	7/8	1 13/16	3/4	1 7/32	2 5/16	4 13/32	4 1/2	3/4	2.39
6.5	7/8	1	2 1/16	7/8	1 13/32	2 7/8	5 9/32	5 1/8	7/8	3.66
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 11/32	6 1/16	5 29/32	31/32	5.42
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	3 17/32	6 9/16	6 17/32	1 1/16	7.5
12	1 1/4	1 3/8	2 27/32	1 1/4	2	3 11/16	7 3/32	7	1 3/16	9.95
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	4 17/32	8 7/32	7 3/4	1 5/16	13.45
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5	9 1/16	7 15/16	3/4	16.82
25	1 3/4	2	4 1/16	1 25/32	2 29/32	5 7/8	10 21/32	9 13/16	29/32	28.4
35	2	2 1/4	4 3/8	1 31/32	3 9/32	6 23/32	12	10 19/32	1 1/32	38.25
42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	7 15/32	13 19/32	11 27/32	1 5/32	57.19
55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	8	14 13/16	13	1 1/4	77.89
85	3	3 1/4	6 3/8	2 7/8	5	9 1/32	16 13/16	14 31/32	1 17/32	116.77



P-6036





Green Pin® Heavy Duty Shackles

bow shackles with safety bolt

- **Material** : bow and pin alloy steel, Grade 8 quenched and tempered
- **Safety Factor** : MBL equals 5 x WLL
- **Finish** : shackle bow painted silver, pin painted green (120 tons shackle is hot dipped galvanized)
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 150 tons are supplied with a Lloyd's Register of Shipping Certificate on proof load
- **Note** : for details on dimensions and tolerances please consult our CAD drawings, these are available on request.

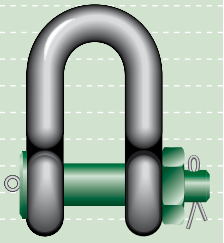
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
120	95	95	208	91	147	400	238	647	440	428	50	110
150	105	108	238	102	169	410	275	688	490	485	60	160
200	120	130	279	113	179	513	290	838	520	530	60	235
250	130	140	299	118	205	554	305	904	560	565	65	285
300	140	150	325	123	205	618	305	996	575	585	70	340
400	170	175	376	164	231	668	325	1114	690	665	70	560
500	180	185	398	164	256	718	350	1190	720	710	70	685
600	200	205	444	189	282	718	375	1243	810	775	70	880
700	210	215	454	204	308	718	400	1263	870	820	70	980
800	210	220	464	204	308	718	400	1270	870	820	70	1100
900	220	230	485	215	328	718	420	1296	920	860	70	1280
1000	240	240	515	215	349	718	420	1336	940	900	70	1460
1250	260	270	585	230	369	768	450	1456	1025	970	70	1990
1500	280	290	625	230	369	818	450	1556	1025	1010	70	2400

In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
120	3 3/4	3 3/4	8 3/16	3 19/32	5 25/32	15 3/4	9 3/8	25 15/32	17 5/16	16 27/32	1 31/32	243
150	4 1/8	4 1/4	9 3/8	4 1/32	6 21/32	16 5/32	10 13/16	27 3/32	19 9/32	19 3/32	2 3/8	353
200	4 23/32	5 1/8	10 31/32	4 7/16	7 1/16	20 3/16	11 13/32	33	20 15/32	20 7/8	2 3/8	518
250	5 1/8	5 1/2	11 25/32	4 21/32	8 1/16	21 13/16	12	35 19/32	22 1/16	22 1/4	2 9/16	628
300	5 1/2	5 29/32	12 25/32	4 27/32	8 1/16	24 11/32	12	39 7/32	22 5/8	23 1/32	2 3/4	750
400	6 11/16	6 7/8	14 13/16	6 15/32	9 3/32	26 5/16	12 25/32	43 27/32	27 5/32	26 3/16	2 3/4	1235
500	7 3/32	7 9/32	15 21/32	6 15/32	10 3/32	28 9/32	13 25/32	46 27/32	28 11/32	27 15/16	2 3/4	1510
600	7 7/8	8 1/16	17 15/32	7 7/16	11 3/32	28 9/32	14 3/4	48 15/16	31 7/8	30 1/2	2 3/4	1940
700	8 9/32	8 15/32	17 7/8	8 1/32	12 1/8	28 9/32	15 3/4	49 23/32	34 1/4	32 9/32	2 3/4	2161
800	8 9/32	8 21/32	18 9/32	8 1/32	12 1/8	28 9/32	15 3/4	50	34 1/4	32 9/32	2 3/4	2425
900	8 21/32	9 1/16	19 3/32	8 15/32	12 29/32	28 9/32	16 17/32	51 1/32	36 7/32	33 27/32	2 3/4	2822
1000	9 7/16	9 7/16	20 9/32	8 15/32	13 3/4	28 9/32	16 17/32	52 19/32	37	35 7/16	2 3/4	3219
1250	10 1/4	10 5/8	23 1/32	9 1/16	14 17/32	30 1/4	17 23/32	57 5/16	40 11/32	38 3/16	2 3/4	4387
1500	11 1/32	11 13/32	24 19/32	9 1/16	14 17/32	32 7/32	17 23/32	61 1/4	40 11/32	39 3/4	2 3/4	5291

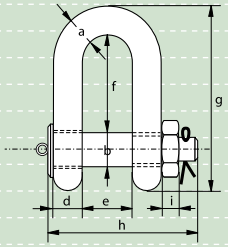
Green Pin® Heavy Duty Shackles

dee shackles with safety bolt



G-6038

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 5 x WLL
- **Finish** : hot dipped galvanized
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity
- **Note** : for details on dimensions and tolerances please consult our CAD drawings, these are available on request.

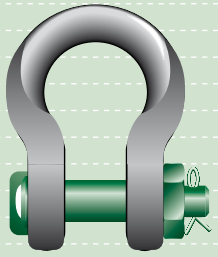




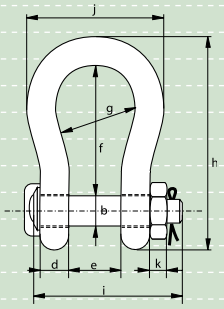
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
120	95	95	208	95	147	274	521	440	50	110

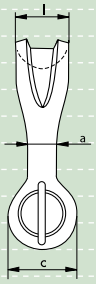
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	thickness nut	weight each
	a	b	c	d	e	f	g	h		
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
120	3 3/4	3 3/4	8 3/16	3 3/4	5 25/32	10 25/32	20 1/2	17 5/16	1 31/32	243



P-6033





Green Pin® Sling Shackles

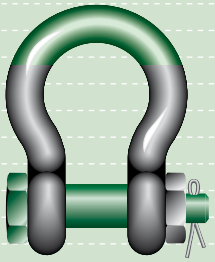
bow shackles with safety bolt

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 5 x WLL
- **Finish** : shackle bow painted silver, pin painted green
- **Temperature Range** : -20 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate, EC declaration of Conformity and all shackles from 75 t and up are supplied with a Lloyd's Register of Shipping Certificate on proof load. For shackles 75 t and up an MPI and/or US inspection certificate can be supplied on request.
- **Note** : for details on dimensions and tolerances please consult our CAD drawings, these are available on request.

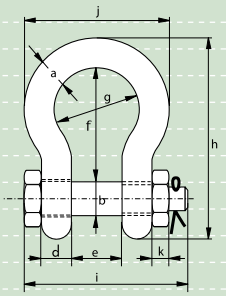
working load limit	diameter body	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	bearing surface	weight each
	a	b	c	d	e	f	g	h	i	j	k	l	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
18	35	35	69	30	54	148	102	239	171	180	29	64	7
30	40	42	90	35	69	165	126	279	207	200	34	79	13
40	55	51	109	45	84	199	140	331	252	235	38	97	21
55	60	57	115	55	90	240	160	389	294	270	45	100	30
75	68	70	125	54	110	290	185	473	327	317	54	120	48
125	85	80	154	85	137	366	220	583	426	390	64	150	92
150	94	95	179	89	147	391	253	645	435	434	50	170	140
200	110	105	199	100	158	481	280	759	470	482	50	205	205
250	126	120	227	110	179	542	300	859	519	530	60	240	264
300	135	134	245	122	195	601	350	947	575	620	70	265	360
400	160	160	293	145	231	576	370	985	675	690	80	320	580
500	170	180	328	160	263	681	450	1131	748	790	90	339	780
600	190	200	348	170	289	741	490	1234	809	865	100	370	980
700	200	215	392	190	315	751	540	1284	879	901	100	400	1360
800	218	230	420	200	342	851	554	1426	942	947	110	420	1430
900	242	255	466	220	368	851	580	1488	1023	1023	120	440	1650
1000	260	270	490	240	399	851	614	1532	1103	1107	120	460	2970
1250	285	300	510	260	452	931	650	1666	1227	1182	150	530	3700
1550	285	320	550	280	483	950	680	1710	1300	1253	150	560	4000

In inch

working load limit	diameter body	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	bearing surface	weight each
	a	b	c	d	e	f	g	h	i	j	k	l	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
18	1 3/8	1 3/8	2 23/32	1 3/16	2 1/8	5 13/16	4 1/32	9 13/32	6 25/32	7 3/32	1 5/32	2 17/32	18
30	1 9/16	1 21/32	3 17/32	1 3/8	2 23/32	6 1/2	4 31/32	10 31/32	8 5/32	7 7/8	1 11/32	3 1/8	29
40	2 5/32	2	4 9/32	1 25/32	3 5/16	7 27/32	5 1/2	13 1/32	9 29/32	9 1/4	1 1/2	3 13/16	46
55	2 3/8	2 1/4	4 17/32	2 5/32	3 17/32	9 7/16	6 5/16	15 5/16	11 9/16	10 5/8	1 25/32	3 15/16	66
75	2 11/16	2 3/4	4 29/32	2 1/8	4 11/32	11 13/32	7 9/32	18 5/8	12 7/8	12 15/32	2 1/8	4 23/32	106
125	3 11/32	3 5/32	6 1/16	3 11/32	5 13/32	14 13/32	8 21/32	22 15/16	16 25/32	15 11/32	2 17/32	5 29/32	203
150	3 11/16	3 3/4	7 1/16	3 1/2	5 25/32	15 13/32	9 31/32	25 13/32	17 1/8	17 3/32	1 31/32	6 11/16	309
200	4 11/32	4 1/8	7 27/32	3 15/16	6 7/32	18 15/16	11 1/32	29 7/8	18 1/2	18 31/32	1 31/32	8 1/16	452
250	4 31/32	4 23/32	8 15/16	4 11/32	7 1/16	21 11/32	11 13/16	33 13/16	20 7/16	20 7/8	2 3/8	9 7/16	582
300	5 5/16	5 9/32	9 21/32	4 13/16	7 11/16	23 21/32	13 25/32	37 9/32	22 5/8	24 13/32	2 3/4	10 7/16	794
400	6 5/16	6 5/16	11 17/32	5 23/32	9 3/32	22 11/16	14 9/16	38 25/32	26 9/16	27 5/32	3 5/32	12 19/32	1279
500	6 11/16	7 3/32	12 29/32	6 5/16	10 11/32	26 13/16	17 23/32	44 17/32	29 7/16	31 3/32	3 17/32	13 11/32	1720
600	7 15/32	7 7/8	13 11/16	6 11/16	11 3/8	29 3/16	19 9/32	48 19/32	31 27/32	34 1/16	3 15/16	14 9/16	2161
700	7 7/8	8 15/32	15 7/16	7 15/32	12 13/32	29 9/16	21 1/4	50 9/16	34 19/32	35 15/32	3 15/16	15 3/4	2998
800	8 19/32	9 1/16	16 17/32	7 7/8	13 15/32	33 1/2	21 13/16	56 5/32	37 3/32	37 9/32	4 11/32	16 17/32	3153
900	9 17/32	10 1/32	18 11/32	8 21/32	14 1/2	33 1/2	22 27/32	58 19/32	40 9/32	40 9/32	4 23/32	17 5/16	3638
1000	10 1/4	10 5/8	19 9/32	9 7/16	15 23/32	33 1/2	24 3/16	60 5/16	43 7/16	43 19/32	4 23/32	18 1/8	6548
1250	11 7/32	11 13/16	20 3/32	10 1/4	17 25/32	36 21/32	25 19/32	65 19/32	48 5/16	46 17/32	5 29/32	20 7/8	8157
1550	11 7/32	12 19/32	21 21/32	11 1/32	19 1/32	37 13/32	26 25/32	67 5/16	51 3/16	49 11/32	5 29/32	22 1/16	8818



G-5263





Green Pin® Super Shackles

bow shackles with safety bolt

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 5 x WLL
- **Standard** : meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 3, Grade B
- **Finish** : hot dipped galvanized (175 ton shackle is painted)
- **Temperature Range** : -20 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with works certificate, 3.1 material certificate, manufacturer test certificate, EC Declaration of Conformity and all shackles starting from 150 tons are supplied with a Lloyd's Register of Shipping Certificate on proof load
- **Note** : for details on dimensions and tolerances please consult our CAD drawings, these are available on request.

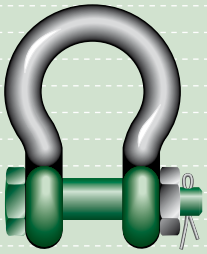
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
3.3	13.5	16	34	13	22	51	32	89	82	58	13	0.44
5	16	19	40	16	27	64	43	110	98	75	17	0.79
7	19	22	46	19	31	76	51	129	114	89	19	1.26
9.5	22	25	52	22	36	83	58	144	130	102	22	1.88
12.5	25	28	59	25	43	95	68	164	150	118	25	2.78
15	28	32	66	28	47	108	75	185	166	131	27	3.87
18	32	35	72	32	51	115	83	201	178	147	30	5.26
21	35	38	80	35	57	133	92	227	197	162	33	6.94
30	38	42	88	38	60	146	99	249	202	175	19	8.79
40	45	50	103	45	74	178	126	300	249	216	23	15
55	57	57	117	57	83	197	138	341	286	252	26	22
85	70	70	143	70	105	260	180	437	344	320	32	42
120	83	83	162	83	127	329	190	535	403	356	40	70
150*	95	95	208	91	147	400	238	647	511	428	50	112
175*	105	108	238	102	169	410	275	688	561	485	60	160

* = round headed bolt

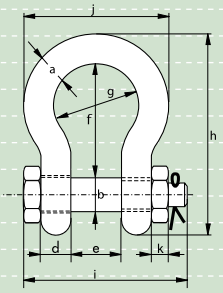
In inch

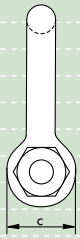
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
3.3	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	3 7/32	2 9/32	1/2	0.97
5	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	3 27/32	2 15/16	21/32	1.74
7	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	4 1/2	3 1/2	3/4	2.78
9.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	5 1/8	4 1/32	7/8	4.14
12.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	5 29/32	4 21/32	31/32	6.13
15	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	6 17/32	5 5/32	1 1/16	8.53
18	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	7	5 25/32	1 3/16	11.6
21	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	7 3/4	6 3/8	1 5/16	15.3
30	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	7 15/16	6 7/8	3/4	19.38
40	1 3/4	2	4 1/16	1 25/32	2 29/32	7	4 31/32	11 13/16	9 13/16	8 1/2	29/32	33.07
55	2	2 1/4	4 19/32	2 1/4	3 9/32	7 3/4	5 7/16	13 7/16	11 1/4	9 29/32	1 1/32	48.50
85	2 1/2	2 3/4	5 5/8	2 3/4	4 1/8	10 1/4	7 3/32	17 7/32	13 17/32	12 19/32	1 1/4	92.59
120	3	3 1/4	6 3/8	3 9/32	5	12 15/16	7 15/32	21 1/16	15 7/8	14 1/32	1 9/16	154.32
150*	3 3/4	3 3/4	8 3/16	3 19/32	5 25/32	15 3/4	9 3/8	25 15/32	20 1/8	16 27/32	1 31/32	246.92
175*	4	4 1/4	9 3/8	4 1/32	6 21/32	16 5/32	10 13/16	27 3/32	22 3/32	19 3/32	2 3/8	352.74

* = round headed bolt



G-5163





Green Pin® Polar Shackles

bow shackles with safety bolt, for use under extreme climatic conditions

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 8 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271 Type IVA Class 3, Grade B
- **Finish** : hot dipped galvanized
- **Temperature Range** : -40 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with works certificate, 3.1 material certificate, manufacturer test certificate, EC Declaration of Conformity and/or DNV 2.7-1 certificate.
- **Note** : for shackles with WLL 55 and 85 tons the MBL equals 6 x WLL for details on dimensions and tolerances please consult our CAD drawings, these are available on request.

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
2	13.5	16	34	13	22	51	32	89	82	58	13	0.42
3.25	16	19	40	16	27	64	43	110	98	75	17	0.74
4.75	19	22	46	19	31	76	51	129	114	89	19	1.18
6.5	22	25	52	22	36	83	58	144	130	102	22	1.77
8.5	25	28	59	25	43	95	68	164	150	118	25	2.58
9.5	28	32	66	28	47	108	75	185	166	131	27	3.66
12	32	35	72	32	51	115	83	201	178	147	30	4.91
13.5	35	38	80	35	57	133	92	227	197	162	33	6.54
17	38	42	88	38	60	146	99	249	202	175	19	8.19
25	45	50	103	45	74	178	126	300	249	216	23	14.22
35	50	57	116	50	83	197	138	334	269	238	26	19.85
42.5	57	65	130	57	95	222	160	377	301	274	29	28.33
55	65	70	145	65	105	260	180	433	330	310	32	39.59
85	75	83	162	73	127	329	190	527	380	340	40	62

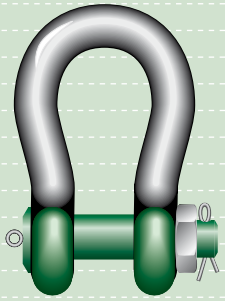
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
2	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	3 7/32	2 9/32	1/2	0.92
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	3 27/32	2 15/16	21/32	1.62
4.75	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	4 1/2	3 1/2	3/4	2.59
6.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	5 1/8	4 1/32	7/8	3.9
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	5 29/32	4 21/32	31/32	5.69
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	6 17/32	5 5/32	1 1/16	8.06
12	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	7	5 25/32	1 3/16	10.81
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	7 3/4	6 3/8	1 5/16	14.42
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	7 15/16	6 7/8	3/4	18.06
25	1 3/4	2	4 1/16	1 25/32	2 29/32	7	4 31/32	11 13/16	9 13/16	8 1/2	29/32	31.34
35	2	2 1/4	4 9/16	1 31/32	3 9/32	7 3/4	5 7/16	13 5/32	10 19/32	9 3/8	1 1/32	43.77
42.5	2 1/4	2 9/16	5 1/8	2 1/4	3 3/4	8 3/4	6 5/16	14 27/32	11 27/32	10 25/32	1 5/32	62.46
55	2 1/2	2 3/4	5 23/32	2 9/16	4 1/8	10 1/4	7 3/32	17 1/16	13	12 7/32	1 1/4	87.27
85	3	3 1/4	6 3/8	2 7/8	5	12 15/16	7 15/32	20 3/4	14 31/32	13 3/8	1 9/16	136.69

TYPE APPROVED PRODUCT
CERTIFICATION NOTE 2.7-1
CERTIFICATE NO. 5-9623

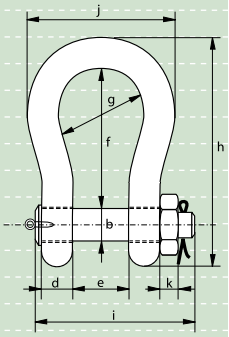
Green Pin® Heavy Duty Polar Shackles

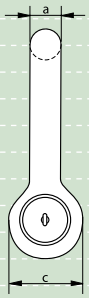
bow shackles with safety bolt, for use under extreme climatic conditions



P-6031

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 5 x WLL
- **Finish** : shackle bow painted silver, pin painted green (120 tons shackle is hot dipped galvanized)
- **Temperature Range** : -40 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity.
  All shackles starting from 150 tons are supplied with a Lloyd's Register of Shipping Certificate on proof load

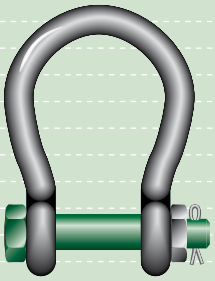




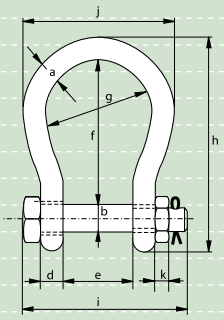
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
120	95	95	208	91	147	400	238	647	440	428	50	110
150	105	108	238	102	169	410	275	688	490	485	60	160
200	120	130	279	113	179	513	290	838	520	530	60	235
250	130	140	299	118	205	554	305	904	560	565	65	285
300	140	150	325	123	205	618	305	996	575	585	70	340
400	170	175	376	164	231	668	325	1114	690	665	70	560
500	180	185	398	164	256	718	350	1190	720	710	70	685
600	200	205	444	189	282	718	375	1243	810	775	70	880
700	210	215	454	204	308	718	400	1263	870	820	70	980
800	210	220	464	204	308	718	400	1270	870	820	70	1100
900	220	230	485	215	328	718	420	1296	920	860	70	1280
1000	240	240	515	215	349	718	420	1336	940	900	70	1460
1250	260	270	585	230	369	768	450	1456	1025	970	70	1990
1500	280	290	625	230	369	818	450	1556	1025	1010	70	2400

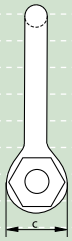
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
120	3 3/4	3 3/4	8 3/16	3 19/32	5 25/32	15 3/4	9 3/8	25 15/32	17 5/16	16 27/32	1 31/32	243
150	4 1/8	4 1/4	9 3/8	4 1/32	6 21/32	16 5/32	10 13/16	27 3/32	19 9/32	19 3/32	2 3/8	353
200	4 23/32	5 1/8	10 31/32	4 7/16	7 1/16	20 3/16	11 13/32	33	20 15/32	20 7/8	2 3/8	518
250	5 1/8	5 1/2	11 25/32	4 21/32	8 1/16	21 13/16	12	35 19/32	22 1/16	22 1/4	2 9/16	628
300	5 1/2	5 29/32	12 25/32	4 27/32	8 1/16	24 11/32	12	39 7/32	22 5/8	23 1/32	2 3/4	750
400	6 11/16	6 7/8	14 13/16	6 15/32	9 3/32	26 5/16	12 25/32	43 27/32	27 5/32	26 3/16	2 3/4	1235
500	7 3/32	7 9/32	15 21/32	6 15/32	10 3/32	28 9/32	13 25/32	46 27/32	28 11/32	27 15/16	2 3/4	1510
600	7 7/8	8 1/16	17 15/32	7 7/16	11 3/32	28 9/32	14 3/4	48 15/16	31 7/8	30 1/2	2 3/4	1940
700	8 9/32	8 15/32	17 7/8	8 1/32	12 1/8	28 9/32	15 3/4	49 23/32	34 1/4	32 9/32	2 3/4	2161
800	8 9/32	8 21/32	18 9/32	8 1/32	12 1/8	28 9/32	15 3/4	50	34 1/4	32 9/32	2 3/4	2425
900	8 21/32	9 1/16	19 3/32	8 15/32	12 29/32	28 9/32	16 17/32	51 1/32	36 7/32	33 27/32	2 3/4	2822
1000	9 7/16	9 7/16	20 9/32	8 15/32	13 3/4	28 9/32	16 17/32	52 19/32	37	35 7/16	2 3/4	3219
1250	10 1/4	10 5/8	23 1/32	9 1/16	14 17/32	30 1/4	17 23/32	57 5/16	40 11/32	38 3/16	2 3/4	4387
1500	11 1/32	11 13/32	24 19/32	9 1/16	14 17/32	32 7/32	17 23/32	61 1/4	40 11/32	39 3/4	2 3/4	5291



G-4263





Green Pin® Wide Mouth Shackles

bow shackles with safety bolt

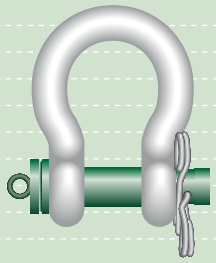
- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20 °C up to +200 °C
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
4.75	22	25	52	22	63	112	88	173	157	132	23	2.08
6.5	25	28	59	25	75	135	105	204	182	155	25	3.14
8.5	28	32	66	28	82	148	115	225	201	171	28	4.36
9.5	32	35	72	32	90	162	126	248	217	190	31	5.95
12	35	38	79	35	100	180	140	274	240	210	34	7.87
16	38	42	88	38	106	216	159	319	248	235	19	12.5
25	45	50	103	45	127	248	175	370	296	265	24	18
30	50	57	118	50	146	273	207	411	338	307	27	25
55	65	70	145	65	165	314	213	487	389	343	33	45
75	75	83	166	75	184	330	254	530	432	404	40	70

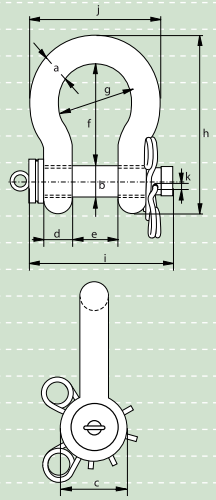
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
4.75	7/8	1	2 1/16	7/8	2 15/32	4 13/32	3 15/32	6 13/16	6 3/16	5 3/16	29/32	4.59
6.5	1	1 1/8	2 5/16	31/32	2 15/16	5 5/16	4 1/8	8 1/32	7 5/32	6 3/32	31/32	6.92
8.5	1 1/8	1 1/4	2 19/32	1 3/32	3 7/32	5 13/16	4 17/32	8 27/32	7 29/32	6 23/32	1 3/32	9.61
9.5	1 1/4	1 3/8	2 27/32	1 1/4	3 17/32	6 3/8	4 31/32	9 3/4	8 17/32	7 15/32	1 7/32	13.12
12	1 3/8	1 1/2	3 1/8	1 3/8	3 15/16	7 3/32	5 1/2	10 25/32	9 7/16	8 9/32	1 11/32	17.35
16	1 1/2	1 5/8	3 15/32	1 1/2	4 3/16	8 1/2	6 1/4	12 9/16	9 3/4	9 1/4	3/4	27.56
25	1 3/4	2	4 1/16	1 25/32	5	9 3/4	6 7/8	14 9/16	11 21/32	10 7/16	15/16	39.68
30	2	2 1/4	4 21/32	1 31/32	5 3/4	10 3/4	8 5/32	16 3/16	13 5/16	12 3/32	1 1/16	55.12
55	2 1/2	2 3/4	5 23/32	2 9/16	6 1/2	12 3/8	8 3/8	19 3/16	15 5/16	13 1/2	1 5/16	105.82
75	3	3 1/4	6 17/32	2 15/16	7 1/4	13	10	20 7/8	17	15 29/32	1 9/16	154.32





P-5363



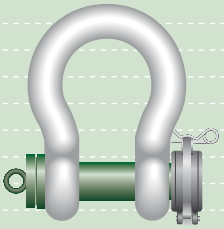
Green Pin® ROV Release Polar Shackles

with spring pins

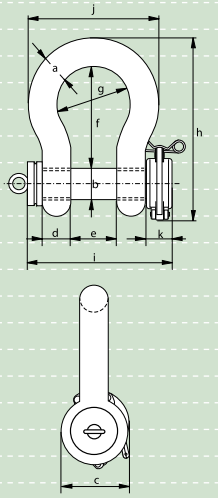
- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : body white painted, pin green painted
- **Temperature Range** : -40˚C up to +200˚C
- **Certificates** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity.
- **Note** : for in-line use only.
  It is up to the user to attach the safety pins with wire ropes etc. and attaching loops or monkey's fists. Van Beest supplies the shackle body, the shackle pin and 2 spring pins.

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	diameter	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
6.5	22	25	52	22	36	83	58	144	130	102	5.5	1.77
9.5	28	32	66	28	47	108	75	185	166	131	6.5	3.66
12	32	35	72	32	51	115	83	201	184	147	6.5	4.91
17	38	42	88	38	60	146	99	249	202	175	6.5	8.19
25	45	50	103	45	74	178	126	300	249	216	8.5	14.22
55	65	70	145	65	105	260	180	433	330	310	8.5	39.59
85	75	83	162	73	127	329	190	527	380	340	8.5	62





P-5365



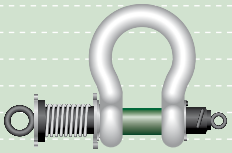
Green Pin® ROV Release Polar Shackles

with locking clamp

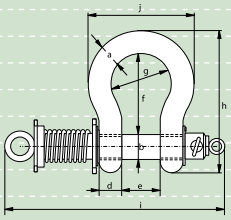
- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Finish** : body white painted, pin green painted
- **Temperature Range** : -40˚C up to +200˚C
- **Certificates** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity.
- **Note** : it is up to the user to attach the locking clamp with wire ropes etc. and attaching loops or monkey's fists. Van Beest supplies the shackle body, the shackle pin and locking clamp with spring pin.

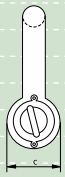
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	width locking clamp	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
6.5	22	25	52	22	36	83	58	160	144	102	44	1.77
9.5	28	32	66	28	47	108	75	200	177	131	48	3.66
12	32	35	72	32	51	115	83	215	188	147	48	4.91
17	38	42	88	38	60	146	99	250	217	175	48	8.19
25	45	50	103	45	74	178	126	300	250	216	48	14.22
55	65	70	145	65	105	260	180	433	330	310	48	39.59
85	75	83	162	73	127	329	190	527	380	340	48	62





P-5367



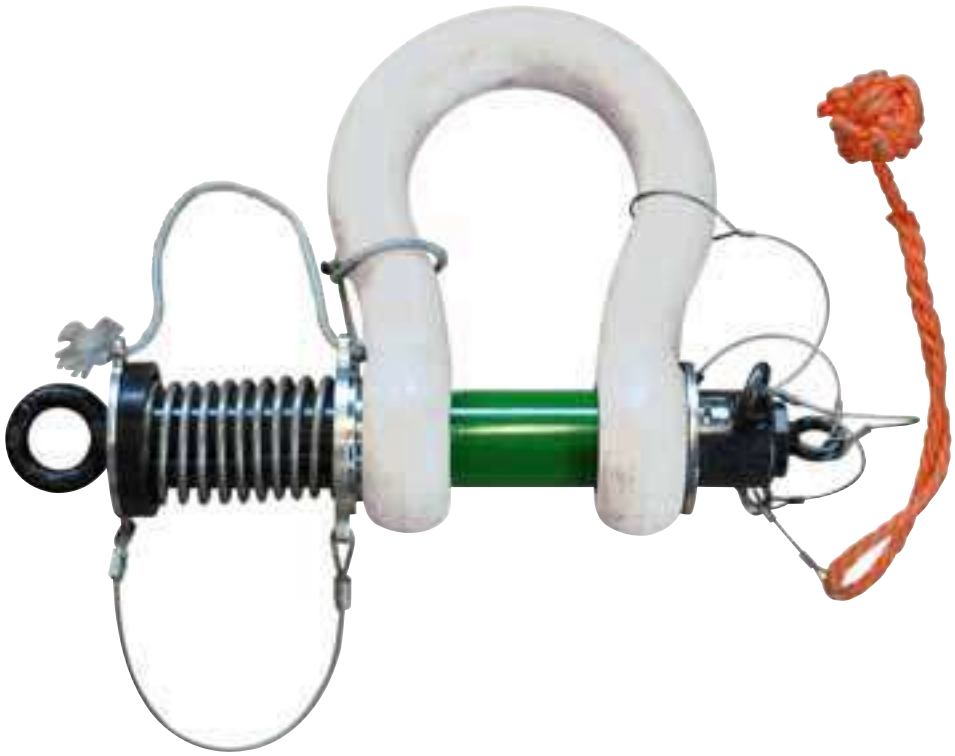


Green Pin® ROV Spring Release Polar Shackles

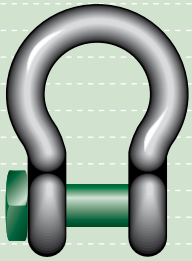
spring loaded

- **Material** : bow and pin alloy steel, Grade 8, quenched and tempered
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : body white painted, pin green painted
- **Temperature Range** : -40˚C up to +200˚C
- **Certificates** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity.
- **Note** : for in-line use only.
  This shackle is assembled with wire rope slings and monkey's fist.
  For shackles with size starting from WLL 35 t up to and including 150 t a special compression tool (tensioner) is required to assemble the shackle.

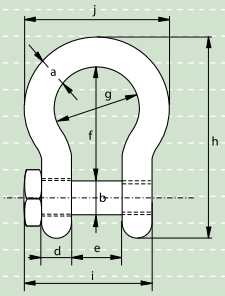
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	weight each
	a	b	c	d	e	f	g	h	i	j	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
12	32	35	72	32	51	115	83	201	262	147	6
13.5	35	38	80	35	57	133	92	227	275	162	7
17	38	42	88	38	60	146	99	249	330	175	14
25	45	50	103	45	74	178	126	300	352	216	16
35	50	57	116	50	83	197	138	334	373	238	21
42.5	57	65	130	57	95	222	160	377	442	274	32
55	65	70	145	65	105	260	180	433	470	310	43
85	75	83	162	73	127	329	190	527	579	340	71
120	95	95	208	91	147	399	238	646	674	428	131
150	105	108	238	102	169	410	275	688	699	485	171

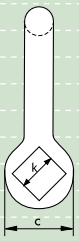






G-4164





Green Pin® Trawling Shackles

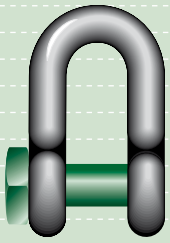
bow shackles with square headed screw pin

- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271, Grade A
- **Finish** : hot dipped galvanized
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity

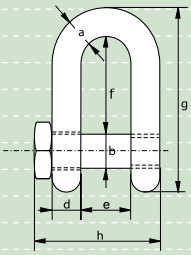
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	width bolt head	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
2	13.5	16	34	13	22	51	32	89	57.5	58	22	0.34
3.25	16	19	40	16	27	64	43	110	71	75	27	0.63
4.75	19	22	46	19	31	76	51	129	82	89	32	1
6.5	22	25	52	22	36	83	58	144	93	102	32	1.44
8.5	25	28	59	25	43	95	68	164	108	118	36	2.21
9.5	28	32	66	28	47	108	75	185	120	131	41	3.18
12	32	35	72	32	51	115	83	201	137	147	50	4.32
13.5	35	80	80	35	57	133	92	227	149	162	50	5.67
17	38	42	88	38	60	146	99	249	164	175	60	7.36
25	45	50	103	45	74	178	126	300	192	216	60	12.38

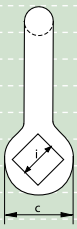
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	width bolt head	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
2	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	2 1/4	2 9/32	7/8	0.75
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	2 25/32	2 15/16	1 1/16	1.39
4.75	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	3 7/32	3 1/2	1 1/4	2.21
6.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	3 21/32	4 1/32	1 1/4	3.17
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	4 1/4	4 21/32	1 13/32	4.86
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	4 23/32	5 5/32	1 5/8	7.01
12	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	5 13/32	5 25/32	1 31/32	9.52
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	5 7/8	6 3/8	1 31/32	12.49
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	6 15/32	6 7/8	2 3/8	16.23
25	1 3/4	2	4 1/16	1 25/32	2 29/32	7	4 31/32	11 13/26	7 9/16	8 1/2	2 3/8	27.29



G-4154





Green Pin® Trawling Shackles

dee shackles with square headed screw pin

- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271, Grade A
- **Finish** : hot dipped galvanized
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity

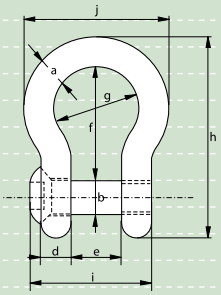
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	width bolt head	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	kg
2	13.5	16	34	13	22	43	81	57.5	22	0.32
3.25	16	19	40	16	27	51	97	71	27	0.58
4.75	19	22	46	19	31	59	112	82	32	0.92
6.5	22	25	52	22	36	73	134	93	32	1.33
8.5	25	28	59	25	43	85	154	108	36	2.03
9.5	28	32	66	28	47	90	167	120	41	2.88
12	32	35	72	32	51	94	180	137	50	3.96
13.5	35	38	80	35	57	115	209	149	50	5.24
17	38	42	88	38	60	127	230	164	60	6.8
25	45	50	103	45	74	149	271	192	60	11.22

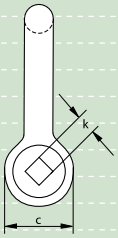
In inch

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	width bolt head	weight each
t	a inch	b inch	c inch	d inch	e inch	f inch	g inch	h inch	i inch	lbs
2	1/2	5/8	1 11/32	1/2	7/8	1 11/16	3 3/16	2 1/4	7/8	0.7
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2	3 13/16	2 25/32	1 1/16	1.28
4.75	3/4	7/8	1 13/16	3/4	1 7/32	2 5/16	4 13/32	3 7/32	1 1/4	2.03
6.5	7/8	1	2 1/16	7/8	1 13/32	2 7/8	5 9/32	3 21/32	1 1/4	2.93
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 11/32	6 1/16	4 1/4	1 13/32	4.48
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	3 17/32	6 9/16	4 23/32	1 5/8	6.35
12	1 1/4	1 3/8	2 27/32	1 1/4	2	3 11/16	7 3/32	5 13/32	1 31/32	8.72
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	4 17/32	8 7/32	5 7/8	1 31/32	11.56
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5	9 1/16	6 15/32	2 3/8	15
25	1 3/4	2	4 1/16	1 25/32	2 29/32	5 7/8	10 21/32	7 9/16	2 3/8	24.74



G-4169





Green Pin® Sunken Hole Shackles

bow shackles with square sunken hole screw pin

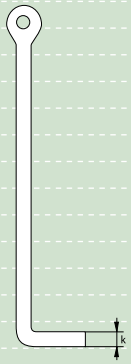
- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271, Grade A
- **Finish** : hot dipped galvanized
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity
- **Note** : key for unscrewing the pin must be ordered separately

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	size hole	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
2	13.5	16	34	13	22	51	32	89	51	58	11	0.31
3.25	16	19	40	16	27	64	43	110	63	75	11	0.56
4.75	19	22	46	19	31	76	51	129	74	89	11	0.98
6.5	22	25	52	22	36	83	58	144	85	102	13	1.46
8.5	25	28	59	25	43	95	68	164	99	118	13	2.18
9.5	28	32	66	28	47	108	75	185	110	131	17	3.06
12	32	35	72	32	51	115	83	201	122	147	17	4.24
13.5	35	38	80	35	57	133	92	227	135	162	17	5.59
17	38	42	88	38	60	146	99	249	145	175	17	7.37

In inch



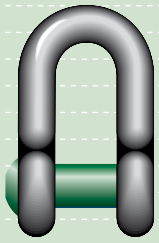
P-4170



working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	size hole	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs
2	1/2	5/8	1 11/32	1/2	7/8	2	1 1/4	3 1/2	2	2 9/32	7/16	0.68
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2 17/32	1 11/16	4 11/32	2 15/32	2 15/16	7/16	1.23
4.75	3/4	7/8	1 13/16	3/4	1 7/32	3	2	5 3/32	2 29/32	3 1/2	7/16	2.16
6.5	7/8	1	2 1/16	7/8	1 13/32	3 9/32	2 9/32	5 21/32	3 11/32	4 1/32	1/2	3.22
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 3/4	2 11/16	6 15/32	3 29/32	4 21/32	1/2	4.81
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	4 1/4	2 15/16	7 9/32	4 11/32	5 5/32	21/32	6.75
12	1 1/4	1 3/8	2 27/32	1 1/4	2	4 17/32	3 9/32	7 29/32	4 13/16	5 25/32	21/32	9.35
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	5 1/4	3 5/8	8 15/16	5 5/16	6 3/8	21/32	12.32
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5 3/4	3 29/32	9 13/16	5 23/32	6 7/8	21/32	16.25

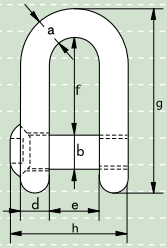
Green Pin® Sunken Hole Shackles

dee shackles with square sunken hole screw pin

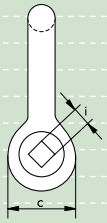


G-4159

- **Material** : bow and pin high tensile steel, Grade 6, quenched and tempered
- **Safety Factor** : MBL equals 6 x WLL
- **Standard** : EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271, Grade A
- **Finish** : hot dipped galvanized
- **Certification** : at no extra charges this product can be supplied with a works certificate, 3.1 material certificate, manufacturer test certificate and/or EC Declaration of Conformity
- **Note** : key for unscrewing the pin must be ordered separately



working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	size hole	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	kg
2	13.5	16	34	13	22	43	81	51	11	0.34
3.25	16	19	40	16	27	51	97	63	11	0.6
4.75	19	22	46	19	31	59	112	74	11	0.98
6.5	22	25	52	22	36	73	134	85	13	1.26
8.5	25	28	59	25	43	85	154	99	13	2.14
9.5	28	32	66	28	47	90	167	110	17	3.05
12	32	35	72	32	51	94	180	122	17	3.56
13.5	35	38	80	35	57	115	209	135	17	5.17
17	38	42	88	38	60	127	230	145	17	6.84

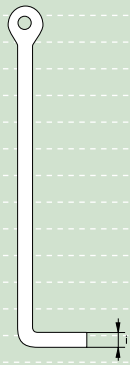


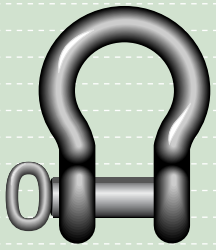
In inch



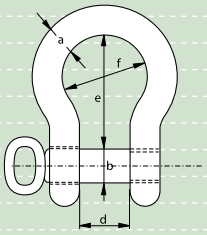
P-4170

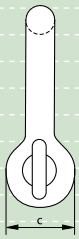
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	size hole	weight each
t	a inch	b inch	c inch	d inch	e inch	f inch	g inch	h inch	i inch	lbs
2	1/2	5/8	1 11/32	1/2	7/8	1 11/16	3 3/16	2	7/16	0.75
3.25	5/8	3/4	1 9/16	5/8	1 1/16	2	3 13/16	2 15/32	7/16	1.33
4.75	3/4	7/8	1 13/16	3/4	1 7/32	2 5/16	4 13/32	2 29/32	7/16	2.15
6.5	7/8	1	2 1/16	7/8	1 13/32	2 7/8	5 9/32	3 11/32	1/2	2.77
8.5	1	1 1/8	2 5/16	31/32	1 11/16	3 11/32	6 1/16	3 29/32	1/2	4.72
9.5	1 1/8	1 1/4	2 19/32	1 3/32	1 27/32	3 17/32	6 9/16	4 11/32	21/32	6.72
12	1 1/4	1 3/8	2 27/32	1 1/4	2	3 11/16	7 3/32	4 13/16	21/32	7.84
13.5	1 3/8	1 1/2	3 5/32	1 3/8	2 1/4	4 17/32	8 7/32	5 5/16	21/32	11.4
17	1 1/2	1 5/8	3 15/32	1 1/2	2 3/8	5	9 1/16	5 23/32	21/32	15.08





S-1165





Mooring Shackles

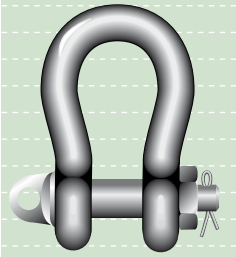
bow shackles with screw pin

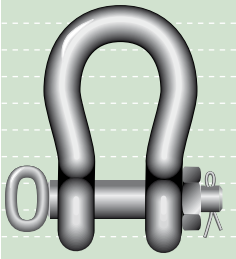
- **Material** : mild steel, untreated, Grade 3
- **Finish** : self coloured
- **Note** : not to be used for lifting applications

diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight each
a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	kg
32	32	74	64	134	96	4.2
38	38	89	76	160	114	7.8
45	45	104	90	189	135	12.5
50	50	111	100	210	155	17.4
65	65	145	130	273	195	35.6

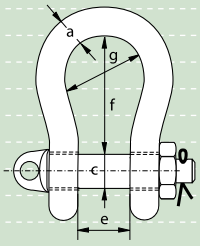
Shackles generally to DIN 82016 type B

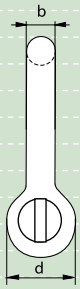
bow shackles with safety bolt

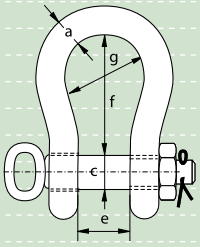


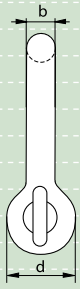


S-3466
G-3466







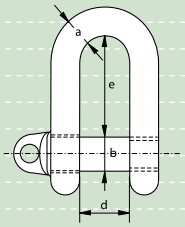


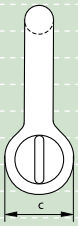
- **Material** : bow and pin high tensile steel, Grade 4
- **Safety Factor** : MBL equals 4 x WLL
- **Standard** : generally to DIN 82016 type B
- **Finish** : hot dipped galvanized or self coloured
- **Certification** : at no extra charges this product can be supplied with a works certificate.
- **Note** : with screw collar pin : up to size no. 25
  with hand-grip : from size no. 32

no.	working load limit	thickness bow	thickness bow	diameter pin	diameter eye	width inside	length inside	width bow	weight each
	t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
8	8	54	38	45	90	60	152	93	9.3
10	10	60	42	48	96	66	166	102	12
12	12	67	47	52	104	73	184	114	15.7
16	16	76	52	60	120	81	210	128	21
20	20	85	58	68	136	90	231	140	31.4
25	25	92	63	72	144	100	254	155	39.4
32	32	100	70	80	160	110	285	175	53.3
40	40	107	79	90	180	125	315	195	75.3
50	50	120	88	100	200	140	360	220	105
63	63	135	96	110	220	155	395	245	137
80	80	150	110	125	250	175	447	275	200
100	100	165	125	140	280	200	500	305	300



S-3351
G-3351



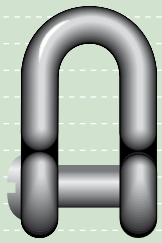


Shackles generally to DIN 82101 type A

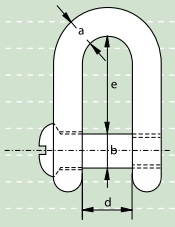
dee shackles with screw collar pin

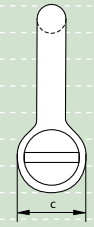
- **Material** : bow and pin high tensile steel, Grade 4
- **Safety Factor** : MBL equals 5 x WLL
- **Standard** : generally to DIN 82101 type A
- **Finish** : hot dipped galvanized or self coloured
- **Certification** : at no extra charges this product can be supplied with a works certificate.
- **Note** : shackle no. 0.1 is electro-galvanized and will not have any markings as it is too small

no.	working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	weight each
	t	a mm	b mm	c mm	d mm	e mm	kg
0.1	0.1	5	5	10	7	15.5	0.017
0.16	0.16	6	6	12	8	18	0.024
0.25	0.25	8	8	16	11	24	0.054
0.4	0.4	10	10	20	14	30	0.097
0.6	0.63	12	12	24	17	36	0.18
1	1	13	16	32	21	49	0.3
1.6	1.6	16	20	40	27	61	0.57
2	2	20	22	44	30	67	0.975
2.5	2.5	22	24	48	33	73	1.3
3	3.15	25	27	54	38	83.5	1.85
4	4	28	30	60	42	91	2.53
5	5	32	36	72	47	111	4
6	6.3	36	39	78	53	119.5	5.3
8	8	41	45	90	60	139.5	7.9
10	10	44	48	96	66	147	10
12	12	49	52	104	73	158	13.5
16	16	55	60	120	81	185	19.2
20	20	61	68	136	90	211	28
25	25	67	72	144	100	221	34



S-3352
G-3352



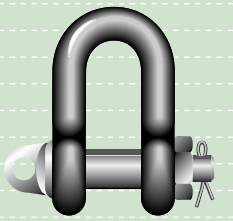


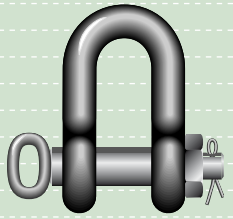
Shackles generally to DIN 82101 type B

dee shackles with counter sunk screw pin

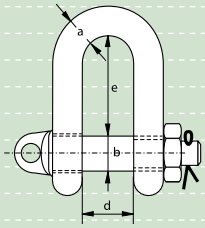
- **Material** : bow and pin high tensile steel, Grade 4
- **Safety Factor** : MBL equals 5 x WLL
- **Standard** : generally to DIN 82101 type B
- **Finish** : hot dipped galvanized or self coloured
- **Certification** : at no extra charges this product can be supplied with a works certificate.
- **Note** : shackle no. 0.1 is electro-galvanized and will not have any markings as it is too small

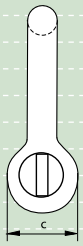
no.	working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	weight each
	t	a mm	b mm	c mm	d mm	e mm	kg
0.1	0.1	5	5	10	7	15.5	0.014
0.16	0.16	6	6	12	8	18	0.023
0.25	0.25	8	8	16	11	24	0.052
0.4	0.4	10	10	20	14	30	0.093
0.6	0.63	12	12	24	17	36	0.173
1	1	13	16	32	21	49	0.29
1.6	1.6	16	20	40	27	61	0.543
2	2	20	22	44	30	67	0.95
2.5	2.5	22	24	48	33	73	1.23
3	3.15	25	27	54	38	83.5	1.8
4	4	28	30	60	42	91	2.6
5	5	32	36	72	47	111	3.8
6	6.3	36	39	78	53	119.5	5.2
8	8	41	45	90	60	139.5	7.6
10	10	44	48	96	66	147	9.7

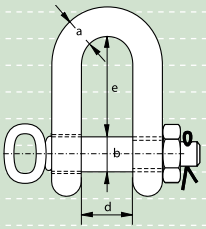


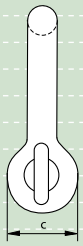


S-3356
G-3356







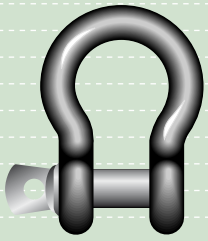


Shackles generally to DIN 82101 type C

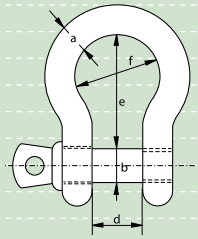
dee shackles with safety bolt

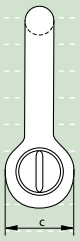
- **Material** : bow and pin high tensile steel, Grade 4
- **Safety Factor** : MBL equals 5 x WLL
- **Standard** : generally to DIN 82101 type C
- **Finish** : hot dipped galvanized or self coloured
- **Certification** : at no extra charges this product can be supplied with a works certificate.
- **Note** : with screw collar pin : up to size no. 25
  with hand-grip : from size no. 32

no.	working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	weight each
	t	a mm	b mm	c mm	d mm	e mm	kg
0.4	0.4	10	10	20	14	30	0.113
0.6	0.63	12	12	24	17	36	0.2
1	1	13	16	32	21	49	0.37
1.6	1.6	16	20	40	27	61	0.686
2	2	20	22	44	30	67	1.125
2.5	2.5	22	24	48	33	73	1.5
3	3.15	25	27	54	38	83.5	2.15
4	4	28	30	60	42	91	2.93
5	5	32	36	72	47	111	4.7
6	6.3	36	39	78	53	119.5	6.33
8	8	41	45	90	60	139.5	8.5
10	10	44	48	96	66	147	10.8
12	12.5	49	52	104	73	158	14.4
16	16	55	60	120	81	185	20.5
20	20	61	68	136	90	211	29.5
25	25	67	72	144	100	221	36
32	32	74	80	160	110	246	49
40	40	75	90	180	125	276	75
50	50	88	100	200	140	307	100
63	63	96	110	220	155	339	140
80	80	110	125	250	175	385.5	200
100	100	125	140	280	200	430	280



G-3161



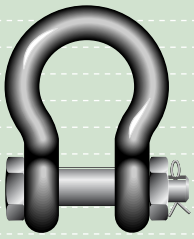


Yellow Pin Shackles

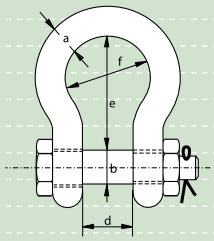
bow shackles with screw collar pin

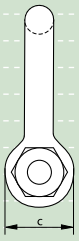
- **Material** : bow and pin high tensile steel, Grade 6
- **Standard** : generally to US Fed. Spec. RR-C-271
- **Finish** : hot dipped galvanized
- **Note** : import quality

working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight each
	a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	kg
0.33	5	6	14	9.5	22	15	0.03
0.5	6	8	16	12	29	20	0.05
0.75	8	10	19	13.5	31	21	0.09
1	10	11	23	17	37	26	0.14
1.5	11	13	27	19	43	29	0.2
2	13	16	30	20	48	33	0.33
3.25	16	19	38	27	60	43	0.62
4.75	19	22	46	32	71	50	1.07
6.5	22	25	53	36	84	58	1.64
8.5	25	28	61	43	95	68	2.28
9.5	28	32	68	46	108	74	3.36
12	32	35	76	51	119	82	4.31
13.5	35	38	84	57	133	92	6.14
17	38	42	92	60	146	98	7.81
25	45	50	106	73	177	127	12.61



G-3163



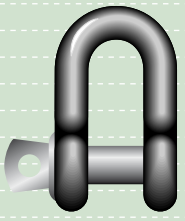


Yellow Pin Shackles

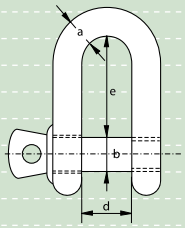
bow shackles with safety bolt

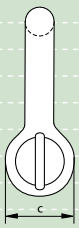
- **Material** : bow and pin high tensile steel, Grade 6
- **Standard** : generally to US Fed. Spec. RR-C-271
- **Finish** : hot dipped galvanized
- **Note** : import quality

working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight each
	a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	kg
2	13	16	30	20	48	33	0.36
3.25	16	19	38	27	60	43	0.7
4.75	19	22	46	32	71	50	1.1
6.5	22	25	53	36	84	58	1.79
8.5	25	28	61	43	95	68	2.57
9.5	28	32	68	46	108	74	3.75
12	32	35	76	51	119	82	5.32
13.5	35	38	84	57	133	92	7.19
17	38	42	92	60	146	98	9.44
25	45	50	106	73	177	127	15.4



G-3151



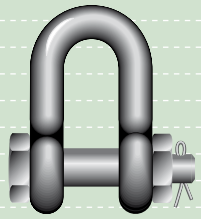


Yellow Pin Shackles

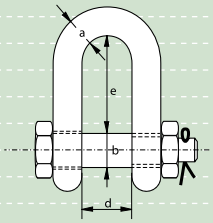
dee shackles with screw collar pin

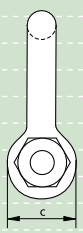
- **Material** : bow and pin high tensile steel, Grade 6
- **Standard** : generally to US Fed. Spec. RR-C-271
- **Finish** : hot dipped galvanized
- **Note** : import quality

working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	weight each
	a	b	c	d	e	
t	mm	mm	mm	mm	mm	kg
0.33	5	6	12	9.5	19	0.03
0.5	6	8	16	12	22	0.05
0.75	8	10	19	13.5	26	0.08
1	10	11	23	17	32	0.13
1.5	11	13	27	19	37	0.2
2	13	16	30	20	41	0.27
3.25	16	19	38	27	51	0.57
4.75	19	22	46	32	60	1.19
6.5	22	25	53	36	71	1.43
8.5	25	28	61	43	81	2.16
9.5	28	32	68	46	90	3.06
12	32	35	76	51	100	4.11
13.5	35	38	84	57	111	5.28
17	38	42	92	60	122	7.24
25	45	50	106	73	146	12.14



G-3153



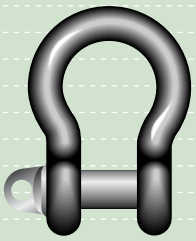


Yellow Pin Shackles

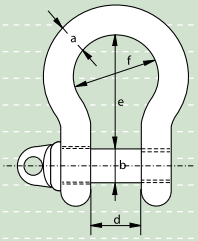
dee shackles with safety bolt

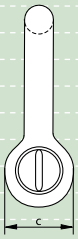
- **Material** : bow and pin high tensile steel, Grade 6
- **Standard** : generally to US Fed. Spec. RR-C-271
- **Finish** : hot dipped galvanized
- **Note** : import quality

working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	weight each
	a	b	c	d	e	
t	mm	mm	mm	mm	mm	kg
2	13	16	30	20	41	0.35
3.25	16	19	38	27	51	0.65
4.75	19	22	46	32	60	1.02
6.5	22	25	53	36	71	1.75
8.5	25	28	61	43	81	2.52
9.5	28	32	68	46	90	3.5
12	32	35	76	51	100	4.91
13.5	35	38	84	57	111	5.84
17	38	42	92	60	122	8.4
25	45	50	106	73	146	11.9



S-2761
E-2761
G-2761





Shackles generally to B.S. 3032 table 3

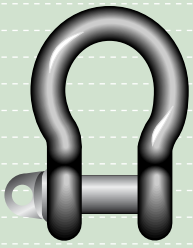
large bow shackles with screw collar pin

- **Material** : bow and pin alloy steel, EN14a
- **Safety Factor** : MBL equals 4 x WLL
- **Standard** : generally to B.S. 3032 table 3
- **Finish** : hot dipped galvanized, electro-galvanized or self coloured
- **Certification** : at no extra charges this product can be supplied with a works certificate

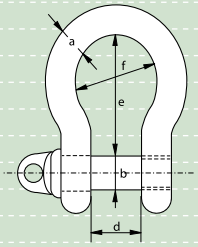
working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight each
	a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	kg
0.15	6	10	19	13	28	19	0.12
0.45	10	13	25	16	41	25	0.18
0.75	13	16	32	22	54	32	0.37
1.25	16	19	38	28	70	41	0.72
2	19	22	44	35	86	51	1.20
2.75	22	25	51	41	98	57	1.85
3.75	25	28	57	44	108	64	2.61
4.75	28	32	63	51	124	73	3.78
5.75	32	35	70	57	137	83	5.17
7.25	35	38	76	63	152	89	6.46
8.5	38	44	89	70	168	98	8.34
9.5	42	48	94	76	187	111	11.1
11.5	44	51	102	86	206	121	14.5
13	48	54	108	92	222	130	17.8
15	51	57	114	98	238	140	25.5
18.5	57	63	127	105	257	152	34.4
20	60	67	133	111	273	162	36.8
25	67	73	146	121	302	178	45
30	73	79	159	133	330	197	62.2
35	79	86	171	146	359	213	81.8
40	86	92	184	159	387	229	95
50	95	102	203	171	429	254	131
65	108	117	235	197	483	286	194
80	117	127	254	216	533	308	274

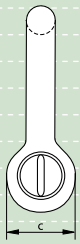
Shackles generally to B.S. 3032 table 4

small bow shackles with screw collar pin



S-2765
E-2765
G-2765



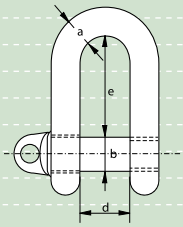


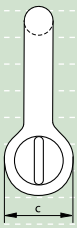
- **Material** : bow and pin alloy steel, EN14a
- **Safety Factor** : MBL equals 4 x WLL
- **Standard** : generally to B.S. 3032 table 4
- **Finish** : hot dipped galvanized, electro-galvanized or self coloured
- **Certification** : at no extra charges this product can be supplied with a works certificate

working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight each
	a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	kg
0.2	6	10	19	13	25	16	0.11
0.5	10	13	25	16	38	22	0.17
1	13	16	32	22	51	29	0.35
1.5	16	19	38	28	64	38	0.66
2	19	22	44	35	76	44	1.06
3	22	25	51	38	89	51	1.68
4	25	28	57	44	102	60	2.47
5	28	32	63	51	114	67	3.48
6.25	32	35	70	57	127	76	4.79
7.5	35	38	76	60	140	83	5.95
9.25	38	44	89	67	152	89	7.55
10.5	41	48	95	73	165	98	9.79
12.5	44	51	102	79	178	105	12.5
14.25	48	54	108	86	191	114	15.3
16.5	51	57	114	92	203	121	21.8
18.5	54	60	121	95	216	127	28.9
20	57	63	127	105	229	137	30.9
25	63	70	140	114	254	152	37.8
30	70	79	159	127	279	168	52.6
35	76	86	171	137	305	184	69.5
40	79	89	178	143	318	191	78.1
50	89	98	203	159	356	213	109
65	102	114	229	184	406	244	163
80	114	127	254	206	457	273	235



S-2751
E-2751
G-2751





Shackles generally to B.S. 3032 table 2

large dee shackles with screw collar pin

- **Material** : bow and pin alloy steel, EN14a
- **Safety Factor** : MBL equals 4 x WLL
- **Standard** : generally to B.S. 3032 table 2
- **Finish** : hot dipped galvanized, electro-galvanized or self coloured
- **Certification** : at no extra charges this product can be supplied with a works certificate

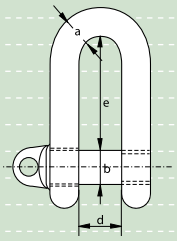
working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	weight each
	a	b	c	d	e	
t	mm	mm	mm	mm	mm	kg
0.25	6	10	19	13	25	0.11
0.5	10	13	25	19	38	0.17
0.75	13	16	32	28	54	0.35
1.5	16	19	38	32	64	0.66
2	19	22	44	38	73	1.02
3	22	25	51	44	83	1.57
3.75	25	28	57	51	95	2.3
5	28	32	64	54	105	3.2
6	32	35	70	60	114	4.3
7	35	38	76	67	127	5.4
9.5	38	45	83	70	137	6.8
11.25	42	48	89	76	146	8.7
13	44	51	95	83	156	11
14.25	48	54	108	92	178	14.3
16.25	51	57	114	98	187	20
18	54	60	121	105	197	26.4
20	57	64	127	108	210	28.3
25	64	73	146	121	235	35
30	70	79	159	133	260	49
35	76	86	171	146	279	63.6
40	79	89	178	149	292	71.7
50	89	102	203	171	330	101
65	102	114	229	191	375	151
80	114	127	254	219	419	215

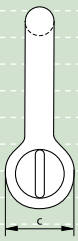
Shackles generally to B.S. 3032 table 1

small dee shackles with screw collar pin



S-2755
E-2755
G-2755



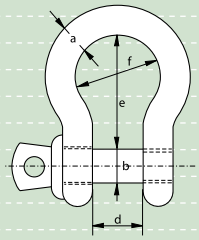


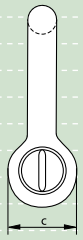
- **Material** : bow and pin alloy steel, EN14a
- **Safety Factor** : MBL equals 4 x WLL
- **Standard** : generally to B.S. 3032 table 1
- **Finish** : hot dipped galvanized, electro-galvanized or self coloured
- **Certification** : at no extra charges this product can be supplied with a works certificate

working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	weight each
	a	b	c	d	e	
t	mm	mm	mm	mm	mm	kg
0.3	6	10	19	9.5	22	0.1
0.6	10	13	25	16	35	0.16
1	13	16	32	22	48	0.31
1.75	16	19	38	25	57	0.59
2.5	19	22	44	32	70	0.98
3.5	22	25	51	35	83	1.55
4.5	25	28	57	38	92	2.2
5.5	28	32	64	44	105	3.1
7	32	35	70	48	114	4.2
8	35	38	83	54	127	5.1
10.75	38	45	89	60	140	6.6
13	42	48	95	64	149	8.1
14.75	44	51	102	70	162	10.5
16.75	48	54	108	73	171	13.3
19	51	57	114	76	184	19.2
20	54	60	121	83	197	22.4
25	60	70	140	92	219	25.3
30	64	73	146	98	229	31.5
35	70	79	159	108	254	47
40	73	83	165	111	264	60.2
50	83	95	190	127	298	68.5
65	92	108	216	140	333	98
80	102	117	235	156	368	147



S-1161
E-1161



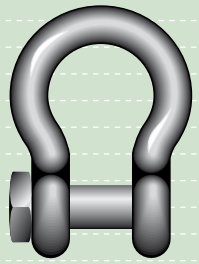


Commercial Shackles

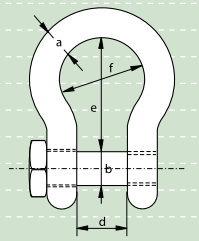
bow shackles with screw collar pin

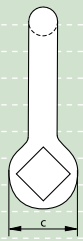
- **Material** : mild steel, untreated, Grade 3
- **Finish** : electro-galvanized or self coloured
- **Note** : not to be used for lifting applications

diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight per 100 pcs
a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	kg
5	5	10	10	20	15	1.54
6	6	12	12	24	18	2.66
8	8	16	16	32	24	6.29
10	10	20	20	40	30	12.3
11	11	22	22	44	33	16.4
12	12	24	24	48	36	21.2
14	14	28	28	56	42	33.7
16	16	32	32	64	48	50.3
19	19	38	38	76	57	98.3
22	22	44	44	88	66	131
25	25	50	50	100	75	192
28	28	56	56	112	84	270
32	32	64	64	128	96	403
38	38	76	76	152	114	674
45	45	90	90	180	135	1120
50	50	100	100	200	150	1536
57	57	114	114	228	171	2276
65	65	130	130	260	195	3375



S-1164





Commercial Shackles

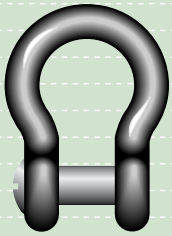
bow shackles with square head screw pin

- **Material** : mild steel, untreated, Grade 3
- **Finish** : self coloured
- **Note** : not to be used for lifting applications

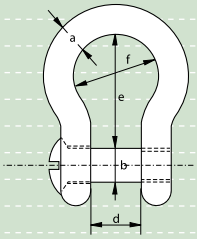
diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight per 100 pcs
a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	kg
6	6	12	12	24	18	2.7
8	8	16	16	32	24	6.4
10	10	20	20	40	30	12.5
11	11	22	22	44	33	16.6
12	12	24	24	48	36	21.6
14	14	28	28	56	42	34.3
16	16	32	32	64	48	51.2
19	19	38	38	76	57	100
22	22	44	44	88	66	133
25	25	50	50	100	75	195
28	28	56	56	112	84	275
32	32	64	64	128	96	410
38	38	76	76	152	114	686

Commercial Shackles

bow shackles with counter sunk screw pin



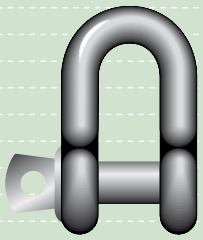
S-1162
E-1162



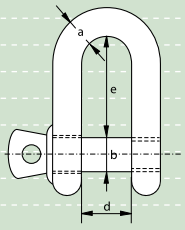


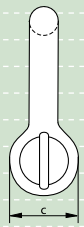
- **Material** : mild steel, untreated, Grade 3
- **Finish** : electro-galvanized or self coloured
- **Note** : not to be used for lifting applications

diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight per 100 pcs
a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	kg
8	8	16	16	32	24	6
10	10	20	20	40	30	11.6
11	11	22	22	44	33	15.5
12	12	24	24	48	36	20.1
14	14	28	28	56	42	31.9
16	16	32	32	64	48	47.6
19	19	38	38	76	57	93.1
22	22	44	44	88	66	124
25	25	50	50	100	75	182



S-1151
E-1151



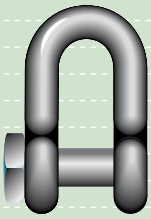


Commercial Shackles

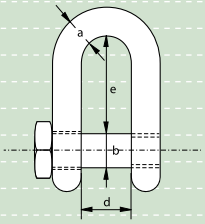
dee shackles with screw collar pin

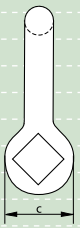
- **Material** : mild steel, untreated, Grade 3
- **Finish** : electro-galvanized or self coloured
- **Note** : not to be used for lifting applications

diameter bow	diameter pin	diameter eye	width inside	length inside	weight per 100 pcs
a	b	c	d	e	
mm	mm	mm	mm	mm	kg
5	5	10	10	20	1.47
6	6	12	12	24	2.56
8	8	16	16	32	6.06
10	10	20	20	40	11.8
11	11	22	22	44	15.8
12	12	24	24	48	20.5
14	14	28	28	56	32.5
16	16	32	32	64	48.5
19	19	38	38	76	94.7
22	22	44	44	88	126
25	25	50	50	100	185
28	28	56	56	112	260
32	32	64	64	128	388
38	38	76	76	152	650
45	45	90	90	180	1080
50	50	100	100	200	1480
57	57	114	114	228	2192
65	65	130	130	260	3252



S-1154



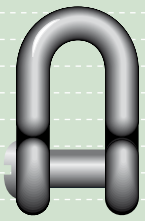


Commercial Shackles

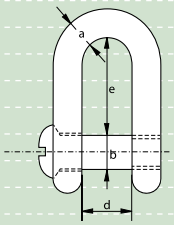
dee shackles with square head screw pin

- **Material** : mild steel, untreated, Grade 3
- **Finish** : self coloured
- **Note** : not to be used for lifting applications

diameter bow	diameter pin	diameter eye	width inside	length inside	weight per 100 pcs
a	b	c	d	e	
mm	mm	mm	mm	mm	kg
6	6	12	12	24	2.6
8	8	16	16	32	6.17
10	10	20	20	40	12
11	11	22	22	44	16
12	12	24	24	48	20.8
14	14	28	28	56	33.1
16	16	32	32	64	49.4
19	19	38	38	76	96.4
22	22	44	44	88	128
25	25	50	50	100	188
28	28	56	56	112	265
32	32	64	64	128	395
38	38	76	76	152	661



S-1152
E-1152



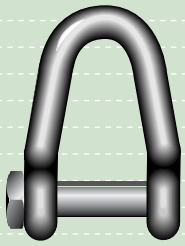


Commercial Shackles

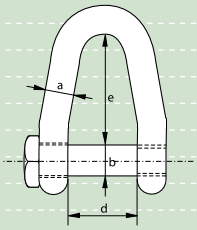
dee shackles with counter sunk screw pin

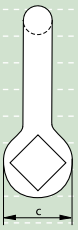
- **Material** : mild steel, untreated, Grade 3
- **Finish** : electro-galvanized or self coloured
- **Note** : not to be used for lifting applications

diameter bow	diameter pin	diameter eye	width inside	length inside	weight per 100 pcs
a	b	c	d	e	
mm	mm	mm	mm	mm	kg
8	8	16	16	32	5.72
10	10	20	20	40	11.2
11	11	22	22	44	14.9
12	12	24	24	48	19.3
14	14	28	28	56	30.7
16	16	32	32	64	45.8
19	19	38	38	76	89.5
22	22	44	44	88	119
25	25	50	50	100	175



S-1170





Commercial Shackles

danlino V shackles with square head screw pin

- **Material** : mild steel, untreated, Grade 3
- **Finish** : self coloured
- **Note** : not to be used for lifting applications

diameter bow	diameter pin	diameter eye	width inside	length inside	weight per 100 pcs
a	b	c	d	e	
mm	mm	mm	mm	mm	kg
32	32	64	78	120	470



Applications

Thimbles are used to protect steel wire rope, fibre rope or synthetic rope.
They are available in various models and sizes. All indicated types of thimbles can be used in combination with the above mentioned types of ropes.

Range

Van Beest offers a wide range of thimbles, from nationally standardized models to all types of commercially available thimbles.

Design

Thimbles can be cold-rolled, hot-rolled or die-cast, depending on the specific use of the thimbles.

Finish

The finish is either self coloured, painted, electro-galvanized or hot dipped galvanized.

Certification

Upon request, all thimbles can be supplied with a works certificate.

Instructions for use

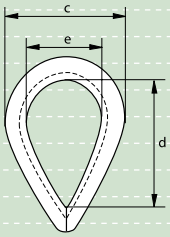
It is required that the thimbles are regularly inspected and the inspection should take place in accordance with the standards given in the country of use.
This is required because the products in use may be affected by wear, misuse, overloading with a consequence of deformation and/or alteration of the steel structure.

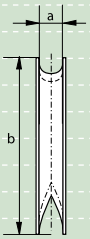
The dimensions of the thimbles must be so that the (wire) rope fits properly into the groove of the thimble. The nominal size of the thimble is the diameter of the (wire) rope with which it is intended to be used.
For (wire) ropes of intermediate sizes, the next larger size of thimble must be used.

Before use, check if the thimble is free from impurities, sharp edges, cracks or other irregularities which may damage the wire rope and therefore affect the strength or reliability of the wire rope.



E-6110





Thimbles

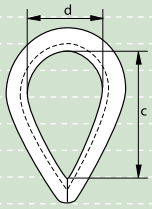
standard commercial

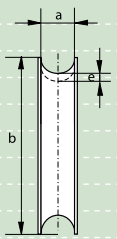
- **Material** : mild steel
- **Finish** : electro-galvanized
- **Certification** : a works certificate can be supplied upon request

diameter rope	width groove	length	width	length inside	width inside	weight per 100 pcs
	a	b	c	d	e	
mm	mm	mm	mm	mm	mm	kg
3	3	24	18	15	10	0.4
4	4	25	19	16	11	0.4
5	5	31	22	22	16	0.8
6	6	37	29	26	19	1.4
7	7	44	32	32	22	2
8	8	51	38	34	24	2.8
9	9	57	42	38	29	3
10	10	64	44	42	32	4.8
11	11	70	51	48	35	7.5
12	12	76	57	51	38	8
14	14	82	60	57	40	10
16	16	89	64	60	42	15
18	18	102	69	67	45	22
20	20	115	79	76	51	25
22	22	127	89	83	54	32
24	24	140	102	88	64	46
26	26	152	105	102	68	66
28	28	165	115	110	73	77
30	30	178	121	115	79	80
32	32	203	133	140	93	130



G-6120





Thimbles

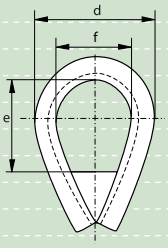
heavy duty stub-end

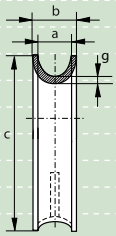
- **Material** : mild steel
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate can be supplied upon request

diameter rope	width groove	length	length inside	width inside	thickness back	weight per 100 pcs
	a	b	c	d	e	
mm	mm	mm	mm	mm	mm	kg
8	8	51	35	22	4	6
10	10	64	47	30	4	7
12	12	76	57	35	5	14
14	14	89	65	45	6	22
16	16	102	76	50	6	24
18	18	114	86	53	8	43
20	20	127	94	60	9	65
22	22	140	107	65	10	93
24	24	152	114	70	10	102
28	28	178	130	80	10.5	135
32	32	203	157	100	10.5	162
36	36	229	177	115	12	363
40	40	254	198	120	12	376
44	44	279	214	130	15	608
50	50	305	215	140	20	960
56	56	356	245	160	20	1400
64	64	407	275	180	20	1700



G-6128





Thimbles

Heavy Duty Stub-end, reinforced with welded fillet plate

- **Material** : mild steel
- **Finish** : hot dipped galvanized
  reinforced with a welded fillet plate
- **Certification** : a works certificate can be supplied upon request

width groove	width overall	length	width	length inside	width inside	thickness back	weight per piece
a	b	c	d	e	f	g	
mm	mm	mm	mm	mm	mm	mm	kg
35	55	220	150	100	80	10	3.2
40	65	245	160	120	90	12	5.1
50	80	290	200	125	110	16	9.2
62	100	360	250	160	140	20	17.4
72	115	390	265	175	160	20	19.4
85	125	470	300	245	190	20	29
100	150	540	370	290	200	25	39
115	165	570	380	300	210	25	52

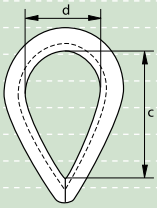


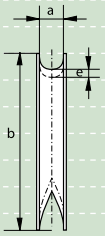
Thimbles

generally to DIN 6899 (B)



E-6131
G-6131



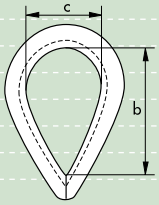


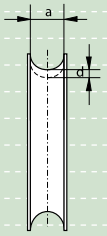
- **Material** : mild steel
- **Standard** : generally to DIN 6899 (B)
- **Finish** : thimbles for rope diameters up to and including 6 mm are electro-galvanized, other diameters are hot dipped galvanized
- **Certification** : a works certificate can be supplied upon request

diameter rope	width groove	length	length inside	width inside	thickness back	weight per 100 pcs
	a	b	c	d	e	
mm	mm	mm	mm	mm	mm	kg
2.5	3	22	19	12	1.6	0.6
3.5	4	26	21	13	1.6	0.7
4	5	32	23	14	1.9	0.9
5	6	38	25	16	2.4	1.8
6	7	44	28	18	2.4	1.9
7	8	51	32	20	2.8	2.7
9	10	57	38	24	3.1	4.1
11	12	64	45	28	3.3	6.9
13	13	70	48	30	3.3	7.6
13	14	76	51	32	3.7	9.2
15	16	83	58	36	3.8	16.4
16	17	89	61	38	4.7	19
17	18	95	64	40	4.7	20.3
18	20	102	72	45	5.7	27.3
20	22	114	80	50	5.7	28.6
22	24	127	90	56	6.5	44.8
24	26	140	99	62	6.8	57.7
26	28	152	112	70	8	72
28	30	165	120	75	8	104
30	32	178	128	80	8	115
32	34	203	152	95	8.5	153
34	36	216	160	100	8.5	176
36	38	229	176	110	8.5	195
38	40	241	184	115	10.5	292
40	42	254	192	120	10.5	320
42	45	305	240	150	10.5	364
47	50	360	265	160	12	535
57	60	380	275	170	12	790
63	65	420	300	180	13	830
72	75	460	350	200	15	1200
87	90	500	370	210	18	2600
97	100	550	380	220	20	3050



G-6133





Thimbles

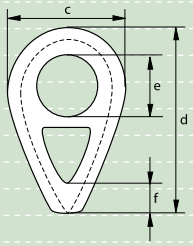
generally to DIN 83311

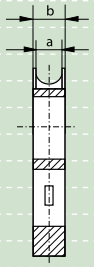
- **Material** : mild steel
- **Standard** : generally to DIN 83311
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate can be supplied upon request

nominal size	width groove	length inside	width inside	thickness back	weight per 100 pcs
	a	b	c	d	
	mm	mm	mm	mm	kg
0.4	8	36	20	3	4.5
0.6	11	50	28	4	9.5
1	13	60	32	5	18
1.6	15	68	38	6	24
2	17	76	42	7	38
2.5	19	85	48	8	50
3	21	95	53	9	70
4	24	110	60	10	110
5	28	125	70	10.5	141
6	30	135	75	12	254
8	34	150	85	13	282
10	38	170	95	15	418
12	42	190	105	16	513
16	46	205	115	16	550
20	50	225	125	18	930
25	56	250	140	20	1303
31	62	280	155	21	1363
40	68	306	170	23	1930



S-6134





Thimbles

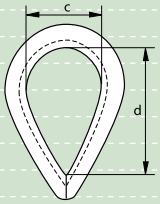
according to DIN 3091

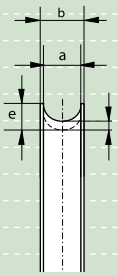
- **Material** : cast mild steel, (GTW 40)
- **Standard** : according to DIN 3091
- **Finish** : self coloured
- **Certification** : a works certificate can be supplied upon request

diameter rope	width groove	width overall	width	length	diameter	length	weight per 100 pcs
	a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	mm	kg
8	9	15	40	66	14	-	18
10	11	17.5	50	82	18	-	32
12	13	20	60	98	21	-	52
14	16	23.5	70	114	25	-	80
16	18	26	80	130	28	16	90
18	20	28.5	90	145	31	18	121
20	22	31	100	161	35	20	161
22	24	33.5	110	177	38	22	211
24	26	36	120	193	41	24	271
26	29	39.5	130	209	44	26	355
28	31	42	140	224	47	28	420
32	35	47	160	256	53	32	630
36	40	53	180	288	59	36	884
40	44	58	200	320	65	40	1100
44	48	63	220	352	70	44	1500
48	53	69	240	384	76	48	2000
52	57	74	260	416	81	52	2500
56	62	80	280	448	86	56	3200
64	70	90	320	512	95	64	4600
72	79	101	360	576	104	72	6600
80	88	112	400	640	112	80	9000



E-6135
G-6135





Thimbles

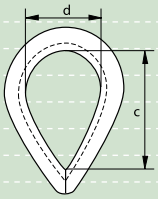
generally to DIN 3090

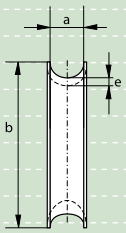
- **Material** : mild steel
- **Standard** : generally to DIN 3090
- **Finish** : for diameter 4 and 6 mm electro-galvanized
  other diameters hot dipped galvanized
- **Certification** : a works certificate can be supplied upon request

diameter wire rope	width groove	width overall	width inside	length inside	thickness	thickness back	weight per 100 pcs
	a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	mm	kg
4	5	9	10	20	5.1	2.1	1.4
6	7	12	15	30	7.1	2.6	3
8	9	13	20	40	11	4	7.1
10	11	16	25	50	14	5	17
12	13	19	30	60	16	6	24
14	16	22	35	70	17	7	36
16	18	25	40	80	19	8	50
18	20	27	45	90	21	9	62
20	22	32	50	100	23	10	90
22	24	33	55	110	24	10	100
24	26	37	60	120	27	11	130
26	29	46	65	130	30	12	220
28	31	50	70	140	33	12	240
32	35	55	80	160	38	14	270
36	40	60	90	180	42	16	430
40	44	65	100	200	46	18	570
44	48	70	110	220	53	20	850
48	53	75	120	240	58	22	1120
52	57	80	130	260	64	25	1530
56	62	85	140	280	67	25	2148
60	66	90	150	300	70	25	2300
64	70	95	160	320	78	30	3500
68	75	100	170	340	81	30	3700
72	79	105	180	360	84	30	4100
76	84	115	190	380	87	30	4600
80	88	120	200	400	90	30	5400



G-6170





Thimbles

generally to EN13411-1

- **Material** : mild steel
- **Standard** : generally to EN13411-1 formerly BS 464
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate can be supplied upon request

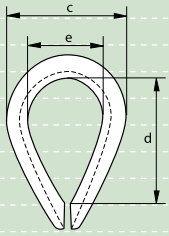
diameter rope		width groove	length	length inside	width inside	thickness back	weight per 100 pcs
		a	b	c	d	e	
inch	mm	mm	mm	mm	mm	mm	kg
3/16	5	5.5	44	28	19	3	3.5
1/4	7	6	48	30	20	3.5	5.4
5/16	8	8	54	33	22	4	5.7
3/8	10	10	64	38	25	4.8	7.6
7/16	11	13	73	41	29	4.8	14.2
1/2	13	14	80	44	32	5.6	18
9/16	15	15	80	44	32	5.6	18.9
5/8	16	17	98	59	41	7.9	34
11/16	17	19	108	67	44	7.9	39.7
3/4	19	20	124	73	51	9.5	62.4
13/16	21	21	124	73	51	9.5	62.4
7/8	22	23	133	83	57	9.5	75.6
15/16	24	25	146	92	64	10.3	106
1	25	27	162	108	70	10.3	125
1 1/8	28	29	178	111	76	12.7	151
1 1/4	32	33	197	133	95	12.7	204
1 3/8	35	38	229	152	105	15.9	318
1 1/2	38	41	254	165	114	17.5	488
1 5/8	42	46	254	165	114	17.5	499
1 3/4	45	51	286	178	127	25.4	556
1 7/8	47	60	318	191	133	28.6	-
2	50	64	330	203	140	28.6	-
2 1/8	54	64	330	203	140	28.6	-
2 1/4	57	67	356	216	146	30.2	-
2 1/2	65	70	413	241	159	31.8	-
2 3/4	70	86	502	273	203	41.3	-

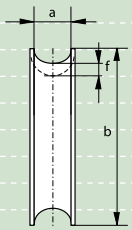
Thimbles

generally to US Fed. Spec. FF-T-276b type III



G-6142





- **Material** : mild steel
- **Standard** : generally to US Federal Specification FF-T-276b type III
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate can be supplied upon request

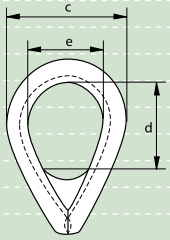
diameter rope	width groove	length	width	length inside	width inside	thickness back	weight per 100 pcs
	a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	mm	kg
6	7	55.5	38	41	22	1.6	3.4
8	9	63.5	46	47.5	27	2	6.3
9	10	73	54	54	28.5	2.8	11.3
11	12	82.5	60	60	32	3.2	16.2
13	13.5	92	70	70	38	3.6	23
14	15	92	68	70	38	3.6	23
16	16.5	108	79	82.5	44.5	4	33.8
19	20	127	97	95	51	5.5	66.2
22	24	140	108	108	57	5.5	83.3
25	27	156	125	114	63.5	6.3	135
28 - 32	30	178	149	130	73	6.3	185
32 - 35	33	205	173	159	89	12.7	375
35 - 38	36.5	229	181	165	89	12.7	540
41	43.5	286	206	203	102	12.7	731
45	47	310	216	229	114	12.7	810
48 - 51	50	384	264	305	152	12.7	1170
57	59.5	435	302	356	178	12.7	1935
64	66	464	311	378	178	19	2640
76	78.5	514	356	419	200	19	3850

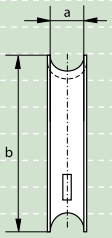
In inch

diameter rope	width groove	length	width	length inside	width inside	thickness back	weight per 100 pcs
	a	b	c	d	e	f	
inch	inch	inch	inch	inch	inch	inch	lbs
1/4	9/32	2 3/16	1 1/2	1 5/8	7/8	1/16	7.5
5/16	11/32	2 1/2	1 13/16	1 7/8	1 1/16	5/64	13.9
3/8	13/32	2 7/8	2 1/8	2 1/8	1 1/8	7/64	24.9
7/16	15/32	3 1/4	2 3/8	2 3/8	1 1/4	1/8	35.7
1/2	17/32	3 5/8	2 3/4	2 3/4	1 1/2	9/64	50.7
9/16	19/32	3 5/8	2 11/16	2 3/4	1 1/2	9/64	50.7
5/8	21/32	4 1/4	3 1/8	3 1/4	1 3/4	5/32	74.5
3/4	25/32	5	3 13/16	3 3/4	2	7/32	146
7/8	15/16	5 1/2	4 1/4	4 1/4	2 1/4	7/32	184
1	1 1/16	6 1/8	4 15/16	4 1/2	2 1/2	1/4	298
1 1/8 - 1 1/4	1 3/16	7	5 7/8	5 1/8	2 7/8	1/4	408
1 1/4 - 1 3/8	1 5/16	8 1/16	6 13/16	6 1/4	3 1/2	1/2	827
1 3/8 - 1 1/2	1 7/16	9	7 1/8	6 1/2	3 1/2	1/2	1191
1 5/8	1 23/32	11 1/4	8 1/8	8	4	1/2	1612
1 3/4	1 27/32	12 3/16	8 1/2	9	4 1/2	1/2	1786
1 7/8 - 2	1 31/32	15 1/8	10 3/8	12	6	1/2	2579
2 1/4	2 11/32	17 1/8	11 7/8	14	7	1/2	4266
2 1/2	2 19/32	18 1/4	12 1/4	14 7/8	7	3/4	5820
3	3 3/32	20 1/4	14	16 1/2	7 7/8	3/4	8488



G-6151





Thimbles

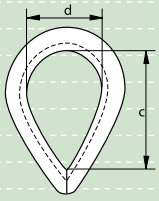
pennant line type

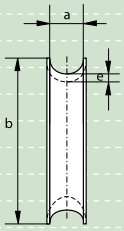
- **Material** : mild steel
- **Finish** : hot dipped galvanized
  produced with a welded fillet plate
- **Certification** : a works certificate can be supplied upon request

diameter wire rope	width groove	length	width	length inside	width inside	weight each
	a	b	c	d	e	
mm	mm	mm	mm	mm	mm	kg
16	17	102	75	50	50	0.4
18	19	114	85	50	53	0.5
20	21	127	100	60	60	0.8
22	23	140	110	60	65	0.9
24	25	152	115	70	70	1
28	30	178	135	75	80	1.7
30	33	203	155	80	100	2.5
36	38	229	175	110	115	4
40	41	254	190	120	120	4.5
44	46	279	210	120	130	7
50	52	305	225	140	140	8.3
56	60	356	240	150	150	12.5
64	70	432	290	185	180	19.5
76	81	483	320	225	220	29
82	92	559	375	280	240	35
90	105	610	410	280	250	42
120	130	660	450	280	280	58



E-6180



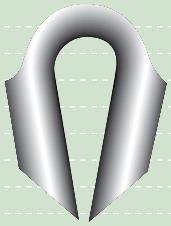


Thimbles

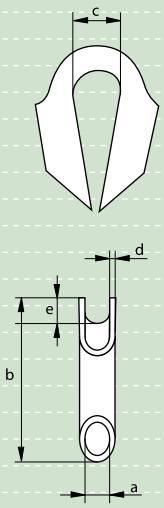
for rope

- **Material** : mild steel
- **Finish** : electro-galvanized
- **Certification** : a works certificate can be supplied upon request

width groove	length	length inside	width inside	thickness back	weight per 100 pcs
a	b	c	d	e	
mm	mm	mm	mm	mm	kg
8	43	27	16	1	1.1
10	50	30	19	1.5	1.7
12	55	36	22	1.75	3
14	60	41	24	2	3.5
16	66	43	26	2.5	8
18	77	47	30	3	13
20	91	58	35	3	16
22	100	67	38	3	24
25	115	71	45	3	25
30	140	91	55	3	43
35	140	91	55	3	45
38	140	91	55	4	45



P-6190



Thimbles

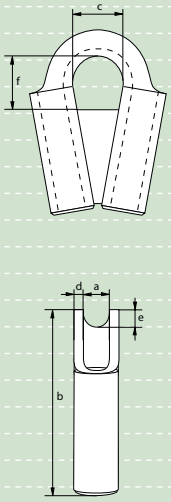
tubular type

- **Material** : mild steel
- **Finish** : painted
- **Certification** : a works certificate can be supplied upon request

diameter wire rope	diameter	length	width inside	thickness	height	weight each
	a	b	c	d	e	
mm	mm	mm	mm	mm	mm	kg
10	12	90	23	4	8	0.25
12	15	105	27	5	10	0.42
14	17	115	27	5	10	0.5
16	19	120	32	5	12	0.6
18	22	140	35	5	15	0.75
22	25	180	45	6	16	1.4
24	28	180	45	7	16	1.75
26	30	195	47	7	18	2
32	35	215	60	7	22	2.4
36	40	212	70	9	36	3
38	45	260	70	7	27	3.3
44	50	280	75	7	28	4.06



P-6195



Thimbles

tubular type, with welded plate

Material : mild steel
Finish : painted
Certification : a works certificate can be supplied upon request

diameter wire rope	width groove	length	width inside	thickness	height	length inside	weight each
	a	b	c	d	e	f	
	mm	mm	mm	mm	mm	mm	kg
10	12	84	23	4	8	24	0.26
12	15	95	27	5	10	31	0.42
14	17	100	27	5	10	38	0.48
16	19	112	32	5	12	46	0.61
18	22	125	35	5	15	47	0.95
22	25	150	45	6	16	61	1.33
24	28	157	45	7	16	56	1.67
26	30	170	47	7	18	68	1.96
32	35	190	60	7	22	73	2.43
36	40	212	70	9	26	80	4.32
38	45	228	70	7	27	94	3.67



Applications

Wire rope clips are used on wire rope eye-loop connections or complete loops, end-to-end connections where socketing or splicing is not feasible or when a temporary joint is required.

Range

Van Beest offers a wide range of wire rope clips, specifically standardized models such as EN13411-5, US Federal Specification wire rope clips and DIN wire rope clips.

Design

The Green Pin® wire rope clips are drop forged and have a bridge with grooves to fasten the wire rope properly in the clip; the DIN wire rope clips have a malleable base, without grooves.

Finish

The finish is either electro-galvanized or hot dipped galvanized, unless otherwise specified.

Certification

Upon request, all wire rope clips can be supplied with a works certificate.

Instructions for use

Wire rope clips should be inspected before use to ensure that:

- all markings are legible;
- the wire rope clip is free from nicks, gouges and cracks;
- a wire rope clip with the correct dimension has been selected;
- never modify, repair or reshape a wire rope clip by machining, welding, heating or bending as this may affect the performance.

The wire rope clip should be fitted to the wire rope as shown in the figures.
The bridge of the wire rope clip should always be placed on the load bearing part of the rope. The U-bolt of the clip should be placed on the rope tail, also known as the dead end of the rope.

Turn back enough wire rope length so that the required minimum number of clips can be installed according to the instructions below.

The first clip must be placed one bridge width from the turned back rope tail or dead end of the rope, according to figure 1. Tighten the nuts to the specified torque.

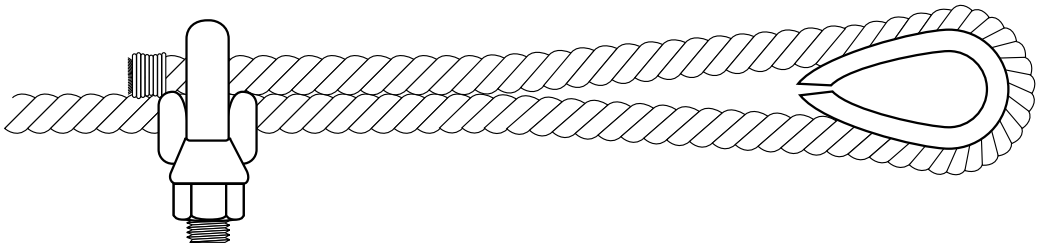


Figure 1

The second clip must be placed immediately against the thimble but nevertheless in such a position that the correct tightening of the clip does not damage the outer wires of the wire rope (figure 2). Tighten the nuts firmly but not yet to the specified torque.

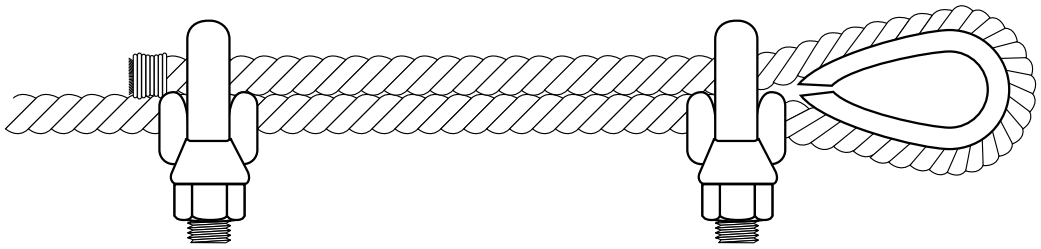


Figure 2

The following clips should be placed on the wire rope between the first and second clip in such a way that they are separated by at least 1½ times the clip-width with a maximum of 3 times the clip-width, according to figure 3.

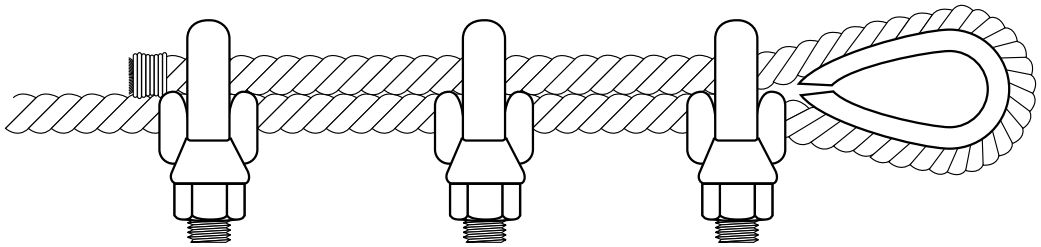


Figure 3

Apply light tension on the rope and tighten all nuts evenly, alternating until reaching the specified torque.

During assembly and before the rope is taken into service, the nuts must be tightened once again to the prescribed torque. After the load is applied for the first time, the torque value must be checked again and corrected if necessary. Periodically re-tightening of the nuts must be done at 10.000 cycles (heavy usage), 20.000 cycles (moderate usage) or 50.000 cycles (light usage). If cycles are unknown, a fixed time period could be used, e.g. every 3 months, 6 months, annually.

The torque values and the minimum number of clips to be applied, in relation to the rope size, are given in the following tables.

diameter wire rope	diameter wire rope	min. no of clips required	length of rope to turn back	torque value	torque value
inch	mm		mm	Nm	Ft.Lbs
1/8	3 - 4	2	85	6.1	4.5
3/16	5	2	95	10.2	7.5
1/4	6 - 7	2	120	20.3	15
5/16	8	3	133	40.7	30
3/8	9 - 10	3	165	61	45
7/16	11 - 12	3	178	88	65
1/2	13	3	292	88	65
9/16	14 - 15	3	305	129	95
5/8	16	3	305	129	95
3/4	18 - 20	4	460	176	130
7/8	22	4	480	305	225
1	24 - 25	5	660	305	225
1 1/8	28 - 30	6	860	305	225
1 1/4	32 - 34	7	1120	488	360
1 3/8	36	7	1120	488	360
1 1/2	38 - 40	8	1370	488	360
1 5/8	41 - 42	8	1470	583	430
1 3/4	44 - 46	8	1550	800	590
2	48 - 52	8	1800	1017	750
2 1/4	56 - 58	8	1850	1017	750
2 1/2	62 - 65	9	2130	1017	750
2 3/4	68 - 72	10	2540	1017	750
3	75 - 78	10	2690	1627	1200

Table 1, Green Pin® wire rope clips generally to EN 13411-5 Type B, required number and torque value

diameter wire rope	min. no of clips required	torque value	torque value
mm		Nm	Ft.Lbs
5	3	2	1.5
6.5	3	3.5	2.6
8	4	6	4.4
10	4	9	6.6
12	4	20	14.8
13	4	33	24.3
14	4	33	24.3
16	4	49	36
19	5	68	50
22	5	107	79
26	5	147	108
30	6	212	156
34	6	296	218
40	6	363	268

Table 2, Wire rope clips generally to EN 13411-5 Type A, required number and torque value

The efficiency of a wire rope termination made with wire rope clips will depend on the correct placement on the ropes and on the care and skill of the fitting and tightening of the clips. With inadequately tightened nuts or with an insufficient number of wire rope clips the rope end may slide through the clips at a very early stage in loading.

A number of factors can adversely affect the tightness of the clips on ropes, such as:
- the nut may be tight on the thread, yet not tight against the bridge;
- contamination of the thread by dirt, oil or corrosion products, which may prevent the correct tightening of the nut.

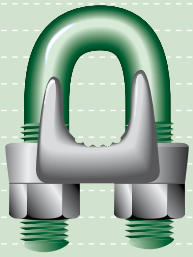
Forged wire rope clips provide greater bearing surface and more consistent strength than malleable cast iron clips.

Suitable use of wire rope clips to EN13411-5 standards include suspending static loads and single use lifting operations which have been assessed by a competent person taking into account appropriate safety factors.

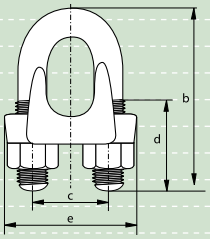
Wire rope clips should not be used on the following applications:

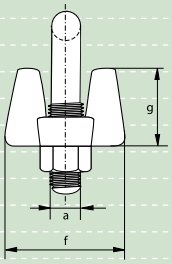
- hoist ropes in mines;
- rope drives for cranes in steel works and rolling mills;
- permanent fastening of ropes in other rope drives;
- rope terminations for load suspension devices in the operation of lifting appliances except in the case of lifting tackles where these are produced for a special application and are not re-used.

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure. Inspection should take place at least every six months and even more frequently when the products are used in severe operating conditions.



G-6240



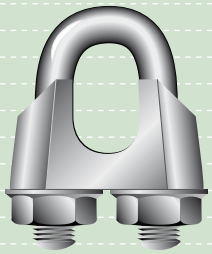


Green Pin® wire rope clips

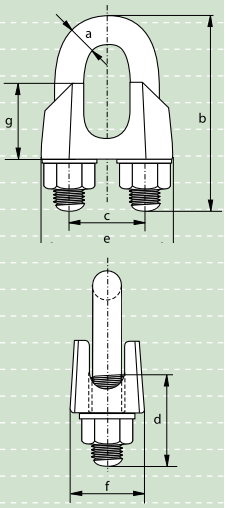
generally to EN 13411-5 Type B

- **Material** : Bridge : drop forged high tensile steel SAE 1045
  U-bolt : SAE 1015
- **Standard** : EN 13411-5 Type B
  Formerly U.S. Federal Specification FF-C-450D
- **Finish** : hot dipped galvanized
  nuts for diameter bow 5 and 6 mm are electro-galvanized
- **Certification** : a works certificate can be supplied upon request

diameter wire rope		diameter	length bow	width inside	length thread	length base	thickness base	height base	weight per 100 pcs
		a	b	c	d	e	f	g	
inch	mm	mm	mm	mm	mm	mm	mm	mm	kg
1/8	4	5	24	12	11	24	21	10	2
3/16	5	6	31	15	13	29	24	13	4
1/4	7	8	34	19	13	37	30	18	8
5/16	8	10	45	22	19	43	33	19	14
3/8	10	11	49	26	19	49	42	25	19
7/16	11	12	60	30	25	58	46	26	31
1/2	13	13	61	30	25	58	48	31	34
9/16	15	14	72	33	32	63	52	31	36
5/8	16	14	74	33	32	64	54	36	45
3/4	20	16	86	38	37	72	57	38	68
7/8	22	19	98	45	41	80	62	40	108
1	26	19	108	48	46	88	67	47	113
1 1/8	30	19	117	51	51	91	73	48	140
1 1/4	34	22	130	59	54	105	79	56	207
1 3/8	36	22	140	60	59	108	79	58	234
1 1/2	40	22	147	66	60	112	85	64	266
1 5/8	42	25	161	70	67	121	92	67	329
1 3/4	46	29	174	78	70	134	97	76	441
2	52	32	195	86	78	150	113	85	603
2 1/4	58	32	213	98	81	162	116	100	707
2 1/2	65	32	227	105	87	168	119	113	806
2 3/4	72	32	243	112	91	174	127	124	1000
3	78	38	271	121	98	194	135	136	1440



E-6260

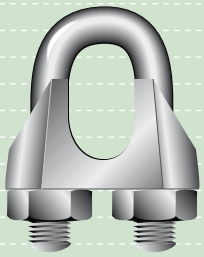


Wire rope clips

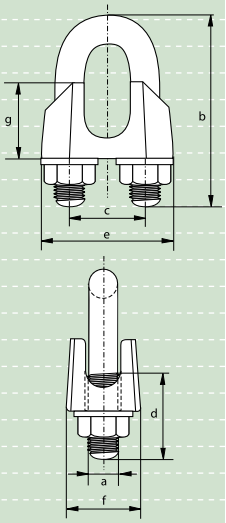
generally to EN 13411-5 Type A

- **Material** : Bridge : malleable steel
  U-bolt : mild steel
- **Standard** : EN 13411-5 Type A
  Formerly DIN 1142
- **Finish** : electro-galvanized
- **Certification** : a works certificate can be supplied upon request

diameter wire rope	diameter	length bow	width inside	length thread	length base	thickness base	height base	weight per 100 pcs
	a	b	c	d	e	f	g	
mm	mm	mm	mm	mm	mm	mm	mm	kg
5	5	25	12	14	25	13	13	2
6.5	6	32	14	17	30	16	14	4
8	8	41	18	20	39	20	18	8.2
10	8	46	20	24	40	20	21	9.2
12	10	56	24	28	50	25	24	21.5
13	12	64	29	29	55	28	29	27.5
14	12	66	28	31	59	30	28	39.5
16	14	76	34	35	64	32	35	43
19	14	83	37	36	68	33	40	49
22	16	96	41	40	74	34	44	68
26	20	111	46	50	84	38	51	117
30	20	127	54	55	95	41	59	140
34	22	141	60	60	105	45	67	213
40	24	159	68	65	117	49	77	268



E-6220



Wire rope clips

generally to DIN 741

- **Material** : Bridge : casted
  U-bolt : mild steel
- **Standard** : formerly DIN 741
- **Finish** : electro-galvanized
- **Certification** : a works certificate can be supplied upon request

diameter wire rope	diameter	length bow	width inside	length thread	length base	thickness base	height base	weight per 100 pcs
	a	b	c	d	e	f	g	
mm	mm	mm	mm	mm	mm	mm	mm	kg
3	4	20	9	12	21	10	10	1.4
5	5	24	11	13	23	11	10	1.5
6	5	28	13	15	26	12	11	2.1
8	6	34	16	19	30	14	15	4.1
10	8	42	19	22	34	18	17	6.8
11	8	44	20	22	36	19	18	7.2
13	10	55	24	30	42	23	21	13
14	10	57	25	30	44	23	22	13.5
16	12	63	29	33	50	26	26	21
19	12	75	32	38	54	29	30	28
22	14	85	37	44	61	33	34	40
26	14	95	41	45	65	35	37	44
30	16	110	48	50	74	37	43	66
34	16	120	52	55	80	42	50	75
40	16	140	58	60	88	45	55	104
45	18	163	65	75	97	49	60	134
50	20	170	72	77	106	51	65	175



Applications

Sleeves are used for Flemish Eye wire rope slings.
They are available in two types and a large number of sizes.

Range

Van Beest offers a wide range of sleeves, in both aluminium and carbon steel.

Design

Aluminium wire rope sleeves are manufactured according to DIN 3093 A. For safety in fabrication and application our sleeves are of seamless construction corresponding with the requirements of DIN 3093 A regarding material composition and mechanical properties.

Prescon carbon steel sleeves are manufactured from carbon steel and feature the Swaging Verification System in which the colour changes intensity after swaging. This system helps the sling manufacturer to determine whether or not the sleeve has been pressed.
The sleeves are of seamless construction and fit industry standard dies.

Finish

Aluminium sleeves are self coloured.

The smaller dimensions of Prescon sleeves, up to and including 16 mm, are colour coded, larger dimensions are self coloured.

Certification

Upon request, all sleeves can be supplied with a works certificate.

Instructions for use

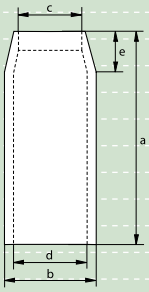
Aluminium sleeves, please refer to EN13411-3

Prescon sleeves are suitable for:
- 6 x 19 and 6 x 37 IWRC right regular lay EIPS steel wire rope
- 6 x 19 and 6 x 37 FC IPS right regular lay steel wire rope

A Flemish Eye is made the following way:
A carbon steel sleeve is placed on the steel wire rope after its required length is set. Then the Flemish Eye is spliced in the rope. The sleeve is pushed over the splice and then swaged. Multiple progressive pressings are required to prevent flash, which will develop into a permanent mark or possibly a crack in the sleeve.
A light oil lubricant should be applied to each die and cleaned after the swaging operation to stimulate effective colour change.
Colour change is not an indication for proper swaging, only an indication that the sleeve has been pressed.
Proper swaging practices are the sling manufacturer's responsibility.
Regular inspection of swaging machine, dies etc. must be conducted to ensure that the equipment continues to meet required standards.



S-6500



Prescon sleeves

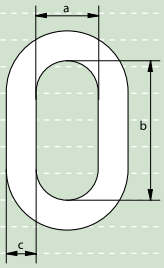
for wire rope

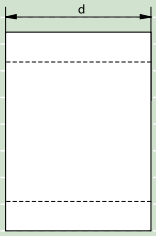
- **Material** : special carbon steel
- **Finish** : up to and including size 16 mm colour coded
  sizes above 16 mm self coloured

diameter wire rope	length	diameter outside	diameter inside	diameter inside	length	diameter outside pressed	weight per 100 pcs
	a	b	c	d	e		
mm	mm	mm	mm	mm	mm	mm	kg
6	25.4	16.7	8.3	11.9	7.1	12.7	2.15
8	38.1	23	11.1	15.5	11.1	18.5	4.03
10	38.1	23	11.9	16.7	11.1	18.5	5.44
11	51	31	14.3	21.4	15.1	24.9	11.3
13	51	31	15.9	23	15.1	24.9	13.2
14	70	37	17.5	26.2	17.9	30.5	19.5
16	70	37	19.1	27.8	17.9	30.5	25.9
19	81	43.6	23.4	32.5	21.8	35.8	39.9
22	90	51.6	26.2	38.9	25.4	41.4	62
25	102	58	29.4	43.7	28.6	47.8	88
28	122	64	32.5	49.2	31.8	53	118
32	132	71	36.5	55	35.7	58	154
34 - 35	148	76	39.7	60	39.7	62	195
37 - 38	159	83	42.9	66.7	42.9	67	227
44 - 45	184	102	49.2	79	50	77	367
50 - 52	216	111	57	92	57	89	510
56 - 57	243	128	64	102	64	103	862
62 - 64	267	140	70	114	71	113	1043
68 - 70	292	146	76	121	79	118	1270
75 - 76	305	152	83	127	86	124	1334
87 - 89	356	178	98	148	100	145	2105
93 - 95	381	191	103	160	108	156	2495
100 -102	406	206	111	173	114	180	3130
112 -114	457	232	124	194	129	187	4536



A-6550





Aluminium sleeves

for wire rope

- **Material** : aluminium
- **Standard** : EN 13411-3 formerly DIN 3093 A
- **Finish** : self coloured

diameter wire rope	diameter	width	thickness	length	weight per 1000 pcs
	a	b	c	d	
mm	mm	mm	mm	mm	kg
1	1.2	2.4	0.65	5	0.1
1.5	1.7	3.4	0.75	6	0.21
2	2.2	4.4	0.85	7	0.24
2.5	2.7	5.4	1.05	9	0.5
3	3.3	6.6	1.25	11	0.84
3.5	3.8	7.6	1.5	13	1.32
4	4.4	8.8	1.7	14	1.81
4.5	4.9	9.8	1.9	16	2.61
5	5.5	11	2.1	18	3.57
6	6.6	13.2	2.5	21	5.86
6.5	7.2	14.4	2.7	23	7.55
7	7.8	15.6	2.9	25	9.53
8	8.8	17.6	3.3	28	13.7
9	9.9	19.8	3.7	32	19.8
10	10.9	21.8	4.1	35	26.4
11	12.1	24.2	4.5	39	35.8
12	13.2	26.4	4.9	42	45.8
13	14.2	28.4	5.4	46	59.7
14	15.3	30.6	5.8	49	73.5
16	17.5	35	6.7	56	111
18	19.6	39.2	7.6	63	159
20	21.7	43.4	8.4	70	217
22	24.3	48.6	9.2	77	292
24	26.4	52.8	10	84	376
26	28.5	57	10.9	91	481
28	31	62	11.7	98	603
30	33.1	66.2	12.5	105	739
32	35.2	70.4	13.4	112	897
34	37.8	75.6	14.2	119	1080
36	39.8	79.6	15	126	1275
38	41.9	83.8	15.8	133	1490
40	44	88	16.6	140	1734
42	46.2	92.4	17.5	147	2020
44	48.4	96.8	18.3	154	2314
46	50.6	101.2	19.2	161	2557
48	52.8	105.6	20	168	3010
50	55	110	20.8	175	3400
52	57.2	114.4	21.6	182	3813
54	59.4	118.8	22.5	189	4120
56	61.6	123.2	23.3	196	4772
58	63.8	127.6	24.2	203	5200
60	66	132	25	210	5880



Applications

Sockets are used to attach steel wire rope to a fixed point to which the socket is to be connected. This can be as an anchoring system for tubes or pipes, anchor wires of dredging material, anchor cables of oil platforms, towing cables or for fastening cables in construction purposes such as bridges, roof construction etc.
Sockets are the strongest steel wire rope end fitting and if they are assembled in the proper way they can meet at least the breaking strength of the steel wire rope. In the past melted zinc was poured into the sockets to attach the steel wire rope; nowadays suitable resins have been developed for this purpose.

Range

Van Beest offers a wide range of sockets, i.e.:

- Closed spelter sockets;
- Open spelter sockets;
- Open wedge sockets;
- Short bow sockets;
- Open swage sockets;
- Closed swage sockets.

Design

Green Pin® open and closed spelter sockets and open wedge sockets are made from cast high tensile steel. These sockets carry the following markings:

- socket number;
- diameter wire rope in mm and inches;
- manufacturer's symbol;
- batch number;
- CE conformity code.

With shortbow sockets you save money in replacement costs by eliminating costly downtime.

Swage sockets are drop forged from special bar quality carbon steel C-1035 and spheroidized annealed to be suitable for cold swaging.

Finish

Green Pin® open and closed spelter sockets and open wedge sockets are galvanized.
Swage sockets are self coloured.

Certification

Upon request, Green Pin® open and closed spelter sockets, open wedge and shortbow sockets can be supplied with a works certificate, a proof load test certificate and EC Declaration of Conformity to the Machine Directive 2006/42/EC. All sockets are marked with the batch number which refers to the supplied certificate.

Swage sockets can be supplied with a works certificate.

Instructions for use

1) Open spelter sockets – closed spelter sockets

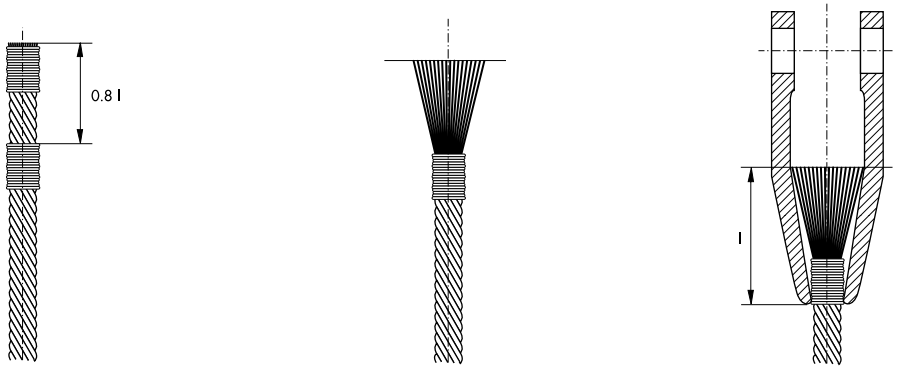


Figure 1

- brooming is done after the wire rope has been placed into the socket
- when using resins always exactly follow the instructions given by the manufacturer of the resins
- socketing is only to be carried out by specialists from a certified sling shop

2) Open wedge sockets

The wedge and body act as a vice which grips the wire rope and locks it in place. Green Pin® wedge sockets may be used within the range of wire rope diameters as shown in the table further on in the catalogue.

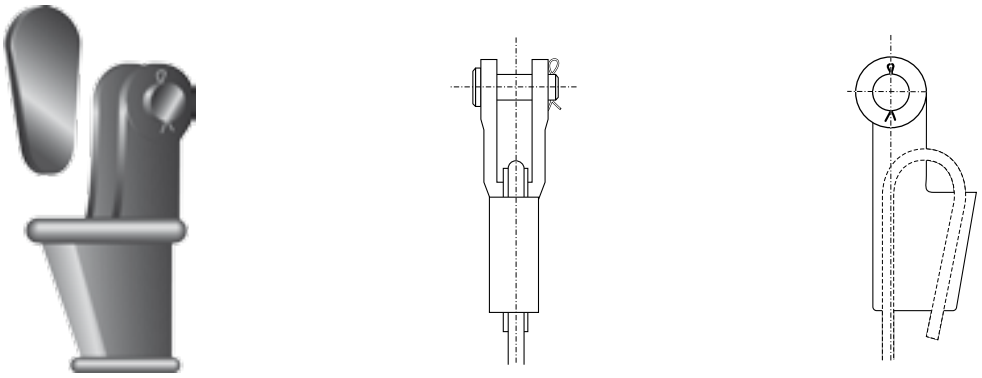


Figure 2

When using open wedge sockets the following precautions should be taken:

- before use always inspect the socket, the wedge and the pin
- use only with standard 6-8 strand wire rope
- always be sure that socket and wedge have the correct size for the wire rope diameter
- the loaded part of the steel wire rope should be mounted in the centre line of the pin
- when installing the wire rope, always pre-load the wedge with the wire rope in place
- never weld the tail on standard wire rope; the tail should have a length of at least 6 times the wire rope diameter with a minimum of 150 mm, secure the dead end of the rope with a wire rope clip as shown in figure 3
- before applying the first load always use a hammer to seat the wedge and rope as deep as possible into the socket
- check the assembly regularly to re-tighten or re-position if necessary
- never side load the wedge socket as it has not been designed for that purpose
- load may slip if the connection is not properly installed
- the efficiency of a wire rope - wedge socket connection is 80% of the minimum breaking load of the wire but limited to the minimum breaking load of the socket
- only use the original wedge supplied by the manufacturer of the socket and be sure it is suitable for the diameter of the rope used
- never use a wedge from any other supplier than the original socket supplier as the dimensions will not match

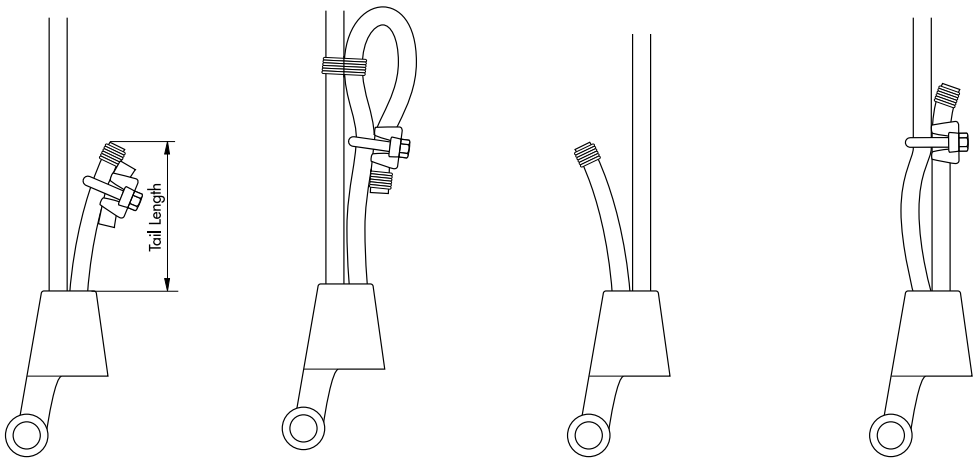


Figure 3

3) Swage sockets



Open swage socket

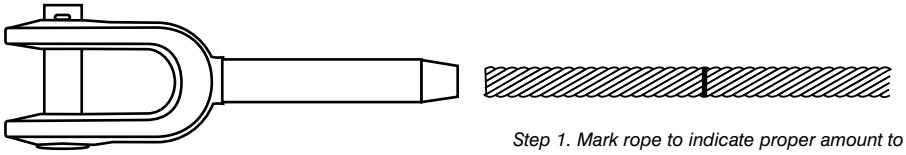


Closed swage socket

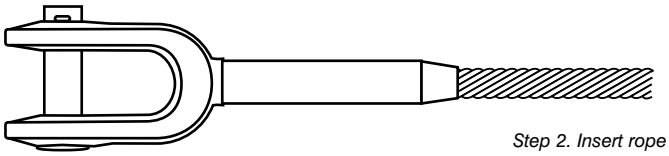
Figure 4

- swage sockets are recommended for use on 6 x 19 or 6 x 37 IWRC regular lay ropes
- mark the rope to indicate the proper length of rope to be inserted into the socket (figure 5)
- insert the rope into the socket and swage the socket with the specified dies (figure 5)
- all slings terminated with swage sockets must be proof loaded
- always swage under supervision of a specialist from a certified sling shop

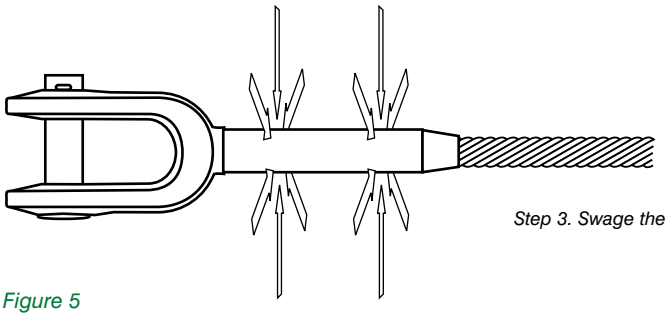
It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure. Inspection should take place at least every six months and even more frequently when the sockets are used in severe operating conditions.



Step 1. Mark rope to indicate proper amount to insert into socket.



Step 2. Insert rope into socket.

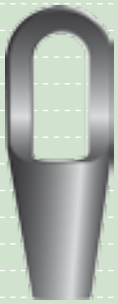


Step 3. Swage the socket.

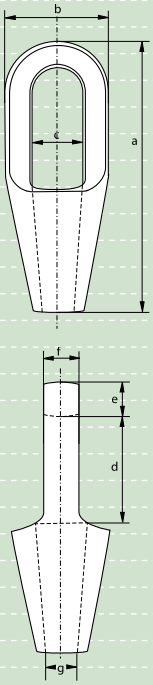
Figure 5

Green Pin® sockets

closed spelter socket



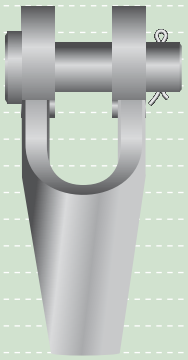
G-6411



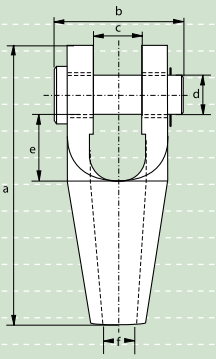
- **Material** : high tensile steel
- **Finish** : hot dipped galvanized
- **Temperature Range**: -20°C up to +200°C
- **Certification** : a works certificate, proof load test certificate and EC Declaration of Conformity can be supplied upon request

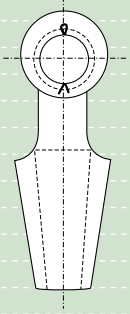
number	minimum breaking load	diameter wire rope	length	width	width inside bow	length inside bow	thickness bow	thickness bow	opening	weight each
			a	b	c	d	e	f	g	
	t	mm	mm	mm	mm	mm	mm	mm	mm	kg
296	8	6 - 7	101	37	22	40	11	13	8.5	0.3
297	12	8 - 10	119	43	25	48	14	17.5	12	0.5
298	20	11 - 13	140	52	30	58	18	23.4	14.8	0.7
299	25	14 - 16	162	68	37	66	21	26	17.6	1.5
200	40	18 - 19	194	76	42	78	27	32	21.5	2.1
201	55	20 - 22	224	92	47	90	33	38	24	3.6
204	75	23 - 26	253	104	57	103	36	44	28	5.8
207	90	27 - 30	282	114	63	116	39	51	32	7
212	125	31 - 36	312	127	70	130	43	57	38	10.5
215	150	37 - 39	358	136	79	155	51	63	41	13
217	170	40 - 42	390	146	83	171	54	70	44	17
219	225	43 - 48	443	171	93	198	55	76	51	26
222	280	49 - 54	502	193	100	224	62	82	57	37.5
224	360	55 - 60	548	216	112	247	73	92	63	50
226	425	61 - 68	597	241	140	270	79	102	73	65
227	460	69 - 75	644	273	159	286	79	124	79	94
228	560	76 - 80	686	292	171	298	83	133	86	115
229	625	81 - 86	743	311	184	311	102	146	92	145
230	720	87 - 93	788	330	197	330	102	159	99	168
231	875	94 - 102	845	362	216	356	108	178	108	210
233	1200	108 - 115	1000	405	235	425	125	190	125	330
240	1300	120 - 130	1150	450	260	525	125	200	143	500





G-6412





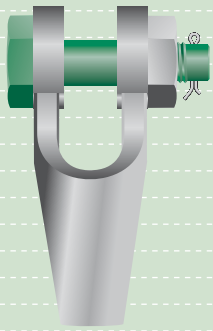
Green Pin® sockets

open spelter socket

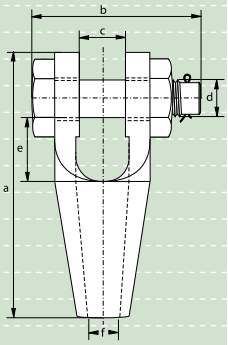
- **Material** : high tensile steel
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20°C up to +200°C
- **Certification** : a works certificate, proof load test certificate and EC Declaration of Conformity can be supplied upon request

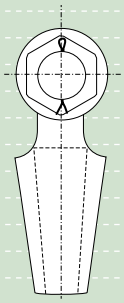
number	minimum breaking load	diameter wire rope	length	width	width inside	dia-meter pin	length inside	opening	weight each
			a	b	c	d	e	f	
	t	mm	mm	mm	mm	mm	mm	mm	kg
196	8	6 - 7	109	51	19	16	30	8.5	0.4
197	12	8 - 10	124	63	21	21	34	12	0.8
198	20	11 - 13	143	67	26	25	37	15	1
199	25	14 - 16	172	85	33	30	49	18	1.8
100	40	18 - 19	205	98	38	35	58	21	3
104	55	20 - 22	235	111	44	41	68	24	4.6
108	75	23 - 26	275	132	51	51	75	28	8
111	90	27 - 30	306	144	57	57	85	32	11
115	125	31 - 36	338	155	63	63	95	38	16
118	150	37 - 39	394	180	76	70	127	41	23
120	170	40 - 42	418	187	76	76	127	44	27
125	225	43 - 48	468	213	89	89	133	51	41
128	280	49 - 54	552	240	101	95	180	57	58
130	360	55 - 60	598	270	113	108	196	63	85
132	425	61 - 68	654	303	127	121	212	73	125
135	460	69 - 75	696	349	133	127	215	79	155
138	560	76 - 80	737	371	146	133	219	86	173
140	625	81 - 86	788	391	159	140	228	92	230
142	720	87 - 93	852	411	171	152	242	99	265
144	875	94 - 102	914	447	191	178	254	108	370
146	1200	108 - 115	1160	489	206	193	367	125	525
150	1300	120 - 130	1310	603	225	250	390	143	735





G-6422





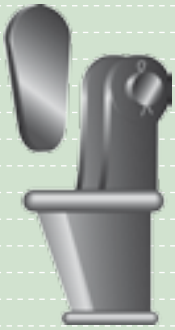
Green Pin® sockets

open spelter socket with safety bolt

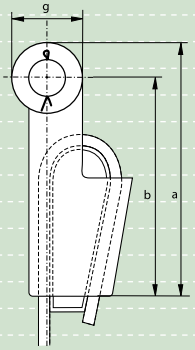
- **Material** : high tensile steel
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20°C up to +200°C
- **Certification** : a works certificate, proof load test certificate and EC Declaration of Conformity can be supplied upon request

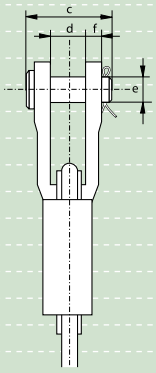
number	minimum breaking load	diameter wire rope	length	width	width inside	dia-meter pin	length inside	opening	weight each
	t	mm	a mm	b mm	c mm	d mm	e mm	f mm	kg
196	8	6 - 7	109	62	19	16	30	8.5	0.4
197	12	8 - 10	124	75	21	21	34	12	0.8
198	20	11 - 13	143	109	26	25	37	15	1
199	25	14 - 16	172	133	33	30	49	18	1.8
100	40	18 - 19	205	145	38	35	58	21	3
104	55	20 - 22	235	161	44	41	68	24	4.6
108	75	23 - 26	275	189	51	50	75	28	8
111	90	27 - 30	306	208	57	57	85	32	11
115	125	31 - 36	338	226	63	63	95	38	16
118	150	37 - 39	394	246	76	70	127	41	23
120	170	40 - 42	418	256	76	77	127	44	27





G-6413





Green Pin® sockets

open wedge socket

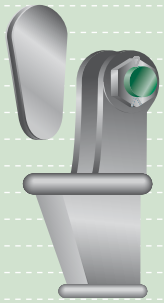
- **Material** : high tensile steel
- **Standard** : generally to EN 13411-6
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20°C up to +200°C
- **Certification** : a works certificate, proof load test certificate and EC Declaration of Conformity can be supplied upon request

number	minimum breaking load	diameter wire rope	length	length to center pin	width	width inside	dia-meter pin	thick-ness side plates	diameter eye	weight each
			a	b	c	d	e	f	g	
	t	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.25	8	7 - 8	128	110	51	18	16	9	36	0.8
0.5	12	9 - 10	165	142	62	20	21	11	46	1.5
1	20	11 - 13	175	146	66	25	25	12	57	2.4
2	25	14 - 16	211	176	82	31	30	15	70	4
3	40	18 - 19	252	212	95	38	35	16	80	7
4	55	20 - 22	288	240	110	44	41	19	95	11
5	75	24 - 26	329	274	130	51	51	22	110	16
6	90	27 - 29	375	310	145	57	57	25	130	21
7	110	30 - 32	423	350	155	63	64	28	146	30
8	125	34 - 36	474	400	163	69	64	28	148	37
9	150	37 - 39	527	450	178	76	70	30	153	51
10	170	40 - 42	580	500	187	76	76	33	160	64
11	225	43 - 48	650	550	226	89	89	39	186	96
12	280	49 - 52	745	640	257	101	95	46	194	130
13	360	54 - 58	785	660	275	114	108	54	230	180
14	425	60 - 68	970	835	300	127	121	60	250	275
15	460	72 - 76	1150	1000	355	146	133	76	270	440
16	625	81 - 86	1252	1100	375	159	140	79	300	510

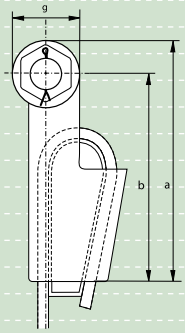


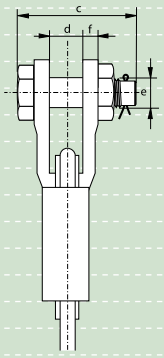
Green Pin® sockets

open wedge socket with safety bolt



G-6423



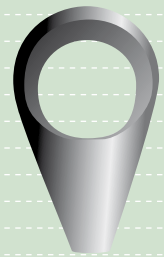


- **Material** : high tensile steel
- **Standard** : generally to EN 13411-6
- **Finish** : hot dipped galvanized
- **Temperature Range** : -20°C up to +200°C
- **Certification** : a works certificate, proof load test certificate and EC Declaration of Conformity can be supplied upon request

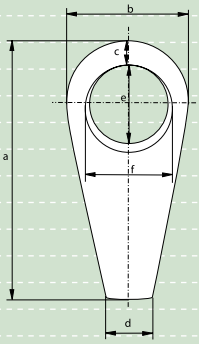
number	minimum breaking load	diameter wire rope	length	length to center pin	width	width inside	dia-meter pin	thick-ness side plates	diameter eye	weight each
	t	mm	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
0.25	8	7 - 8	128	110	76	18	16	9	36	0.8
0.5	12	9 - 10	165	142	91	20	20	11	46	1.5
1	20	11 - 13	175	146	109	25	25	12	57	2.4
2	25	14 - 16	211	176	133	31	30	15	70	4
3	40	18 - 19	252	212	145	38	35	16	80	7
4	55	20 - 22	288	240	161	44	41	19	95	11
5	75	24 - 26	329	274	189	51	50	22	110	16
6	90	27 - 29	375	310	208	57	57	25	130	21
7	110	30 - 32	423	350	226	63	63	28	146	30
8	125	34 - 36	474	400	233	69	65	28	148	37
9	150	37 - 39	527	450	246	76	70	30	153	51
10	170	40 - 42	580	500	256	76	77	33	160	64

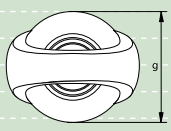
Short bow sockets

closed spelter socket



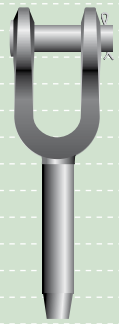
G-6416



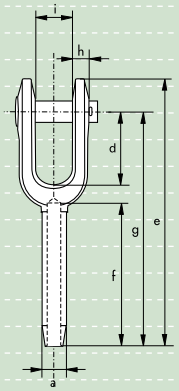


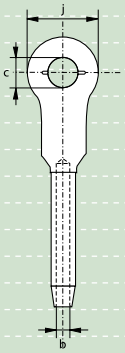
- **Material** : alloy steel
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate and a proof load test certificate can be supplied upon request

diameter wire rope	length	width	thickness bow	width	length eye	width eye	thickness	weight each
inch	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
1 1/4 - 1 3/8	246	122	38	48	83	76	97	18
1 1/2 - 1 5/8	305	152	40	57	104	92	123	22
1 3/4 - 1 7/8	356	178	47	66	121	112	140	28
2 - 2 1/8	391	202	53	76	133	121	158	32
2 1/4 - 2 3/8	438	221	61	80	146	133	184	44
2 1/2 - 2 5/8	457	264	68	96	165	149	217	56
2 3/4 - 2 7/8	540	273	74	105	178	163	222	68
3 - 3 1/8	584	295	76	115	194	174	243	100
3 1/4 - 3 3/8	626	319	82	121	216	194	260	120
3 1/2 - 3 5/8	670	340	92	127	219	202	270	145
3 3/4 - 3 7/8	698	356	98	133	235	214	290	190
4 - 4 1/4	803	412	112	152	270	242	318	250



S-6414





Green Pin® swage sockets

open type

- **Material** : drop forged steel C-1035
- **Finish** : self coloured

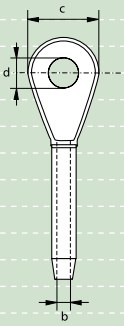
diameter rope	diameter before swage	diameter after swage min	diameter after swage max	diameter inside	diameter pin	length	length	length	length	thickness	width inside	width eye	weight each
	a	a	a	b	c	d	e	f	g	h	i	j	
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
6	13	10.9	11.7	7	17	38	121	54	102	8	17	35	0.25
8	20	17.2	18.0	9	21	44	159	81	135	10	21	41	0.50
10	20	17.2	18.0	12	21	44	159	81	135	10	21	41	0.49
11	25	22.0	23.1	12	25	51	198	108	169	13	25	51	1.11
13	25	22.0	23.1	14	25	51	198	108	169	13	25	51	1.11
14	32	28.3	29.5	15	30	57	243	135	206	16	32	63	2.09
16	32	28.3	29.5	17	30	57	243	135	206	16	32	63	2.04
19	39	34.7	36.1	20	35	70	297	162	254	19	38	76	3.54
22	43	37.8	39.4	24	41	83	346	189	295	23	44	86	5.31
25	50	44.2	45.7	27	51	95	397	216	340	26	51	102	8.07
29	57	50.5	52.1	30	57	108	444	243	381	30	57	114	13.5
32	64	56.8	58.4	34	64	121	494	270	419	30	63	127	16.3
35	71	63.2	65.0	37	64	133	540	297	460	33	63	133	21.3
38	78	69.6	71.4	40	70	146	591	324	502	37	76	146	29.5
44	86	75.9	77.7	47	89	171	689	378	584	43	89	178	42.2
51	100	88.6	90.4	54	95	203	798	432	679	46	102	203	65.8
57	113	100.3	102.1	60	108	171	835	486	705	65	114	222	93.4
63	125	110.5	112.3	67	108	171	879	498	749	65	114	222	103
76	151	113.1	134.9	80	133	219	1045	603	905	76	146	241	181

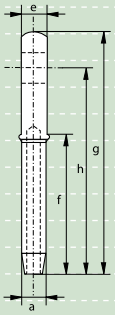
Green Pin® swage sockets

closed type



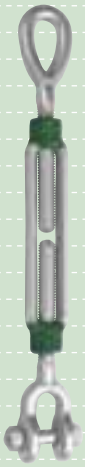
S-6415





- **Material** : drop forged steel C-1035
- **Finish** : self coloured

diameter rope	diameter before swage	diameter after swage		diameter inside	diameter	diameter eye	thickness	length	length	length	weight each
	a	a min	a max	b	c	d	e	f	g	h	
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
6	13	10.9	11.7	7	37	19	13	54	111	89	0.15
8	20	17.2	18.0	9	43	22	17	81	140	114	0.36
10	20	17.2	18.0	12	43	22	17	81	140	114	0.35
11	25	22.0	23.1	12	51	27	22	108	176	146	0.66
13	25	22.0	23.1	14	51	27	22	108	176	146	0.63
14	32	28.3	29.5	15	63	32	29	135	222	184	1.26
16	32	28.3	29.5	17	63	32	29	135	222	184	1.25
19	39	34.7	36.1	20	76	37	33	162	264	219	2.27
22	43	37.8	39.4	24	89	43	38	189	308	257	3.40
25	50	44.2	45.7	27	102	52	44	216	349	292	5.08
29	57	50.5	52.1	30	114	59	51	243	387	324	7.17
32	64	56.8	58.4	34	127	65	57	270	438	365	10.4
35	71	63.2	65.0	37	133	65	57	297	479	400	14.1
38	78	69.6	71.4	40	140	71	63	324	518	432	17.7
44	86	75.9	77.7	47	171	91	76	378	610	508	23.6
51	100	88.6	90.4	54	197	97	83	432	698	584	40.8
57	113	100.3	102.1	60	219	110	102	486	756	632	55.3
63	125	110.5	112.3	67	219	110	102	498	791	667	64.4
76	151	113.1	134.9	80	235	135	137	603	959	816	114



Applications

Turnbuckles are normally used for rigging or tensioning of wires, ropes, rods etc. They are are designed for straight / in-line rigging, tensioning or lashing.

Range

Van Beest offers a wide range of turnbuckles, i.e.:

- Load rated Green Pin® turnbuckles;
- Open body rigging screws generally to DIN 1480;
- Rigging screws with welding ends;
- Closed body rigging screws;
- Special turnbuckles for lashing (hamburgers).

Design

Green Pin® turnbuckles are manufactured to ASTM F1145-92, formerly U.S. Fed. Spec. FF-T-791, and have a safety factor of 5 to 1. The Green Pin® turnbuckles are drop forged.
Turnbuckles can be equipped with the following end fittings: eye/eye, hook/hook, hook/eye, jaw/jaw and jaw/eye. All parts are interchangeable, locking nuts are supplied with all sizes.

Rigging screws generally to DIN 1480 are available with welding ends and in hook/eye, eye/eye, hook/hook and jaw/jaw combinations.

Closed body rigging screws are available in jaw/jaw, jaw/eye and eye/eye combinations.

Finish

Load rated Green Pin® turnbuckles and closed body rigging screws are hot dipped galvanized. Rigging screws according to DIN 1480 are electro-galvanized whereas lashing turnbuckles are self coloured or can be painted upon request.

Certification

Upon request, Green Pin® turnbuckles can be supplied with a works certificate and a proof load test certificate.

Instructions for use

Turnbuckles must be used for straight or in-line pulling only.
Special attention should be paid to prevent overloading.
While tensioning, the forces on the turnbuckle must not be such that any deformation occurs. In case of deformation, the tension should be decreased immediately and deformed parts should be replaced. Extreme circumstances or shock loading, if applicable, must be taken into account when selecting the correct products to be used for the application.

For the rigging of wires, ropes, rods etc., Green Pin® turnbuckles are recommended to be used.
The Working Load Limit (WLL) should be applied in a straight pull only and overloading is not permitted.
Nor should side loads be applied, as the products have not been designed for this purpose.

Open body rigging screws are used for tensioning wires and ropes for minor loads (i.e. rope railings).

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the steel structure.

Safe use of turnbuckles

Turnbuckles should be inspected before use to insure that:

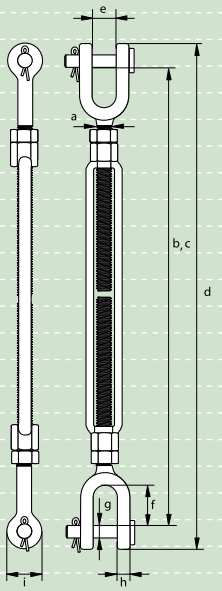
- the threads of the body and the end fittings are of the same type;
- the threads of the body and the end fittings are undamaged;
- the body and end fittings are not distorted or unduly worn;
- the body and end fittings are free from nicks, gouges and cracks.

Furthermore, it must be ensured that the end fittings are correctly screwed into the body. Always use the locking nuts supplied to prevent the turnbuckles from unscrewing.
Never replace an end fitting, other than the one designed for the purpose, as it may not be suitable for the loads imposed.





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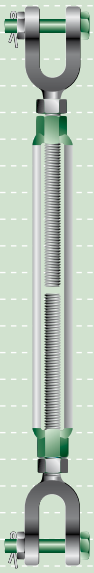


Green Pin® turnbuckles Jaw - Jaw with cotter pin

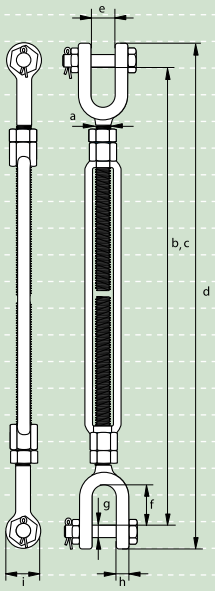
generally to ASTM F1145-92

- **Material** : drop forged high tensile steel SAE 1035 or 1045
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : generally to ASTM F1145-92
  formerly U.S. Federal Specification FF-T-791b
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate, proof load test certificate and/or EC Declaration of Conformity can be supplied upon request

working load limit	diameter thread	take up	length closed position	length open position	length closed position	opening jaw	length inside	diameter pin	thickness jaw eye	diameter jaw eye	weight each
	a		b	c	d	e	f	g	h	i	
t	inch	inch	mm	mm	mm	mm	mm	mm	mm	mm	kg
2.36	3/4	6	368	487	438	24	38	16	16	41	2.68
2.36	3/4	9	442	639	512	24	38	16	16	41	3.03
2.36	3/4	12	518	791	588	24	38	16	16	41	3.29
2.36	3/4	18	671	1095	740	24	38	16	16	41	3.65
3.27	7/8	12	559	825	636	27	42	19	19	48	4.90
3.27	7/8	18	712	1131	789	27	42	19	19	48	5.95
4.54	1	6	447	555	532	30	50	22	20	55	5.21
4.54	1	12	598	859	683	30	50	22	20	55	6.96
4.54	1	18	750	1164	835	30	50	22	20	55	8.4
4.54	1	24	902	1469	987	30	50	22	20	55	8.9
6.9	1 1/4	12	641	916	748	44	71	29	26	68	11.9
6.9	1 1/4	18	793	1218	900	44	71	29	26	68	13.6
6.9	1 1/4	24	961	1538	1069	44	71	29	26	68	14.2
9.71	1 1/2	12	675	941	806	52	71	35	28	80	16.9
9.71	1 1/2	18	825	1244	956	52	71	35	28	80	19.3
9.71	1 1/2	24	980	1550	1111	52	71	35	28	80	20.7
12.7	1 3/4	18	933	1310	1095	59	86	42	33	90	25
12.7	1 3/4	24	1084	1614	1246	59	86	42	33	90	28.7
16.8	2	24	1153	1672	1338	63	93	51	41	108	45.4
27.2	2 1/2	24	1254	1830	1479	75	114	57	41	143	88
34	2 3/4	24	1305	1878	1561	90	110	70	41	158	98



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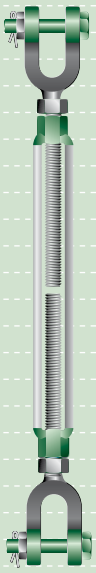


Green Pin® turnbuckles Jaw - Jaw with safety bolt

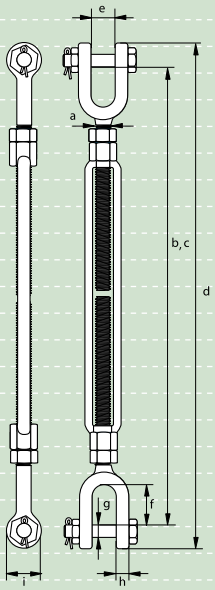
generally to ASTM F1145-92

- **Material** : drop forged high tensile steel SAE 1035 or 1045
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : generally to ASTM F1145-92
  formerly U.S. Federal Specification FF-T-791b
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate, proof load test certificate and/or EC Declaration of Conformity can be supplied upon request

working load limit	diameter thread	take up	length closed position	length open position	length closed position	opening jaw	length inside	diameter pin	thickness jaw eye	diameter jaw eye	weight each
	a		b	c	d	e	f	g	h	i	
t	inch	inch	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.54	3/8	6	273	409	305	12	21	8	9	21	0.57
1	1/2	6	305	435	344	16	26	10	11	26	0.96
1	1/2	9	380	587	418	16	26	10	11	26	1.18
1	1/2	12	455	739	494	16	26	10	11	26	1.50
1.59	5/8	6	346	469	406	18	32	13	14	33	1.84
1.59	5/8	9	421	622	481	18	32	13	14	33	2.12
1.59	5/8	12	496	773	556	18	32	13	14	33	2.56
2.36	3/4	6	368	487	438	24	38	16	16	41	2.68
2.36	3/4	9	442	639	512	24	38	16	16	41	3.03
2.36	3/4	12	518	791	588	24	38	16	16	41	3.29
2.36	3/4	18	671	1095	740	24	38	16	16	41	3.65
3.27	7/8	12	559	825	636	27	42	19	19	48	4.90
3.27	7/8	18	712	1131	789	27	42	19	19	48	5.95
4.54	1	6	447	555	532	30	50	22	20	55	5.21
4.54	1	12	598	859	683	30	50	22	20	55	6.96
4.54	1	18	750	1164	835	30	50	22	20	55	8.4
4.54	1	24	902	1469	987	30	50	22	20	55	8.9
6.9	1 1/4	12	641	916	748	44	71	28	26	68	11.9
6.9	1 1/4	18	793	1218	900	44	71	28	26	68	13.6
6.9	1 1/4	24	961	1538	1069	44	71	28	26	68	14.2
9.71	1 1/2	12	675	941	806	52	71	35	28	80	16.9
9.71	1 1/2	18	825	1244	956	52	71	35	28	80	19.3
9.71	1 1/2	24	980	1550	1111	52	71	35	28	80	20.7
12.7	1 3/4	18	933	1310	1095	59	86	42	33	90	25
12.7	1 3/4	24	1084	1614	1246	59	86	42	33	90	28.7
16.8	2	24	1153	1672	1338	63	93	50	41	108	45.4
27.2	2 1/2	24	1254	1830	1479	75	114	57	41	143	88
34	2 3/4	24	1305	1878	1561	90	110	70	41	158	98



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Green Pin® Polar turnbuckles Jaw - Jaw with safety bolt

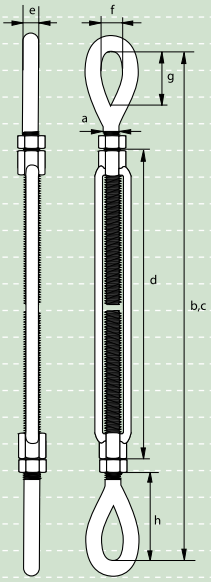
generally to ASTM F1145-92

- **Material** : drop forged alloy steel, Grade 8, quenched and tempered
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : generally to ASTM F1145-92 formerly U.S. Federal Specification FF-T-791b
- **Finish** : hot dipped galvanized
- **Temperature Range** : -40°C up to +200°C
- **Certification** : a works certificate, 3.1 material certificate, proof load test certificate and/or EC Declaration of Conformity can be supplied upon request

working load limit	diameter thread	take up	length closed position	length open position	length closed position	opening jaw	length inside	diameter pin	thickness jaw eye	diameter jaw eye	weight each
	a		b	c	d	e	f	g	h	i	
t	inch	inch	mm	mm	mm	mm	mm	mm	mm	mm	kg
1	1/2	12	455	739	494	16	26	10	11	26	1.50
1.59	5/8	12	496	773	556	18	32	13	14	33	2.56
2.36	3/4	18	671	1095	740	24	38	16	16	41	3.65
3.27	7/8	18	712	1131	789	27	42	19	19	48	5.95
4.54	1	18	750	1164	835	30	50	22	20	55	8.4
6.9	1 1/4	18	793	1218	900	44	71	29	26	68	13.6
9.71	1 1/2	18	825	1244	956	52	71	35	28	80	19.3
12.7	1 3/4	18	933	1310	1095	59	86	42	33	90	25



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Green Pin® turnbuckles Eye - Eye

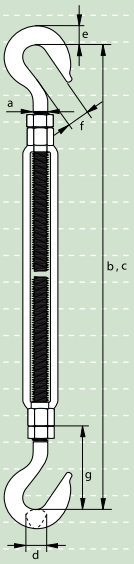
generally to ASTM F1145-92

- **Material** : drop forged high tensile steel SAE 1035 or 1045
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : generally to ASTM F1145-92
  formerly U.S. Federal Specification FF-T-791b
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate, proof load test certificate and/or EC Declaration of Conformity can be supplied upon request

working load limit	diameter thread	take up	length closed position	length open position	length	diameter	width inside	length inside	length closed position	weight each
	a		b	c	d	e	f	g	h	
t	inch	inch	mm	mm	mm	mm	mm	mm	mm	kg
0.54	3/8	6	292	428	183	10	13	29	49	0.47
1	1/2	6	325	455	193	12	18	36	58	0.84
1	1/2	9	400	607	269	12	18	36	57	1.05
1	1/2	12	476	760	346	12	18	36	57	1.26
1.59	5/8	6	381	503	203	14	21	44	79	1.35
1.59	5/8	9	455	655	279	14	21	44	78	1.60
1.59	5/8	12	531	808	356	14	21	44	78	1.92
2.36	3/4	6	414	532	213	17	25	54	90	2.03
2.36	3/4	9	488	684	289	17	25	54	89	2.49
2.36	3/4	12	564	837	366	17	25	54	89	2.65
2.36	3/4	18	717	1142	518	17	25	54	89	3.06
3.27	7/8	12	601	869	376	20	32	61	100	3.98
3.27	7/8	18	754	1174	528	20	32	61	101	5.12
4.54	1	6	497	604	233	24	36	75	118	4.35
4.54	1	12	647	909	386	24	36	75	117	5.92
4.54	1	18	800	1214	538	24	36	75	117	7.17
4.54	1	24	950	1517	690	24	36	75	116	7.52
6.9	1 1/4	12	711	984	385	30	46	90	145	9.8
6.9	1 1/4	18	861	1286	537	30	46	90	144	11.31
6.9	1 1/4	24	1014	1590	689	30	46	90	144	12.1
9.71	1 1/2	12	756	1023	401	32	54	105	156	14.2
9.71	1 1/2	18	916	1335	553	32	54	105	160	16.5
9.71	1 1/2	24	1065	1635	705	32	54	105	158	17.1
12.7	1 3/4	18	1019	1396	577	38	60	119	197	23.1
12.7	1 3/4	24	1171	1701	729	38	60	119	196	26.3
16.8	2	24	1264	1783	746	46	69	147	231	40.7
27.2	2 1/2	24	1429	1965	800	51	80	165	274	64
34	2 3/4	24	1503	2038	800	57	84	178	311	88



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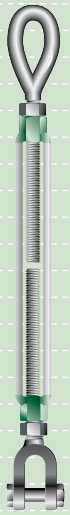


Green Pin® turnbuckles Hook - Hook

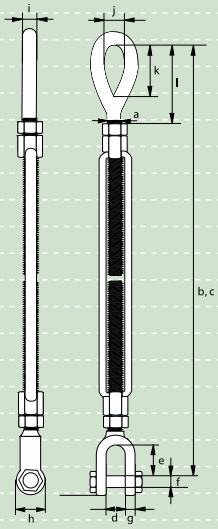
generally to ASTM F1145-92

- **Material** : drop forged high tensile steel SAE 1035 or 1045
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : generally to ASTM F1145-92 formerly U.S. Federal Specification FF-T-791b
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate, proof load test certificate and/or EC Declaration of Conformity can be supplied upon request

working load limit	diameter thread	take up	length closed position	length open position	thickness hook	thickness hook	opening hook	length closed position	weight each
	a		b	c	d	e	f	g	
t	inch	inch	mm	mm	mm	mm	mm	mm	kg
0.45	3/8	6	280	415	10	15	14	43	0.36
0.68	1/2	6	311	440	13	19	16	51	0.62
0.68	1/2	9	385	592	13	19	16	50	0.85
0.68	1/2	12	461	745	13	19	16	50	1.04
1.02	5/8	6	357	480	16	23	21	67	0.98
1.02	5/8	9	432	632	16	23	21	67	1.18
1.02	5/8	12	508	785	16	23	21	67	1.71
1.36	3/4	6	393	511	20	27	24	79	1.53
1.36	3/4	9	467	663	20	27	24	78	1.88
1.36	3/4	12	543	816	20	27	24	78	2.3
1.36	3/4	18	695	1121	20	27	24	78	2.85
1.81	7/8	12	580	846	24	31	28	90	3.33
1.81	7/8	18	733	1152	24	31	28	90	4.24
2.27	1	6	479	586	26	35	31	109	3.87
2.27	1	12	625	886	26	35	31	106	5.09
2.27	1	18	778	1191	26	35	31	106	6
2.27	1	24	928	1495	26	35	31	105	7.52
2.95	1 1/4	12	683	952	31	38	37	131	8.12
2.95	1 1/4	18	835	1256	31	38	37	131	10.4
2.95	1 1/4	24	987	1560	31	38	37	130	12.1
3.4	1 1/2	12	763	1006	34	45	45	160	12.7
3.4	1 1/2	18	910	1305	34	45	45	157	15.1
3.4	1 1/2	24	1062	1610	34	45	45	157	17.1



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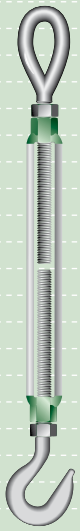


Green Pin® turnbuckles Eye - Jaw

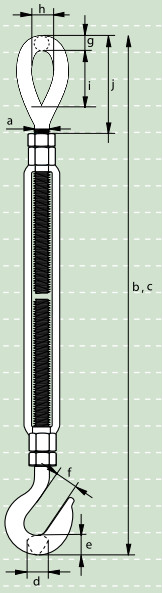
generally to ASTM F1145-92

- **Material** : drop forged high tensile steel SAE 1035 or 1045
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : generally to ASTM F1145-92
  formerly U.S. Federal Specification FF-T-791b
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate, proof load test certificate and/or EC Declaration of Conformity can be supplied upon request
- **Note** : jaw ends up to and including 5/8" are fitted with bolts and nuts, sizes 3/4" and up are equipped with pins and cotters.

working load limit	diameter thread	take up	length closed position	length open position	opening jaw	length inside jaw	diameter pin jaw	thickness eye jaw	diameter eye jaw	diameter eye	width inside eye	length inside eye	length closed position	weight each
	a		b	c	d	e	f	g	h	i	j	k	l	
t	inch	inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.54	3/8	6	283	418	12	21	8	9	21	10	13	29	49	0.51
1	1/2	6	315	445	16	26	10	11	26	12	18	36	58	0.89
1	1/2	9	389	597	16	26	10	11	26	12	18	36	57	1.10
1	1/2	12	465	749	16	26	10	11	26	12	18	36	57	1.31
1.59	5/8	6	363	486	18	32	13	14	33	14	21	44	79	1.58
1.59	5/8	9	438	638	18	32	13	14	33	14	21	44	78	1.84
1.59	5/8	12	514	790	18	32	13	14	33	14	21	44	78	2.22
2.36	3/4	6	391	509	24	38	16	16	41	17	25	54	90	2.34
2.36	3/4	9	465	661	24	38	16	16	41	17	25	54	89	2.72
2.36	3/4	12	541	814	24	38	16	16	41	17	25	54	89	2.95
2.36	3/4	18	694	1118	24	38	16	16	41	17	25	54	89	3.30
3.27	7/8	12	580	847	27	42	19	19	48	20	32	61	100	4.35
3.27	7/8	18	733	1152	27	42	19	19	48	20	32	61	101	5.46
4.54	1	6	472	579	30	50	22	20	55	24	36	75	118	4.66
4.54	1	12	623	884	30	50	22	20	55	24	36	75	117	6.35
4.54	1	18	775	1189	30	50	22	20	55	24	36	75	117	7.98
4.54	1	24	926	1493	30	50	22	20	55	24	36	75	116	8.39
6.9	1 1/4	12	676	949	44	71	29	26	68	30	46	90	145	10.92
6.9	1 1/4	18	832	1257	44	71	29	26	68	30	46	90	144	11
6.9	1 1/4	24	988	1564	44	71	29	26	68	30	46	90	144	12.9
9.71	1 1/2	12	716	982	52	71	35	28	80	32	54	105	156	13.1
9.71	1 1/2	18	871	1289	52	71	35	28	80	32	54	105	160	14.7
9.71	1 1/2	24	1022	1593	52	71	35	28	80	32	54	105	158	17.8
12.7	1 3/4	18	980	1356	59	86	42	33	90	38	60	119	197	22.3
12.7	1 3/4	24	1131	1661	59	86	42	33	90	38	60	119	196	27.5
16.8	2	24	1208	1728	63	93	51	41	108	46	69	147	231	42.9
27.2	2 1/2	24	1341	1866	75	114	57	41	143	51	80	165	274	68
34	2 3/4	24	1404	1923	90	110	70	41	158	57	84	178	311	91



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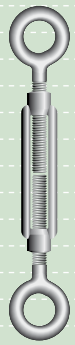


Green Pin® turnbuckles Eye - Hook

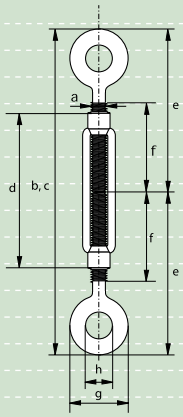
generally to ASTM F1145-92

- **Material** : drop forged high tensile steel SAE 1035 or 1045
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : generally to ASTM F1145-92 formerly U.S. Federal Specification FF-T-791b
- **Finish** : hot dipped galvanized
- **Certification** : a works certificate, proof load test certificate and/or EC Declaration of Conformity can be supplied upon request

working load limit	diameter thread	take up	length closed position	length open position	thickness hook	thickness hook	opening hook	diameter eye	width inside eye	length inside eye	length closed position	weight each
	a		b	c	d	e	f	g	h	i	j	
t	inch	inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.45	3/8	6	286	422	10	15	14	10	13	29	49	0.47
0.68	1/2	6	318	448	13	19	16	12	18	36	58	0.82
0.68	1/2	9	392	600	13	19	16	12	18	36	57	1.06
0.68	1/2	12	469	752	13	19	16	12	18	36	57	1.28
1.02	5/8	6	369	491	16	23	21	14	21	44	79	1.31
1.02	5/8	9	443	644	16	23	21	14	21	44	78	1.56
1.02	5/8	12	520	796	16	23	21	14	21	44	78	1.71
1.36	3/4	6	403	522	20	27	24	17	25	54	90	2.04
1.36	3/4	9	477	674	20	27	24	17	25	54	89	4.49
1.36	3/4	12	554	826	20	27	24	17	25	54	89	2.3
1.36	3/4	18	706	1131	20	27	24	17	25	54	89	2.85
1.81	7/8	12	590	858	24	31	28	20	32	61	100	3.33
1.81	7/8	18	744	1163	24	31	28	20	32	61	101	4.24
2.27	1	6	488	595	26	35	31	24	36	75	118	3.87
2.27	1	12	636	897	26	35	31	24	36	75	117	5.09
2.27	1	18	789	1202	26	35	31	24	36	75	117	6
2.27	1	24	939	1506	26	35	31	24	36	75	116	7.52
2.95	1 1/4	12	697	968	31	38	37	30	46	90	145	8.12
2.95	1 1/4	18	848	1271	31	38	37	30	46	90	144	10.4
2.95	1 1/4	24	1000	1575	31	38	37	30	46	90	144	12.1
3.4	1 1/2	12	760	1014	34	45	45	32	54	105	156	12.7
3.4	1 1/2	18	913	1320	34	45	45	32	54	105	160	15.1
3.4	1 1/2	24	1063	1623	34	45	45	32	54	105	158	17.1



E-6351

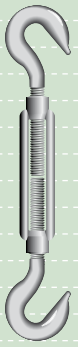


Rigging screws Eye - Eye

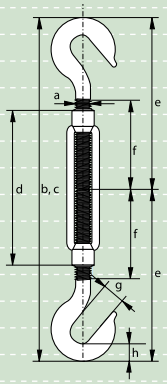
according to DIN 1480

- **Material** : drop forged mild steel
- **Standard** : DIN 1480
- **Finish** : electro-galvanized

diameter thread	length closed position	length open position	length body	length end fitting	length thread	diameter eye outside	diameter eye inside	weight each
a	b	c	d	e	f	g	h	
mm	mm	mm	mm	mm	mm	mm	mm	kg
5	114	170	70	57	35	16	8	0.07
6	160	246	110	80	55	20	9	0.11
8	168	248	110	84	57	22	10	0.2
10	210	300	125	105	68	31	14	0.28
12	222	305	125	110	70	35	16	0.43
14	244	334	140	123	75	40	18	0.61
16	300	416	170	143	88	47	22	1
20	334	466	200	165	105	52	24	1.6
22	372	527	220	185	118	60	27	2.2
24	410	587	255	208	135	65	27	2.8
30	440	605	255	220	135	71	31	4.1
33	490	690	295	245	148	88	36	6
36	554	740	295	277	158	94	38	8.5
42	600	800	330	300	170	110	49	11



E-6352

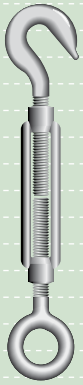


Rigging screws Hook - Hook

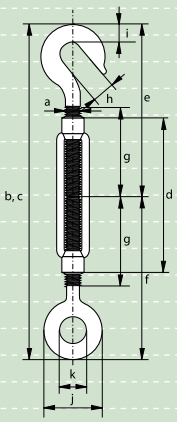
according to DIN 1480

- **Material** : drop forged mild steel
- **Standard** : DIN 1480
- **Finish** : electro-galvanized

diameter thread	length closed position	length open position	length body	length end fitting	length thread	opening hook	thickness hook	weight each
a	b	c	d	e	f	g	h	
mm	mm	mm	mm	mm	mm	mm	mm	kg
6	184	270	110	92	55	8	15	0.11
8	200	280	110	100	57	10.5	15	0.2
10	234	323	125	117	68	13	11	0.28
12	260	343	125	130	70	16	13	0.43
14	278	368	140	139	75	18	15	0.61
16	322	438	170	161	88	20	17	1
20	382	514	200	191	105	21	21	1.6
22	456	601	220	228	118	24	28	2.2
24	496	673	255	248	135	26	33	2.8
30	550	715	255	275	135	34	35	4.1
33	600	799	295	300	148	38	40	6
36	640	825	295	320	158	46	45	8.3



E-6354

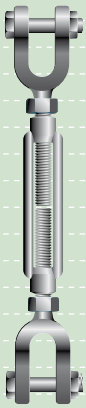


Rigging screws Eye - Hook

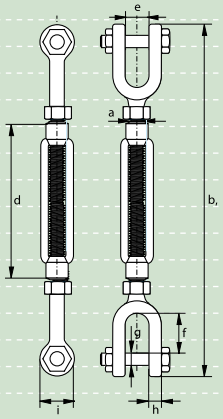
according to DIN 1480

- **Material** : drop forged mild steel
- **Standard** : DIN 1480
- **Finish** : electro-galvanized

diameter thread	length closed position	length open position	length body	length end fitting	length end fitting	length thread	opening hook	thickness hook	diameter eye outside	diameter eye inside	weight each
a	b	c	d	e	f	g	h	i	j	k	
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
5	125	180	70	56	57	35	7	12	16	8	0.07
6	172	258	110	77	80	55	8	15	20	9	0.11
8	184	264	110	85	84	57	10.5	15	22	10	0.2
10	222	311	125	106	105	68	13	11	31	14	0.28
12	241	324	125	117	111	70	16	13	35	16	0.43
14	261	351	140	124	122	75	18	15	40	18	0.61
16	311	427	170	144	150	88	20	17	47	22	1
20	358	490	200	170	167	105	21	21	52	24	1.6
22	414	559	220	200	186	118	24	28	60	27	2.2
24	453	630	255	215	205	135	26	33	65	27	2.8
30	495	660	255	240	220	135	34	35	71	31	4.1
33	545	744	295	260	245	148	38	40	88	36	6
36	597	782	295	275	277	158	46	45	94	38	8.4



E-6353



Rigging screws Jaw - Jaw

according to DIN 1480

- **Material** : drop forged mild steel
- **Standard** : DIN 1480
- **Finish** : electro-galvanized
- **Note** : supplied with locking nuts

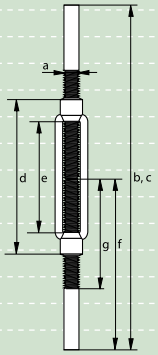
diameter thread	length closed position	length open position	length body	opening jaw	length inside	diameter pin	thickness jaw eye	diameter jaw eye	weight each
a	b	c	d	e	f	g	h	i	
mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
6	191	277	110	7.5	12	M 6	5	13	0.16
8	194	274	110	8.5	12	M 6	6	14	0.21
10	236	325	125	11	16	M 8	8	18	0.38
12	266	349	125	13	20	M 10	10	24	0.66
14	316	406	140	16	30	M 12	12	28	1.15
16	374	490	170	18	38	M 12	12	32	1.45
20	438	570	200	20	42	M 16	16	38	2.61
22	466	611	220	22	44	M 18	18	40	3.24
24	514	691	255	24	46	M 20	20	42	4.35
30	544	709	255	30	50	M 24	22	46	6.48

Rigging screws with Welding Ends

according to DIN 1480



E-6355



- **Material** : drop forged mild steel
- **Standard** : DIN 1480
- **Finish** : Body : electro-galvanized
  Welding ends : self coloured

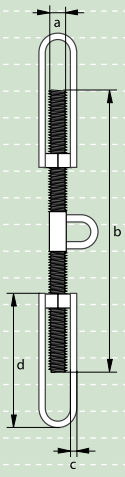
diameter thread	length closed position	length open position	length body	length body inside	length stub-ends	length thread	weight per 100 pcs
a	b	c	d	e	f	g	
mm	mm	mm	mm	mm	mm	mm	kg
6	240	326	110	86	120	65	9.3
8	240	320	110	80	120	65	14
10	300	389	125	89	150	75	29
12	300	383	125	83	150	75	40
14	330	420	140	90	165	85	66
16	400	516	170	116	200	100	89
20	440	572	200	132	220	120	160
22	440	585	220	145	220	130	227
24	520	697	255	177	260	150	282
30	520	685	255	165	260	160	423
36	600	780	295	185	300	180	710

Turnbuckles (hamburgers)

for deck lashing



S-6330

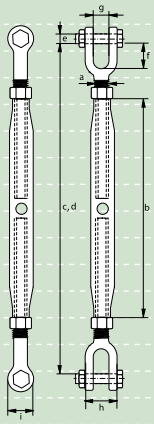


- **Material** : mild steel
- **Finish** : self coloured

minimum breaking load	diameter thread	length thread	diameter bow	length bow	weight each
	a	b	c	d	
t	mm	mm	mm	mm	kg
13	24	400	16	210	3
13	24	500	16	260	3.8
18	27	400	18	210	4.4
18	27	500	18	260	5.5
20	30	400	20	210	5
20	30	500	20	260	6.3
21	36	400	20	210	7
21	36	500	20	260	8.8



G-6343



Closed body rigging screws

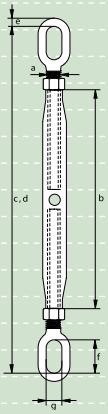
Jaw - Jaw

- **Material** : mild steel
- **Safety factor** : MBL equals 5 x WLL,
- **Finish** : hot dipped galvanized
- **Note** : end fittings of 6 and 8 mm rigging screws are electro-galvanized

working load limit	diameter thread	length body	length closed position	length open position	diameter pin	length inside	opening jaw	width jaw	diameter jaw eye	weight each
	a	b	c	d	e	f	g	h	i	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.2	6	100	170	250	5	16	7	20	13	0.16
0.32	8	108	199	279	6	22	9	24	14	0.27
0.5	10	125	222	312	8	22	10.5	28	19	0.45
0.7	12	195	315	470	10	27	13	34	23	0.85
1.2	16	230	388	568	12	33	18	42	29	1.57
1.5	20	270	449	654	16	38	20	51	33	2.67
2.2	22	295	490	715	20	45	25	55	38	3.68
3.2	24	325	538	793	22	52	30	70	46	5.3
4.8	33	370	680	965	30	70	38	82	60	12
6	39	400	707	1002	33	70	45	85	76	14.2
8.5	45	400	761	1011	39	86	50	94	85	20.8
11	48	400	780	1005	45	97	58	98	92	24



G-6340



Closed body rigging screws

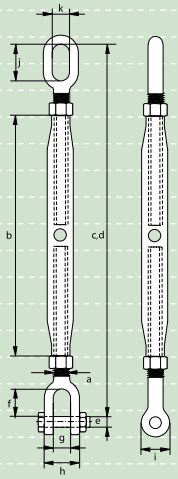
Eye - Eye

- **Material** : mild steel
- **Safety factor** : MBL equals 5 x WLL,
- **Finish** : hot dipped galvanized
- **Note** : end fittings of 6 and 8 mm rigging screws are electro-galvanized

working load limit	diameter thread	length body	length closed position	length open position	diameter	length eye inside	width eye inside	weight each
	a	b	c	d	e	f	g	
t	mm	mm	mm	mm	mm	mm	mm	kg
0.2	6	100	160	240	5.5	11	11	0.13
0.32	8	108	175	255	6	12	12	0.2
0.5	10	125	205	300	8.5	13	13	0.6
0.7	12	195	298	458	11	19	15	0.8
1.2	16	230	356	531	12	28	20	1.4
1.5	20	270	423	628	16	34	24	2.4
2.2	22	295	463	688	16	34	24	3
3.2	24	325	502	752	19	37	28	4
4.8	33	370	602	882	29	41	35	9
6	39	400	651	951	35	45	40	11.5
8.5	45	400	721	879	31	49	49	20.8
11	48	400	767	1032	37	52	52	24



G-6345



Closed body rigging screws

Eye - Jaw

- **Material** : mild steel
- **Safety factor** : MBL equals 5 x WLL,
- **Finish** : hot dipped galvanized
- **Note** : end fittings of 6 and 8 mm rigging screws are electro-galvanized

working load limit	diameter thread	length body	length closed position	length open position	diameter pin	length jaw inside	opening jaw	width jaw	diameter jaw eye	length eye inside	width eye inside	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.2	6	100	165	245	5	16	7	20	13	11	11	0.14
0.32	8	108	187	267	6	22	9	24	14	12	12	0.24
0.5	10	125	214	306	8	22	10.5	28	19	13	13	0.53
0.7	12	195	307	464	10	27	13	34	23	19	15	0.83
1.2	16	230	372	549	12	33	18	42	29	28	20	1.49
1.5	20	270	436	641	16	38	20	51	33	34	24	2.54
2.2	22	295	477	701	20	45	25	55	38	34	24	3.34
3.2	24	325	520	772	22	52	30	70	46	37	28	4.65
4.8	33	370	641	923	30	70	38	82	60	41	35	10.5
6	39	400	679	976	33	70	45	85	76	45	40	12.8
8.5	45	400	741	945	39	86	50	94	85	49	49	20.8
11	48	400	774	1018	45	97	58	98	92	52	52	24



Applications

Connecting links are used for chain slings.
Master links and master link assemblies are used for 1, 2, 3 and 4-leg slings.

Range

Van Beest supplies a wide range of Green Pin® connecting links for chain with diameter 6-32 mm, as well as a wide range of master links and master link assemblies.

DNV master links are DNV type approved to certification note 2.7-1, lifting sets for offshore containers, certification no. S-5678.

Van Beest can also offer other types of links in grade 8, grade 10 and stainless steel.

Please see our Excel® catalogue for more information.



Design

Connecting links are designed for easy and quick assembly. However we supply them unassembled to avoid having to disassemble prior to use, which saves time.

Type MS master links (up to 37 t) and type MTS master link assemblies (up to 50 t) are supplied with a flat part for easy connection of the master link in the sling.

All master links and connecting links are suitable for lifting purposes, with a safety factor of four times the working load limit. Master links, type MS and MTS, and connecting links have the manufacturer's symbol, the batch code, the steel grade and the CE conformity code marked in the body.

DNV master links are designed for use in lifting sets for offshore containers. In this high-risk environment, strength, durability and quality are of the utmost importance to guarantee safe production of oil and gas.

Finish

Connecting links and master links are painted yellow or red. DNV master links are painted orange.

Certification

Test certificates can be supplied upon request.

Instructions for use

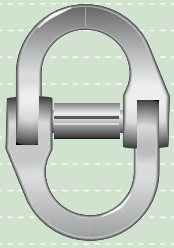
Connecting links, master links and master link assemblies should be inspected before use to ensure that:

- the link and the assemblies are both identifiable as being of the same steel grade;
- all markings are legible;
- links, assemblies and connecting links are free from nicks, gouges and cracks;
- a link with the correct Working Load Limit has been selected with respect to the sling design i.e. load to be lifted, number of legs in the sling top angle etc. For further details we refer to EN 818, standard for Chain Slings;
- links, assemblies and connecting links may not be heat treated as this may affect their Working Load Limit;
- during the assembly of connecting links, we promote the use of a lubricant on the pin.

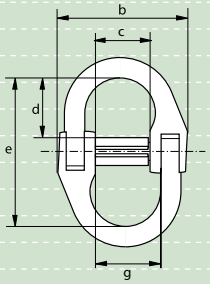
It is required that the products are regularly inspected and that the inspection should take place minimally in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure.
Inspection should take place at least every six months and even more frequently when the links are used in severe operating conditions.

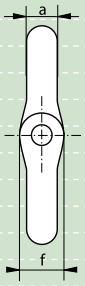
Green Pin® connecting links

for connecting Grade 8 chain-slings



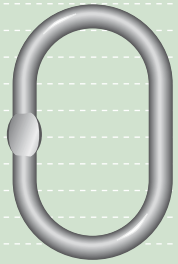
P-6860Y
P-6860R



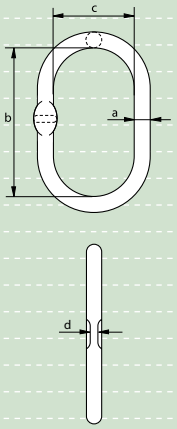


- **Material** : Grade 8, alloy steel
- **Safety factor** : MBL equals 4 x WLL
- **Standard** : generally to EN 1677-1
- **Finish** : painted yellow or red
- **Certification** : test certificates can be supplied upon request

working load limit	for chain diameter	diameter	width outside	width inside	length inside	length inside	diameter eye	width inside	weight each
		a	b	c	d	e	f	g	
t	mm	mm	mm	mm	mm	mm	mm	mm	kg
1.12	6	8	42	11	20	52	11	15	0.14
2	7-8	9	53	14	21	55	13	19	0.15
3.2	10	10	66	18	24	64	18	25	0.32
5.4	13	14	83	21	31	85	24	30	0.7
8.2	16	17	103	25	40	105	28	36	1.29
12.8	18-20	21	120	33	50	129	33	43	2.08
15.5	22	23	143	39	54	140	37	53	3.33
21.6	26	26	160	44	57	153	43	59	4.92
32.8	32	39	197	51	64	174	55	68	8.2



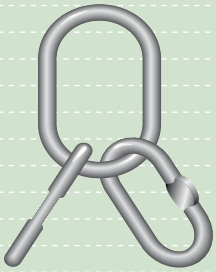
MS



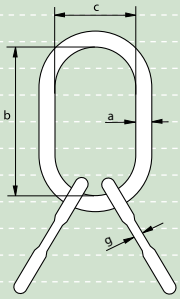
Master links

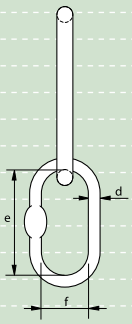
- **Material** : Grade 8, alloy steel
- **Safety factor** : MBL equals 4 x WLL
- **Standard** : generally to EN 1677-4
- **Finish** : painted yellow or red
- **Certification** : at no extra charges this product can be supplied with a works certificate and/or EC Declaration. Test certificates can be supplied upon request.
- **Note** : from 50 t without flat part

working load limit	diameter	length inside	width inside	thickness	weight each
	a	b	c	d	
t	mm	mm	mm	mm	kg
1.6	13	100	60	7	0.33
3.2	16	120	70	7	0.56
4.5	18	135	75	9	0.8
6.2	20	150	90	9	1.11
8.2	22	150	90	11	1.36
10.6	25	170	95	13	1.96
12.8	28	200	120	13	2.92
15.5	30	200	120	17	3.4
20	36	250	150	17	6.1
25	38	250	150	21	6.8
30	44	280	170	21	10.8
37	45	300	200	23	11.7
50	50	300	200	-	14.75
63	55	350	200	-	20
100	70	400	250	-	39
125	80	400	250	-	52



MTS



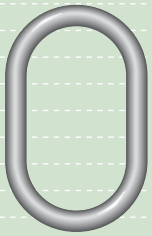


Master link assemblies

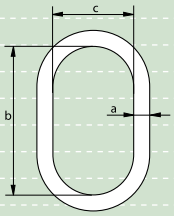
- **Material** : Grade 8, alloy steel
- **Safety factor** : MBL equals 4 x WLL
- **Standard** : generally to EN 1677-4
- **Finish** : painted yellow or red
- **Certification** : at no extra charges this product can be supplied with a works certificate and/or EC Declaration. Test certificates can be supplied upon request.
- **Note** : from 60 t without flat part

working load limit	diameter	length inside	width inside	diameter	length inside	width inside	thickness	weight each
	a	b	c	d	e	f	g	
t	mm	mm	mm	mm	mm	mm	mm	kg
2.5	16	120	70	13	100	60	7	1.2
3.5	18	135	75	16	100	60	6	1.8
6.5	22	150	90	18	120	70	9	2.9
8.5	25	170	95	20	120	70	11	3.9
10	28	200	120	20	120	70	11	4.9
13	30	200	120	22	135	75	14	6
17	36	250	150	25	135	75	14	9.6
20	38	250	150	28	170	95	17	12.6
27	45	280	170	33	200	120	17	19.7
30	45	300	200	36	200	120	21	22.5
40	50	300	200	38	150	90	21	24.5
50	55	300	200	38	150	90	23	28
60	58	350	200	42	150	90	-	34.6
80	70	400	250	55	300	150	-	74.7
100	80	400	250	58	300	150	-	92.4

Master links DNV, grade 8



P-6810

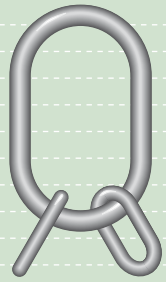


- **Material** : alloy steel, Grade 8
- **Safety Factor** : MBL equals 5 x WLL
- **Standard** : DNV 2.7-1, EN 12079-2 and EN 1677-4
- **Finish** : painted orange
- **Certification** : at no extra charges this product can be supplied with a works certificate and/or EC Declaration of Conformity

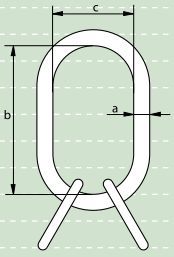
TYPE APPROVED PRODUCT CERTIFICATION NOTE 2.7-1 CERTIFICATE NO. S-5678

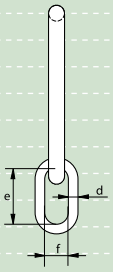
working load limit	diameter	length inside	width inside	weight each
	a	b	c	
t	mm	mm	mm	kg
4.1	16	150	75	0.72
5.8	22	270	140	2.3
8.83	26	270	140	2.7
11.8	28	270	140	3.8
14.5	28	200	110	3
17.1	32	270	140	5.1
23	36	270	140	6.5
28.1	40	280	155	8.5
35	45	320	175	12.2
45	50	350	195	16.6
65	60	410	220	29.2
85	70	450	250	44.3

Master link assemblies DNV, grade 8



P-6820





- **Material** : alloy steel, Grade 8
- **Safety Factor** : MBL equals 5 x WLL
- **Standard** : DNV 2.7-1, EN 12079-2 and EN 1677-4
- **Finish** : painted orange
- **Certification** : at no extra charges this product can be supplied with a works certificate and/or EC Declaration of Conformity

TYPE APPROVED PRODUCT CERTIFICATION NOTE 2.7-1 CERTIFICATE NO. S-5678

working load limit	diameter	length inside	width inside	diameter	length inside	width inside	weight each
	a	b	c	d	e	f	
t	mm	mm	mm				kg
4.1	16	150	75	14	130	65	1.3
5.8	22	270	140	16	150	75	3.8
8.83	26	270	140	20	140	70	5.3
11.8	28	270	140	20	140	70	5.9
17.1	32	270	140	26	190	102	9.7
23	36	270	140	28	190	100	11.9
28.1	40	280	155	32	200	110	16.4
35	45	320	175	36	225	125	23.5
45	50	350	195	40	260	130	32.3
65	60	410	220	50	350	195	63.9
85	70	450	250	60	410	220	103



Applications

Thrust bearing swivels are used to prevent wire rope or chain from transferring their normal twisting motion to the item being lifted. Our swivels can be supplied with two types of end fittings.
Green Pin® swivels are not designed to rotate under load, but are intended as positioning devices only.
For rotation under load, thrust bearing swivels should be used.

Range

Van Beest offers two types of swivels:
- Green Pin® swivels, ranging from Working Load Limit 0.39 up to 20.5 tons, with eye-eye or jaw-eye terminals;
- Thrust bearing swivels, ranging from Working Load Limit 1 up to 40 tons, with eye-eye terminals.

Van Beest can also offer other types of swivels in grade 8 and grade 10.

Please see our Excel® catalogue for more information.



Design

The Green Pin® swivels are dropforged whereas the thrust bearing swivels are machined from carbon steel. The range of thrust bearing swivels we supply are fitted with grease nipples to ensure long life and ease of operation. Greasing depends on the frequency and intensity of use.
Each swivel carries the WLL marking, the manufacturer's symbol and the CE conformity code.

Finish

Green Pin® eye-eye and jaw-eye swivels are hot dipped galvanized.
The thrust bearing swivels are painted.

Certification

Test certificates can be supplied upon request.

Instructions for use

Swivels should be inspected before use to ensure that:

- all markings are legible;
- swivels are free from nicks, gouges and cracks;
- a swivel with the correct Working Load Limit has been selected with respect to the load to be carried;
- swivels may not be heat treated as this may affect their Working Load Limit;
- the bolt, nut or any other locking system cannot vibrate out of position.

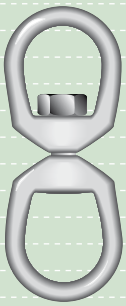
The WLL should be applied in a straight pull and overloads are prohibited. Side loading is not allowed since the swivels are not designed for this purpose.

Never replace a swivel pin or nut with a bolt other than the one designed for the purpose, as it may not be suitable for the load imposed.

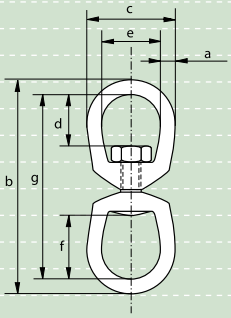
It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure.
Inspection should take place at least every six months and even more frequently when the swivels are used in severe operating conditions.

Green Pin® swivels

Eye - Eye

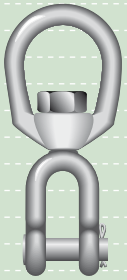


G-7713

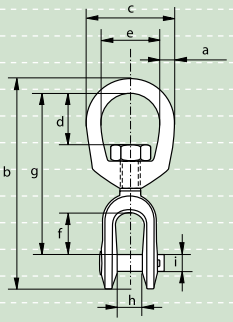


- **Material** : high tensile steel, quenched and tempered
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : US Federal Spec. RR-C-271, Type VII, Class 2
- **Finish** : hot dipped galvanized
- **Certification** : test certificates can be supplied upon request

working load limit	diameter	length outside	width outside	length inside	width inside	length inside	length	weight each
	a	b	c	d	e	f	g	
t	mm	mm	mm	mm	mm	mm	mm	kg
0.39	6	87	32	18	19	27	75	0.1
0.57	8	106	41	21	25	32	90	0.18
1.02	10	129	51	24	32	38	109	0.32
1.6	13	164	64	33	38	51	138	0.6
2.4	16	199	76	40	44	60	167	1.13
3.3	19	221	89	44	51	67	183	1.82
4.5	22	257	102	52	57	78	213	2.83
5.7	25	295	114	59	64	89	245	4.06
8.2	32	337	143	68	80	94	273	7.43
20.5	38	501	178	102	102	150	425	20.8



G-7723



Green Pin® swivels

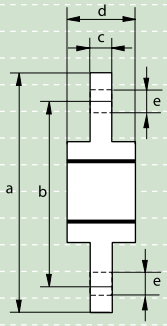
Jaw - Eye

- **Material** : high tensile steel, quenched and tempered
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : US Federal Spec. RR-C-271, Type VII, Class 3
- **Finish** : hot dipped galvanized
- **Certification** : test certificates can be supplied upon request

working load limit	diameter	length	width outside	length inside	width inside	length inside	length	width inside	diameter pin	weight each
	a	b	c	d	e	f	g	h	i	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
0.39	6	84	32	18	19	22	67	12	6	0.11
0.57	8	98	41	21	25	22	75	13	8	0.17
1.02	10	121	51	24	32	27	92	16	10	0.32
1.6	13	154	64	33	38	33	114	19	13	0.65
2.4	16	186	76	40	44	38	135	24	16	1.12
3.3	19	211	89	44	51	44	154	29	19	1.76
4.5	22	242	102	52	57	52	178	30	22	2.66
5.7	25	290	114	59	64	71	217	44	29	4.46
8.2	32	329	143	68	80	71	230	52	35	7.14
20.5	38	501	178	106	102	113	364	73	50	24.8



P-7740



Green Pin® Thrust bearing swivels

Eye - Eye

- **Material** : carbon steel
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted black
- **Certification** : test certificates can be supplied upon request

working load limit	length	length	thickness	diameter	diameter hole	weight each
	a	b	c	d	e	
t	mm	mm	mm	mm	mm	kg
1	174	128	12.5	49	21	1.4
2	223	173	19	68	22	3.5
3	278	210	26	79	29	6.4
5	290	222	26	89	31	7.9
8	366	276	40	106	43	15.2
10	390	300	40	118	49	19.1
15	457	355	40	128	49	26.6
20	474	372	40	118	51	25
30	612	472	64	138	59	50
40	760	600	68	168	65	-



Applications

Hooks are used in lifting systems as a connection between the load to be lifted and the wire rope or chain slings.

Range

Van Beest offers a wide range of hooks, from drop forged carbon steel hooks to drop forged alloy steel swivel hooks, which are quenched and tempered.

Van Beest can also offer other types of lifting hooks in grade 8, grade 10 and stainless steel.

Please see our Excel® catalogue for more information.



Design

There are different types of hooks with their specific designs to suit a particular purpose. Eye hooks and swivel hooks are designed for wire rope or chain. Pipe line hooks are specially designed for handling tubes easily.

Most types of hooks are supplied with a safety latch.

All types carry the following markings:

- Working Load Limit;
- manufacturer's identification symbol;
- steel grade;
- traceability code;
- CE.

Finish

The grade 8 hooks are painted red, grade 4 hooks are painted green.
Upon request hooks can be supplied galvanized or self coloured.

Certification

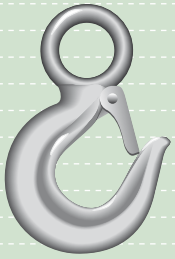
All hooks can be supplied with test certificates upon request.

Instructions for use

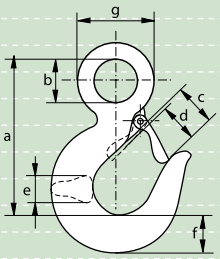
Hooks should be inspected before use to ensure that:

- all markings are legible;
- hooks are free from nicks, gouges and cracks;
- the latch is present;
- the latch is functional;
- a hook with the correct Working Load Limit has been selected with respect to the sling design i.e. the load to be lifted, the number of legs in the sling, the top angle etc. For further details we refer to EN 818, norm for Chain Slings;
- the hook is never side-, tip- or back-loaded;
- always make sure that the hook is supporting the load correctly, the latch should not be supporting the load;
- hooks may not be heat treated as this may affect their Working Load Limit;
- never modify, repair or reshape a hook by machining, welding, heating or bending as this may affect the Working Load Limit;
- do not swivel a swivel hook when it is supporting a load.

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure.
Inspection should take place at least every six months and even more frequently when the hooks are used in severe operating conditions.



P-6714C



Green Pin® large eye hooks, Grade 4

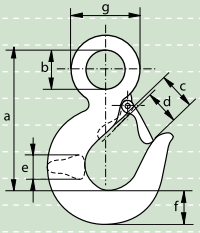
with safety latch

- **Material** : carbon steel, Grade 4
- **Safety factor** : MBL equals 5 x WLL
- **Standard** : generally to EN 1677-5
- **Finish** : painted green
- **Certification** : test certificates can be supplied upon request

working load limit	length	diameter eye inside	width opening	width opening	thickness	width	diameter eye outside	weight each
	a	b	c	d	e	f	g	
t	mm	mm	mm	mm	mm	mm	mm	kg
0.8	81	19	24	20	16	19	37	0.4
1	91	22	26	22	18	22	45	0.4
1.6	105	27	32	27	20	27	52	0.6
2	124	32	34	30	24	31	62	0.98
3.2	147	39	44	37	31	36	74	1.68
5	190	50	55	48	37	48	96	3.6



P-6714A

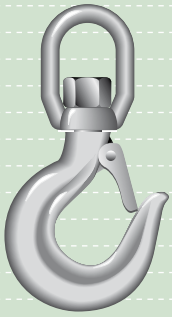


Green Pin® large eye hooks, Grade 8

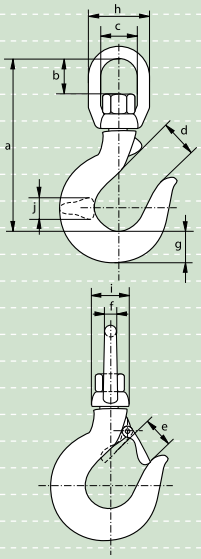
with safety latch

- **Material** : alloy steel, Grade 8
- **Safety factor** : MBL equals 4 x WLL
- **Standard** : generally to EN 1677-2
- **Finish** : painted red
- **Certification** : test certificates can be supplied upon request

working load limit	length	diameter eye inside	width opening	width opening	thickness	width	diameter eye outside	weight each
	a	b	c	d	e	f	g	
t	mm	mm	mm	mm	mm	mm	mm	kg
1.25	81	19	24	20	16	19	37	0.26
1.6	91	22	26	22	18	22	45	0.57
2.5	105	27	32	27	20	27	52	0.81
3.2	124	32	34	30	24	31	62	1.27
5.4	147	39	44	37	31	36	74	1.68
8	190	50	55	48	37	48	96	3.6
11.5	230	64	64	53	47	60	123	7
16	254	70	70	60	58	69	139	10.7
22	316	89	91	77	63	81	169	16.7



P-6703A

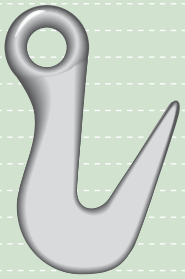


Green Pin® swivel hooks, Grade 8

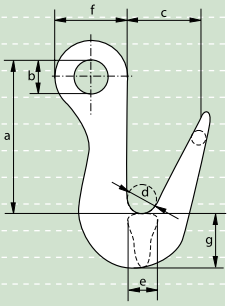
with safety latch

- **Material** : alloy steel, Grade 8
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : painted red
- **Certification** : test certificates can be supplied upon request

working load limit	length	length inside	width inside	width opening	width opening	diameter	width	width	width	thickness	weight each
	a	b	c	d	e	f	g	h	i	j	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
1.25	118	28	31	24	20	11	19	52	30	16	0.45
1.6	145	35	40	26	22	14	23	68	37	18	0.9
2.5	167	43	47	32	27	17	27	81	43	20	1.3
3.2	180	47	47	34	30	17	31	81	43	24	1.6
5.4	217	54	64	44	37	21	37	106	64	31	3.8
8	276	69	78	55	49	26	49	130	77	37	6.9
11.5	310	69	82	61	53	22	60	136	82	46	10.6
16	352	84	92	65	58	24	67	154	92	52	16
22	434	107	115	85	78	29	80	191	108	64	27
31.5	512	117	132	90	87	34	94	222	132	80	60



P-6731

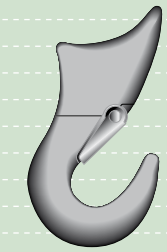


Green Pin® pipe line hooks

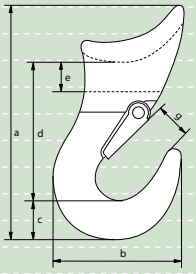
for handling large cylindrical shapes like pipe lines, tubes etc.

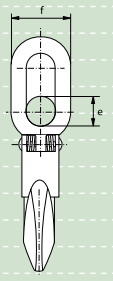
- **Material** : alloy steel
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted red
- **Certification** : test certificates can be supplied upon request

working load limit at hook top	working load limit at hook bottom	length	diameter eye inside	width opening	diameter	thickness	diameter eye outside	width	weight each
t	t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
2	7.5	167	35	74	30	31	73	57	2.65



P-6706A





Green Pin® sliding choker hooks, Grade 8

with safety latch

- **Material** : alloy steel, Grade 8
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted red
- **Certification** : test certificates can be supplied upon request

working load limit	diameter rope	length	width	thickness	length	diameter	thickness	opening	weight each
t	mm	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
0.8	6 - 11	112	63	19	65	14	30	16	0.4
1.6	10 - 13	143	82	26	83	17	30	19	0.8
2.5	14 - 16	170	98	30	97	19	33	25	1.2
3.2	16 - 20	196	115	36	110	22	40	28	1.9
5.4	22 - 26	260	142	46	145	36	60	35	4.2



Applications

Eye bolts and eye nuts are used for lifting machines, appliances or any other objects which cannot be lifted by hand or by fork lift truck.

Range

Van Beest offers a wide range of lifting eye bolts and eye nuts, from M6 up to M100, with Working Load Limits from 0.07 t up to 40 t. Larger sizes can be supplied on request.

Van Beest can also offer other types of eye bolts and nuts in grade 8 and stainless steel.

Please see our Excel® catalogue for more information.



Design

The eye bolts and eye nuts are manufactured from C15 steel, drop forged and with metric thread.
Each eye bolt and eye nut is individually stamped with:

- Working Load Limit valid for in-line pull;
- thread diameter;
- material identification symbol C15;
- manufacturer's symbol;
- CE.

Finish

The eye bolts and eye nuts can be either self coloured, electro-galvanized or hot dipped galvanized.

Certification

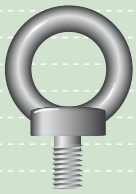
At no extra charges eye bolts and nuts can be supplied with a works certificate and/or EC Declaration of Conformity. Test certificates can be supplied upon request .

Instructions for use

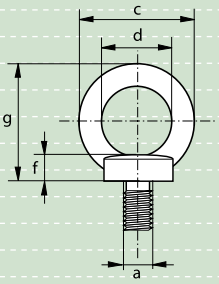
Eye bolts and eye nuts should be inspected before use to ensure that:

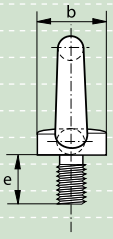
- all markings are legible;
- eye bolts and eye nuts are free from nicks, gouges and cracks;
- make sure the thread is undamaged and clean;
- an eye bolt or eye nut with the correct Working Load Limit has been selected with respect to load to be lifted;
- eye bolts or eye nuts may not be heat treated as this may affect their Working Load Limit;
- never modify, repair or reshape an eye bolt or eye nut by machining, welding, heating or bending as this may affect the Working Load Limit;
- never grind, machine or cut an eyebolt or eye nut;
- when used as lifting devices, the eye bolt or eye nut should always be screwed into the object to be lifted in such a way that they fit properly against the object to be lifted;
- Working Load Limits are valid for in-line pull only and have to be reduced for non-axial loading, for further details please refer to the standard, DIN 580 for eye bolts or DIN 582 for eye nuts.

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure.
Inspection should take place at least every six months and even more frequently when the products are used in severe operating conditions.



S-8140
E-8140





Eye bolts

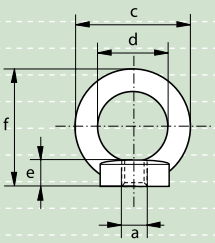
generally to DIN 580

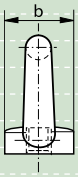
- **Material** : carbon steel, C15
- **Safety factor** : MBL equals 6 x WLL
- **Standard** : generally to DIN 580
- **Finish** : self coloured
  electro-galvanized
- **Certification** : at no extra charges this product can be supplied with a works certificate and/or EC Declaration of Conformity. Test certificates can be supplied upon request

working load limit		diameter thread	diameter base	diameter eye outside	diameter eye inside	length	thickness base	height	weight per 100 pcs
		a	b	c	d	e	f	g	
t		mm	mm	mm	mm	mm	mm	mm	kg
0.07	M	6 x 1.00	20	36	20	13	6	36	3
0.14	M	8 x 1.25	20	36	20	13	6	36	6
0.23	M	10 x 1.50	25	45	25	17	8	45	10.3
0.34	M	12 x 1.75	30	54	30	20.5	10	53	17.7
0.49	M	14 x 2.00	35	63	35	27	12	60	27.7
0.7	M	16 x 2.00	35	63	35	27	12	62	28
0.9	M	18 x 2.50	40	72	40	30	14	71	40.5
1.2	M	20 x 2.50	40	72	40	30	14	71	42.4
1.5	M	22 x 2.50	45	81	45	35	14	80	67.3
1.8	M	24 x 3.00	50	90	50	36	18	90	83.4
2.5	M	27 x 3.00	50	90	50	36	18	90	122
3.2	M	30 x 3.50	65	108	60	45	22	109	166
4.3	M	33 x 3.50	65	108	60	45	22	110	216
4.6	M	36 x 4.00	75	126	70	54	26	128	265
6.1	M	39 x 4.00	75	126	70	54	26	130	334
6.3	M	42 x 4.50	85	144	80	63	30	147	403
8	M	45 x 4.50	85	144	80	63	35	150	521
8.6	M	48 x 5.00	100	166	90	68	35	168	632
11.5	M	56 x 5.50	110	184	100	78	38	187	880
16	M	64 x 6.00	120	206	110	90	42	208	1240
21	M	72 x 6.00	150	260	140	100	50	260	2330
28	M	80 x 6.00	170	296	160	112	55	298	3420
40	M	100 x 6.00	190	330	180	130	60	330	4910



S-8142
E-8142





Eye nuts

generally to DIN 582

- **Material** : carbon steel, C15
- **Safety factor** : MBL equals 6 x WLL
- **Standard** : generally to DIN 582
- **Finish** : self coloured
  electro-galvanized
- **Certification** : at no extra charges this product can be supplied with a works certificate and/or EC Declaration of Conformity. Test certificates can be supplied upon request

working load limit	diameter thread	diameter base	diameter eye outside	diameter eye inside	thickness base	height	weight per 100 pcs
	a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	kg
0.07	M 6 x 1.00	20	36	20	8.5	36	4.2
0.14	M 8 x 1.25	20	36	20	8.5	36	5.2
0.23	M 10 x 1.50	25	45	25	10	45	9.4
0.34	M 12 x 1.75	30	54	30	11	53	16
0.49	M 14 x 2.00	35	63	35	13	60	22
0.7	M 16 x 2.00	35	63	35	13	62	24
0.9	M 18 x 2.50	40	72	40	16	71	36
1.2	M 20 x 2.50	40	72	40	16	71	35.2
1.5	M 22 x 2.50	45	81	45	18	80	58.6
1.8	M 24 x 3.00	50	90	50	20	90	70.6
2.5	M 27 x 3.00	50	90	50	20	90	102
3.2	M 30 x 3.50	65	108	60	25	109	132
4.3	M 33 x 3.50	65	108	60	25	110	170
4.6	M 36 x 4.00	75	126	70	30	128	208
6.1	M 39 x 4.00	75	126	70	30	130	260
7	M 42 x 4.50	85	144	80	35	147	305
8	M 45 x 4.50	85	144	80	35	150	407
8.6	M 48 x 5.00	100	166	90	40	168	502
8.6	M 52 x 5.00	110	184	100	45	187	830
11.5	M 56 x 5.50	110	184	100	45	187	669
16	M 64 x 6.00	120	206	110	50	208	930
21	M 72 x 6.00	150	260	140	60	260	1500


VBG CE
M10 8.8



Applications

Loadbinders are used for easy and efficient tightening of chain used for lashing purposes. The loadbinders are designed in such a way that they can effortlessly be operated using one hand.

Range

Van Beest offers three types of loadbinders: two ratchet types and a lever type, depending on the application. The loadbinders are suitable for various chain sizes, ranging from 8 up to 16 mm. The ratchet types can be supplied with two hooks or two eyes as end fittings.

Design

The Green Pin® loadbinders are designed with an ergonomic, easy-to-use handle for simple, single-hand use, and are manufactured from drop forged or cast steel. One ratchet type is equipped with standard chain eye grab hooks, the other type has an improved version of these hooks to reduce chain wear substantially.
This type of loadbinder is designed to meet requirements of standard EN 12195-3.

Each handle carries the following markings:

- chain diameter, for which the loadbinder is suitable;
- manufacturer's symbol (GP);
- not for lifting or hoisting applications;
- Lashing Capacity;
- minimum breaking load.

Finish

The Green Pin® loadbinders are painted either red or green.

Certification

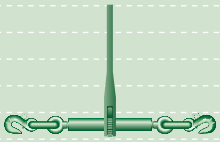
Test certificates can be supplied upon request.

Instructions for use

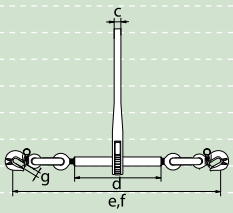
Loadbinders should be inspected before use to ensure that:

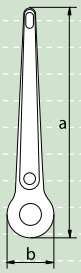
- all markings are legible;
- loadbinders are free from nicks, gouges and cracks;
- loadbinders should never be used for lifting or hoisting applications;
- a loadbinder with the correct Lashing Capacity has been selected with respect to chain size and load to be lashed. For further details we refer to EN 12195-3, standard for Lashing Chains;
- the loadbinder should never be side loaded, since loadbinders are suitable for in-line pull only;
- the loadbinder must be hooked to the chain in such a way that you can operate the loadbinder while standing on the ground;
- never use a loadbinder while standing on the load;
- always keep yourself out of the path of the moving handle;
- if the handle of the lever type loadbinder cannot reach the correct locked position, never use a cheater pipe. In that case a ratchet type loadbinder must be used;
- in the locked position of a lever type loadbinder the bottom side of the loadbinder should touch the chain link. In this position secure the handle to the chain using the loose end of the chain or a piece of rope or soft wire;
- loadbinders may not be heat treated as this may affect their Lashing Capacity;
- never modify, repair or reshape a loadbinder by machining, welding, heating or bending as this may affect the Lashing Capacity;
- if the handle of a lever type loadbinder is released by hand, make sure you use an open hand under the handle and push upward. Do not close your hand around the handle. Move the handle with caution since it may whip as it comes free. Keep your body away from the moving handle.

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure. Inspection should take place at least every six months and even more frequently when the loadbinders are used in severe operating conditions. Regularly lubricate moving parts of a loadbinder to extend product life and reduce wear.



P-7170



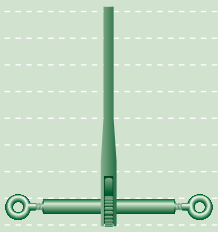


Green Pin® ratchet type loadbinders

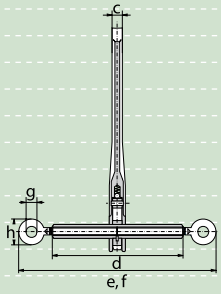
with hooks, according to EN 12195-3

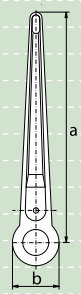
- **Material** : drop forged, Grade 8, quenched and tempered
- **Safety factor** : MBL equals 2 x Lashing Capacity
- **Standard** : EN 12195-3
- **Finish** : painted red
- **Certification** : test certificates can be supplied upon request
- **Note** : Stf = 3000 daN

chain size	length	diameter	thickness	length barrel	length open	length closed	width	take-up	lashing capacity	proof load	minimum breaking load	weight each
	a	b	c	d	e	f	g					
mm	mm	mm	mm	mm	mm	mm	mm	mm	t	t	t	kg
8	387	65	14	255	754	590	11	164	4	5	8	4.5
10	387	65	14	255	775	610	12	165	6.3	7.9	12.6	5.4
13	387	65	14	260	870	700	15	170	10	12.5	21.2	7.7
16	387	65	14	260	896	736	19	160	16	20	32.2	10.2



P-7190



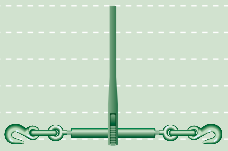


Green Pin® ratchet type loadbinders

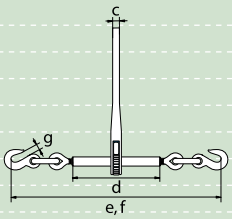
without hooks, according to EN 12195-3

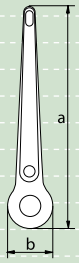
- **Material** : drop forged, Grade 8, quenched and tempered
- **Safety factor** : MBL equals 2 x Lashing Capacity
- **Standard** : EN 12195-3
- **Finish** : painted red
- **Certification** : test certificates can be supplied upon request
- **Note** : Stf = 3000 daN

chain size	length	diameter	thickness	length barrel	length open	length closed	diameter eye inside	diameter eye outside	take-up	lashing capacity	proof load	minimum breaking load	weight each
	a	b	c	d	e	f	g	h					
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	t	t	t	kg
8	387	65	14	255	538	374	18	50	164	4	5	8	3.3
10	387	65	14	255	546	381	20	55	165	6.3	7.9	12.6	3.4
13	387	65	14	260	589	419	25	66	170	10	12.5	21.2	4
16	387	65	14	260	579	419	30	71	160	16	20	32.2	4.1



P-7130R
P-7130G



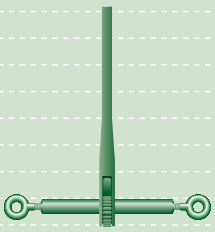


Green Pin® ratchet type loadbinders

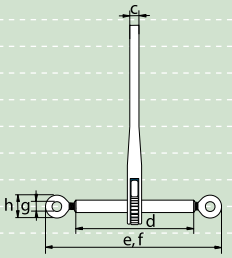
with hooks

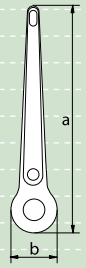
- **Material** : drop forged/cast steel, quenched and tempered
- **Safety factor** : MBL equals 3.5 x Lashing Capacity
- **Finish** : painted red or green
- **Certification** : test certificates can be supplied upon request

chain size	length handle	diameter	thickness	length barrel	length open	length closed	width	take-up	lashing capacity	proof load	minimum breaking load	weight each
	a	b	c	d	e	f	g					
mm	mm	mm	mm	mm	mm	mm	mm	mm	t	t	t	kg
6 - 8	210	46	10	160	510	420	9	90	1.18	2.36	4.13	1.7
8 - 10	385	65	15	255	739	578	12	161	2.45	4.9	8.62	4.82
10 - 13	385	65	15	255	759	587	16	172	4.175	8.35	14.97	5.12
13 - 16	385	65	15	260	838	687	18	151	5.9	11.8	20.865	7.85



P-7150R
P-7150G





Green Pin® ratchet type loadbinders

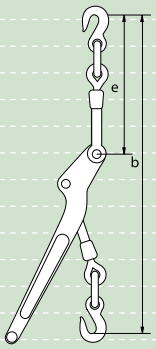
without hooks

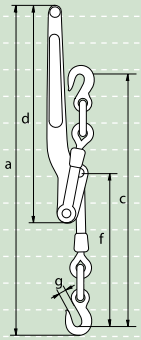
- **Material** : drop forged/cast steel, quenched and tempered
- **Safety factor** : MBL equals 3.5 x Lashing Capacity
- **Finish** : painted red or green
- **Certification** : test certificates can be supplied upon request

chain size	length handle	diameter	thickness	length barrel	length open	length closed	diameter eye inside	diameter eye outside	take-up	lashing capacity	proof load	minimum breaking load	weight each
	a	b	c	d	e	f	g	h					
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	t	t	t	kg
8 - 10	385	65	15	255	546	385	12	57	161	2.45	4.9	8.62	3.95
10 - 13	385	65	15	255	555	383	14	57	172	4.175	8.35	14.97	4.75
13 - 16	385	65	15	260	560	409	17	64	151	5.9	11.8	20.865	6.65



P-7110R
P-7110G



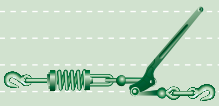


Green Pin® lever type loadbinders

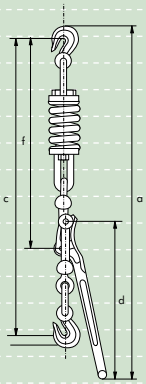
with hooks

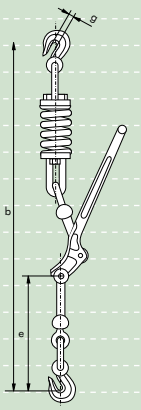
- **Material** : drop forged/cast steel, quenched and tempered
- **Safety factor** : MBL equals 3.5 x Lashing Capacity
- **Finish** : painted red or green
- **Certification** : test certificates can be supplied upon request

chain size	length	length open	length closed	length handle	length	length	width	take-up	lashing capacity	proof load	minimum breaking load	weight each
	a	b	c	d	e	f	g					
mm	mm	mm	mm	mm	mm	mm	mm	mm	t	t	t	kg
8 - 10	610	592	488	408	287	287	12	104	2.45	4.9	8.62	2.81
10 - 13	768	680	550	458	325	325	16	130	4.175	8.35	14.97	5.08
13 - 16	830	833	680	547	395	395	18	153	5.9	11.8	20.86	9.5



P-7120





Green Pin® spring type loadbinders

with hooks

- **Material** : drop forged/cast steel, quenched and tempered
- **Safety factor** : 8-10 mm: MBL equals 3.5 x Lashing Capacity
  10-13 mm: MBL equals 3 x Lashing Capacity
- **Finish** : painted green
- **Certification** : test certificates can be supplied upon request

chain size	length	length open	length closed	length handle	length	length	width	take-up	lashing capacity	proof load	minimum breaking load	weight each
	a	b	c	d	e	f	g					
mm	mm	mm	mm	mm	mm	mm	mm	mm	t	t	t	kg
8 - 10	873	836	739	392	285	450	13	97	2.45	4.9	8.575	7.2
10 - 13	940	903	791	438	330	475	15	112	4.175	8.35	12.525	9.0



Applications

Short and long link commercial grade 3 chain is for general purpose use. These types of chain may not be used for lifting purposes.

Range

Van Beest supplies a wide range of commercial chain, generally to DIN 763 and DIN 766 ranging from 3 up to 20 mm.

Larger dimensions can be supplied on request.

Van Beest can also offer lifting chain in grade 8, grade 10 and stainless steel. Please see our Excel® catalogue for more information.



Design

Chain supplied by Van Beest generally follows DIN 763 for the long link chain or DIN 766 for short link chain. Steel quality used for chain production is mild steel grade 3.
These types of chain are not suitable for lifting purposes.

Finish

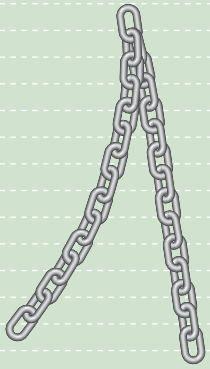
All chain is available in self coloured, electro-galvanized and hot dipped galvanized condition.

Instructions for use

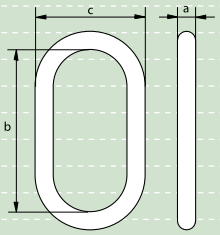
Chain should be inspected before use to ensure that:

- chain is free from nicks, gouges and cracks;
- chain may not be heat treated as this may affect the performance;
- DIN 766 and DIN 763 chain may not be used for lifting purposes;
- chain is used for in-line pull only;
- never modify, repair or reshape chain by machining, welding, heating or bending as this may affect the Lashing Capacity;

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure. Inspection should take place at least every six months and even more frequently when the chain is used in severe operating conditions.



S-7660
E-7661
G-7662



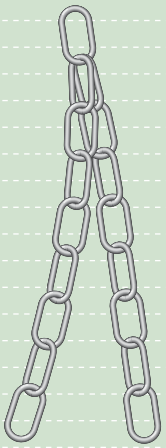
Short link chain

generally to DIN 766, commercial quality

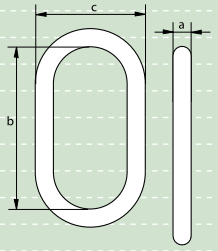
Not to be used for lifting applications!

- **Material** : mild steel, Grade 3
- **Standard** : generally to DIN 766
- **Finish** : self coloured, electro-galvanized or hot dipped galvanized

diameter	length inside	width outside	weight per m
a	b	c	
mm	mm	mm	kg
3	16	11	0.17
4	16	14	0.32
5	18.5	17	0.5
6	18.5	20	0.75
7	22	23	1
8	24	26	1.35
9	27	30	1.8
10	28	34	2.25
11	31	36	2.7
13	36	44	3.8
16	45	54	5.8
18	50	60	7.3
20	56	67	9



S-7630
E-7631
G-7632



Long link chain

generally to DIN 763, commercial quality

Not to be used for lifting applications!

- **Material** : mild steel, Grade 3
- **Standard** : generally to DIN 763
- **Finish** : self coloured, electro-galvanized or hot dipped galvanized

diameter	length inside	width outside	weight per m
a	b	c	
mm	mm	mm	kg
3	26	13	0.14
4	32	16	0.27
5	36	20	0.43
6	42	24	0.63
7	48	28	0.86
8	54	32	1.1
10	66	40	1.75
13	82	50	2.95
16	100	60	4.45
20	125	75	7



Applications

Plate lifting clamps are used for lifting and transportation of all kinds of steel plates and beams.

Range

Van Beest offers a wide range of lifting clamps for horizontal and/or vertical lifting of steel plates and beams ranging from Working Load Limit 0.75 t up to 20 t.
The steel plates may have a thickness up to 150 mm.
Upon request other types of clamps can be manufactured.

Design

Four different designs have been developed:

- type E for lifting and vertical transportation of steel plates;
- type EH for horizontal transportation of steel plates;
- type EU a universal type for transportation in all directions;
- type ESV for transportation of steel beams.

Type E, EH and EU are also available as ES, EHS and EUS versions, which means that these versions have an increased opening.

All types of lifting clamps carry the following markings:

- Working Load Limit;
- manufacturer's identification symbol;
- traceability code;
- jaw opening;
- CE;
- serialnumber.

Finish

The plate lifting clamps are made of carbon and alloy steel and are painted.

Certification

All plate lifting clamps are supplied with a serial number and a manufacturer's certificate. Test certificates can be supplied upon request.

Instructions for use

Plate lifting clamps should be inspected before use to ensure that:

- all markings are legible;
- plate lifting clamps are free from nicks, gouges and cracks;
- a clamp with the correct Working Load Limit has been selected with respect to the load to be lifted;
- always make sure that the clamp is supporting the load correctly;
- the WLL should be applied in a straight pull and overloads are not permitted;
- clamps may not be heat treated as this may affect their Working Load Limit;
- never modify, repair or reshape a clamp by machining, welding, heating or bending as this may affect the Lashing Capacity;

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure. Inspection should take place at least every six months and even more frequently when the clamps are used in severe operating conditions.

E - ES

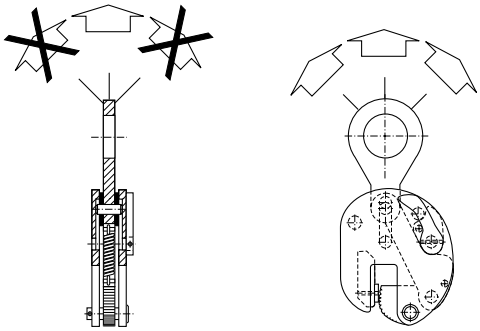


Plate lifting clamps type E and ES.
Do not side load the lifting eye.

EU - EUS

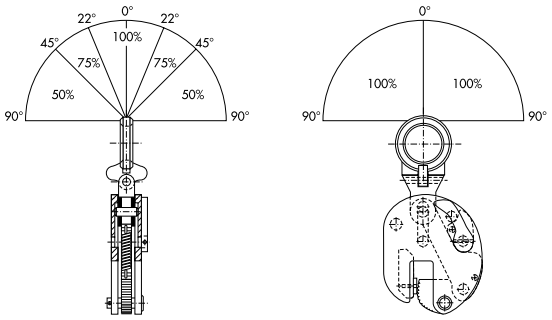


Plate lifting clamps type EU and EUS.
Load reduction should be applied as per load direction angle and corresponding remaining percentage of the Working Load Limit.

EH - EHS
100% WLL

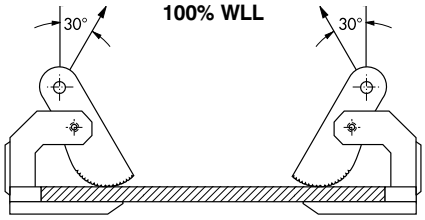
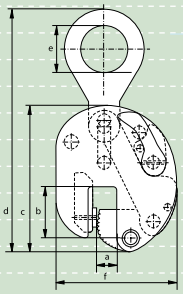
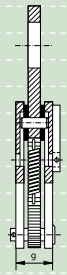


Plate lifting clamps type EH and EHS.
Full load may be applied up to a load direction angle of maximum 30°. Do not use larger angles.



P-6615





Green Pin® plate lifting clamp, type E

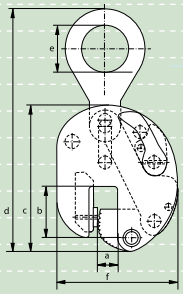
for lifting and vertical transportation

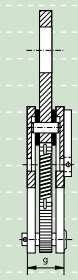
- **Material** : carbon and alloy steel
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted
- **Certification** : manufacturer's certificate including serial number
  test certificates can be supplied upon request

type	working load limit	width opening	length opening	length	length	diameter inside eye	width	thickness	weight each
	t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
0.75 E	0.75	0 - 14	45	115	210	30	104	36	1.5
1 E	1	0 - 22	72	200	337	57	170	44	6
1.5 E	1.5	0 - 22	72	200	337	57	170	52	7.1
2 E	2	0 - 28	87	237	430	70	218	65	13.2
3 E	3	0 - 28	87	237	430	70	218	77	14.2
4 E	4	0 - 32	115	293	500	86	226	69	21
6 E	6	0 - 32	115	293	500	86	226	85	24.2
7.5 E	7.5	0 - 42	120	350	560	80	305	90	35
9 E	9	0 - 52	125	380	620	88	274	90	48
12 E	12	0 - 75	135	480	760	90	410	130	90
15 E	15	0 - 75	135	480	760	90	410	130	90
20 E	20	0 - 75	160	550	890	100	490	140	132



P-6616





Green Pin® plate lifting clamp, with enlarged opening, type ES

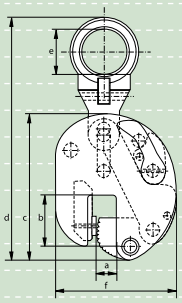
for lifting and vertical transportation

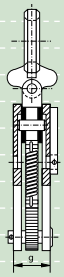
- **Material** : carbon and alloy steel
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted
- **Certification** : manufacturer's certificate including serial number
  test certificates can be supplied upon request

type	working load limit	width opening	length opening	length	length	diameter inside eye	width	thickness	weight each
	t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
0.75 ES	0.75	12 - 24	45	115	210	30	114	36	1.5
1 ES	1	18 - 38	72	200	337	57	186	44	6
1.5 ES	1.5	18 - 38	72	200	337	57	186	52	7.1
2 ES	2	23 - 50	87	237	430	70	240	65	13.2
3 ES	3	23 - 50	87	237	430	70	240	77	14.2
4 ES	4	26 - 58	115	293	500	86	252	69	21
6 ES	6	26 - 58	115	293	500	86	252	85	24.2
7.5 ES	7.5	30 - 72	120	350	560	80	335	90	35
9 ES	9	48 - 100	125	380	620	88	274	90	48
12 ES	12	75 - 150	135	480	760	90	485	130	90
15 ES	15	75 - 150	135	480	760	90	485	130	94
20 ES	20	75 - 150	160	550	890	100	565	140	132



P-6625





Green Pin® plate lifting clamp, type EU

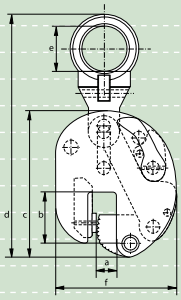
for lifting and transportation in all directions

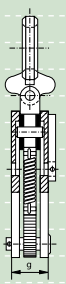
- **Material** : carbon and alloy steel
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted
- **Certification** : manufacturer's certificate including serial number
  test certificates can be supplied upon request

type	working load limit	width opening	length opening	length	length	diameter inside eye	width	thickness	weight each
	t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
0.75 EU	0.75	0 - 14	45	115	220	31	104	36	1.6
1.5 EU	1.5	0 - 22	72	200	327	68	170	52	7.9
3 EU	3	0 - 28	87	237	450	80	218	77	15.2
6 EU	6	0 - 32	115	293	480	80	226	85	26
7.5 EU	7.5	0 - 42	120	350	580	80	305	90	35
9 EU	9	0 - 52	125	380	700	90	274	90	52
12 EU	12	0 - 75	135	480	780	115	410	130	94



P-6626



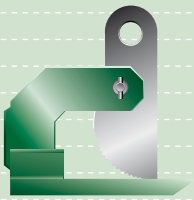


Green Pin® plate lifting clamp, with enlarged opening, type EUS

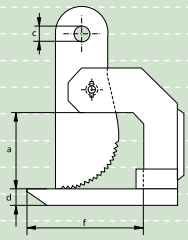
for lifting and transportation in all directions

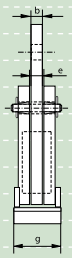
- **Material** : carbon and alloy steel
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted
- **Certification** : manufacturer's certificate including serial number
  test certificates can be supplied upon request

type	working load limit	width opening	length opening	length	length	diameter inside eye	width	thickness	weight each
	t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
0.75 EUS	0.75	12 - 24	45	115	220	31	114	36	1.6
1.5 EUS	1.50	18 - 38	72	200	327	68	186	52	7.9
3 EUS	3	23 - 50	87	237	430	80	240	78	15
6 EUS	6	26 - 58	115	293	480	80	252	95	26
7.5 EUS	7.5	30 - 72	120	350	580	80	335	100	35
9 EUS	9	48 - 100	125	380	700	90	384	100	52
12 EUS	12	75 - 150	135	480	780	115	485	140	94



P-6635



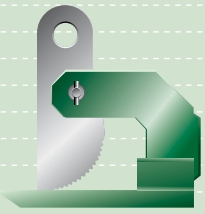


Green Pin® plate lifting clamp, type EH

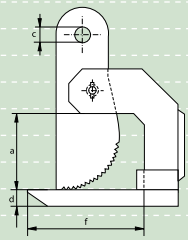
for lifting and horizontal transportation

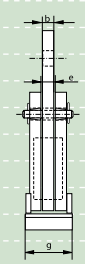
- **Material** : carbon and alloy steel
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted
- **Certification** : manufacturer's certificate including serial number
  test certificates can be supplied upon request

type	working load limit per set	width opening	thickness	diameter eye	thickness	width	length	width	weight per set
		a	b	c	d	e	f	g	
	t	mm	mm	mm	mm	mm	mm	mm	kg
1.5 EH	1.5	0 - 22	18	16.2	12	16	70	60	4
3 EH	3	0 - 60	16	23	25	18	155	80	11
4 EH	4	0 - 60	20	42	25	22	155	80	16.4
6 EH	6	0 - 60	20	42	25	22	155	100	17.8
8 EH	8	0 - 60	25	42	25	27	155	120	20
10 EH	10	0 - 60	25	42	30	27	155	120	28
14 EH	14	0 - 60	30	48	35	32	155	130	36
18 EH	18	0 - 60	30	48	40	32	155	150	48.2



P-6636



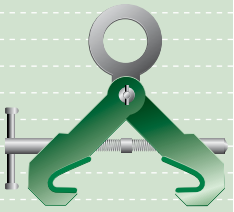


Green Pin® plate lifting clamp, with enlarged opening, type EHS

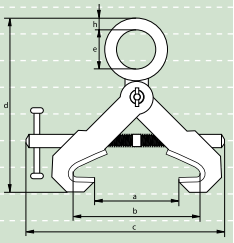
for lifting and horizontal transportation

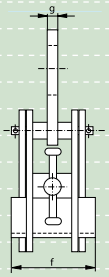
- **Material** : carbon and alloy steel
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted
- **Certification** : manufacturer's certificate including serial number
  test certificates can be supplied upon request

type	working load limit per set	width opening	thickness	diameter eye	thickness	width	length	width	weight per set
		a	b	c	d	e	f	g	
	t	mm	mm	mm	mm	mm	mm	mm	kg
3 EHS	3	0 - 100	16	23	25	18	155	80	12.4
4 EHS	4	0 - 100	20	42	25	22	155	80	17.6
6 EHS	6	0 - 100	20	42	25	22	155	100	20
8 EHS	8	0 - 100	25	42	25	27	155	120	26
10 EHS	10	0 - 100	25	42	30	27	155	120	32
14 EHS	14	0 - 100	30	48	40	32	155	130	40
18 EHS	18	0 - 100	30	48	40	32	155	150	52



P-6685





Green Pin® lifting clamp, type ESV

for lifting and transportation of steel beams

- **Material** : carbon and alloy steel
- **Safety factor** : MBL equals 5 x WLL
- **Finish** : painted
- **Certification** : manufacturer's certificate including serial number
  test certificates can be supplied upon request

type	working load limit	width jaw opening	width jaw opening	length	height	diameter eye inside	width	thickness	width	weight each
		a	b	c	d	e	f	g	h	
	t	mm	mm	mm	mm	mm	mm	mm	mm	kg
2 ESV	2	0 - 160	60 - 200	270	210 - 250	65	120	16	22	5.1
3 ESV	3	0 - 160	60 - 200	270	250 - 290	65	120	16	22	5.3
4 ESV	4	0 - 250	80 - 310	400	285 - 370	70	125	20	28	8.6
5 ESV	5	0 - 260	90 - 320	400	355 - 445	80	125	20	36	11.1
6 ESV	6	0 - 340	85 - 420	480	360 - 510	80	125	20	36	14

Green Pin® plate lifting clamp

spare parts



P-6651 lifting eye



P-6652 lock lever assembly



S-6653 lock spring



P-6654 cam assembly



S-6655 cam pin



S-6656 pivot



S-6657 eye pin



P-6658 universal eye component



Applications

Blocks are used in lifting systems, to change load direction or to drag a load. Together with the wire rope, blocks are the connection between the load to be lifted and the lifting device.

Range

Van Beest offers a wide range of blocks, from single sheave snatch blocks to multiple-sheave malleable iron blocks for use with wire or fibre rope. Blocks are suited for head loads ranging from 0.4 up to 15 tons.

Other types of blocks can be offered upon special request.

Design

There are different types of blocks with their specific designs to suit a particular purpose. Some types are equipped with bronze bushes while other types have conical roller bearings depending on frequency of use and line speed. Snatch blocks allow the wire rope to be attached easily by opening up the block instead of threading the wire rope through the block.

All types carry the following markings:

- Working Load Limit;
- manufacturer's identification symbol (GP);
- traceability code;
- CE.

Finish

Blocks can be either painted or hot dipped galvanized.

Certification

All blocks can be supplied with test certificates upon request.

Instructions for use

The basic objective of any lifting operation is to move the load to the desired location and land it safely, efficiently and without damage to the load, the equipment used and/or the surrounding area.

The following point must be observed:

- Do not attempt any lifting operation unless you have been trained in the use of the equipment concerned;

Blocks should be inspected before use to ensure that:

- all markings are legible;
- blocks are free from nicks, gouges and cracks;
- the sheaves are functional and rotate easily;
- a block with the correct Working Load Limit has been selected with respect to the load being moved and the wire rope being used;
- the block is never side loaded but strictly used for straight or in-line pull;
- the Working Load Limit applies to static loads only, shock loading must be taken into account when selecting a block;
- always make sure that the hook, eye or shackle of the block is supporting the load correctly;
- blocks may not be heat treated as this may affect their Working Load Limit;
- never modify, repair or reshape a block by machining, welding, heating or bending as this may affect the Working Load Limit.

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure. Inspection should take place at least every six months and even more frequently when the blocks are used in severe operating conditions.

Loads on blocks

All working load limits of our blocks are the maximum loads on the blocks and their connecting fittings.

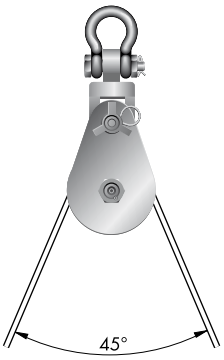
The load on a sheave or block varies with the angle between the lead and load line. See figure 1. When the two lines are parallel, 1 t on the lead line results in a load of 2 t on the fitting. As the working angle between the lines increases, the load on the fitting is reduced by the angle factor as per table 1. All loads shown ignore frictional losses in the lifting system.

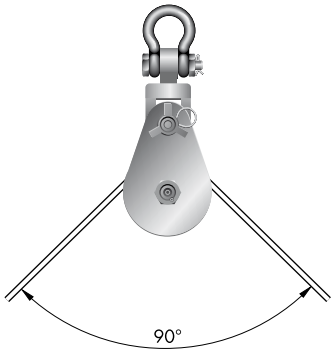
working angle	angle factor
0°	2
10°	1.99
20°	1.97
30°	1.93
40°	1.87
45°	1.84
50°	1.81
60°	1.73
70°	1.64
80°	1.53
90°	1.41
100°	1.29
110°	1.15
120°	1
130°	0.84
135°	0.76
140°	0.68
150°	0.52
160°	0.35
170°	0.17
180°	0

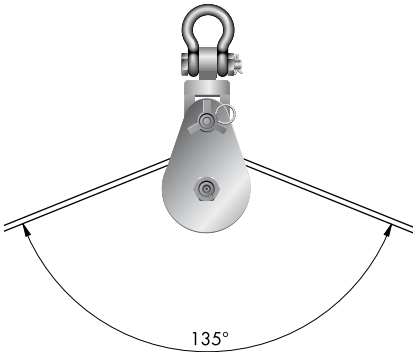
Table 1



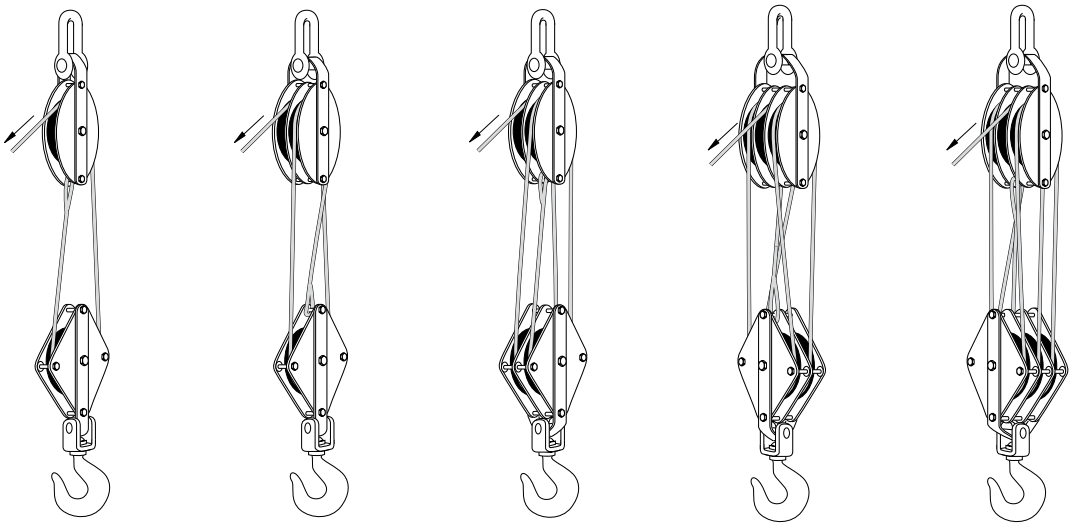
Figure 1







Lifting with multiple line parts



2 parts of line *3 parts of line* *4 parts of line* *5 parts of line* *6 parts of line*

Method of reeving tackle blocks will vary with the application.
With heavy lifting systems where blocks with multiple sheaves are needed the number of blocks has to be determined. This is done for a given load that needs to be lifted, by calculating the number of parts of line as follows:

L = load to be lifted in t
P = single line pull in t
R = ratio

$$R = \frac{L}{P}$$

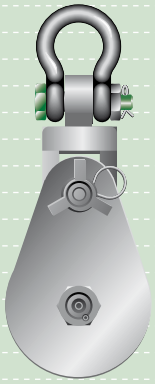
number of parts of line	bronze bushed sheaves	roller bearing sheaves
1	0.96	0.98
2	1.87	1.98
3	2.75	2.88
4	3.59	3.81
5	4.39	4.71
6	5.16	5.60
7	5.90	6.47
8	6.60	7.32
9	7.27	8.16
10	7.91	8.98
11	8.52	9.79
12	9.11	10.6

Table 2

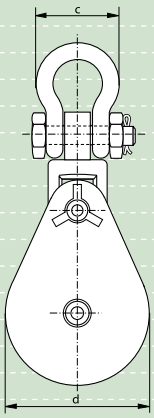
Example:
L = 16 t
P = 3 t
How many parts of line are needed?

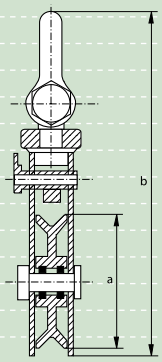
$$R = \frac{L}{P} = \frac{16}{3} = 5.3$$

Refer to ratio 5.3 in table 2 or the next larger number nearest to it, and then check the column under the header “number of parts of line”
For blocks with roller bearing sheaves this results in 6 parts of line that should be used to lift a 16 t load with a line pull of 3 t.



P-6951



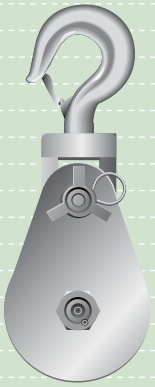


Green Pin® Snatch blocks

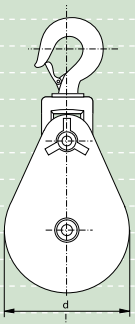
type 601S, with Green Pin® Shackle

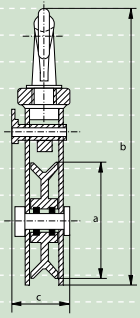
- **Material** : carbon steel, fitted with conical roller bearings, except for blocks with WLL 2 t and 4 t, these are equipped with bronze bushes
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : painted
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter wire rope	diameter outside sheave	length	width	width outside	weight each
		a	b	c	d	
t	mm	mm	mm	mm	mm	kg
2	7 - 9	75	293	75	82	3.8
4	10 - 12	115	363	102	120	6.1
4	12 - 14	152	417	102	160	9.5
8	14 - 16	152	477	118	160	12.6
12	14 - 16	152	555	147	160	25
8	20 - 22	152	477	118	160	14.6
12	20 - 22	152	555	147	160	25
15	24 - 26	152	585	175	160	30
4	10 - 12	203	478	102	210	12
12	14 - 16	203	580	147	210	27.5
8	20 - 22	203	526	118	210	16
12	20 - 22	203	580	147	210	32
15	24 - 26	203	646	175	210	35
8	14 - 16	254	582	118	260	19.5
8	20 - 22	254	582	118	260	18
12	20 - 22	254	680	147	260	39
15	24 - 26	254	705	175	260	43
8	20 - 22	305	612	118	310	27
12	20 - 22	305	745	147	310	53
15	24 - 26	305	771	175	310	55
8	20 - 22	357	662	118	360	31
12	20 - 22	357	770	147	360	60
15	24 - 26	357	798	175	360	63
8	20 - 22	406	712	118	410	35
12	20 - 22	406	820	147	410	67
15	24 - 26	406	848	175	410	70
8	20 - 22	457	762	118	460	42
12	20 - 22	457	878	147	460	75
15	24 - 26	457	898	175	460	78



P-6952



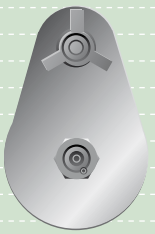


Snatch blocks

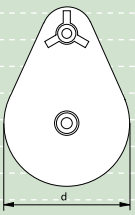
type 601H, with hook

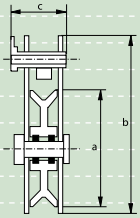
- **Material** : carbon steel, fitted with conical roller bearings, except for blocks with WLL 2 t and 4 t, these are equipped with bronze bushes
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : painted
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter wire rope	diameter outside sheave	length	thickness	width outside	weight each
		a	b	c	d	
t	mm	mm	mm	mm	mm	kg
2	7 - 9	75	292	57	82	4
4	10 - 12	115	343	83	120	6.1
4	12 - 14	152	384	83	160	6
8	20 - 22	152	445	108	160	11.8
12	20 - 22	152	572	127	160	23
15	24 - 26	152	587	127	160	23
4	10 - 12	203	435	83	210	8
8	20 - 22	203	495	108	210	16.9
12	20 - 22	203	622	127	210	25
15	24 - 26	203	638	127	210	26
8	20 - 22	254	546	108	260	19
12	20 - 22	254	673	127	260	28
15	24 - 26	254	689	127	260	28
8	20 - 22	305	597	108	310	23
12	20 - 22	305	724	127	310	31
15	24 - 26	305	740	127	310	31
8	20 - 22	357	648	108	360	31
12	20 - 22	357	775	127	360	33
15	24 - 26	357	791	127	360	33
8	20 - 22	406	699	108	410	36
12	20 - 22	406	825	127	410	36
15	24 - 26	406	841	127	410	36
8	20 - 22	457	749	108	460	40
10	20 - 22	457	876	127	460	42
15	24 - 26	457	892	127	460	43



P-6953





Snatch blocks

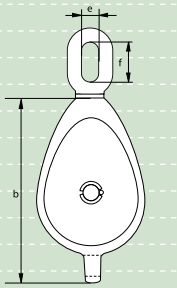
type 601T

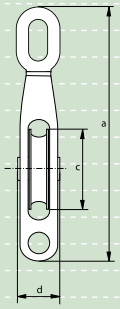
- **Material** : carbon steel, fitted with conical roller bearings, except for blocks with WLL 4 t, these are equipped with bronze bushes
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : painted
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter wire rope	diameter outside sheave	length	thickness	width outside	weight each
		a	b	c	d	
t	mm	mm	mm	mm	mm	kg
4	10 - 12	115	213	83	120	4
8	20 - 22	152	305	108	160	9
8	20 - 22	203	357	108	210	12
8	20 - 22	254	406	108	260	16



G-6917





Galvanized malleable iron blocks

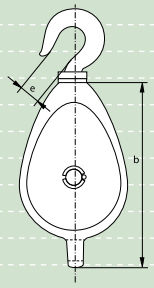
with eye, one sheave, for use with wire or fibre rope

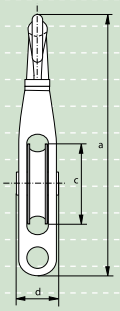
- **Material** : galvanized malleable iron
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : hot dipped galvanized
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter rope	length	length	diameter	thickness	width inside	length inside	weight each
		a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	mm	kg
0.4	12	164	118	45	39	14	25	0.7
0.8	16	232	158	62	45	18	37	1.4
1	18	270	178	82	49	24	52	1.8
2	24	340	233	98	60	30	59	3.7
2.2	28	350	246	111	64	30	59	4.9
2.6	30	390	280	136	68	30	59	7.2
3	32	420	314	159	75	44	70	10.8
3.6	34	460	350	174	75	44	70	12.6



G-6918





Galvanized malleable iron blocks

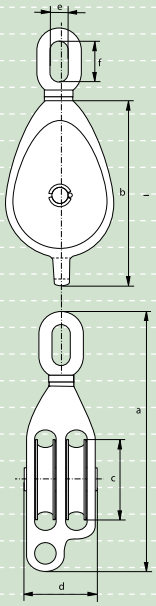
with hook, one sheave, for use with wire or fibre rope

- **Material** : galvanized malleable iron
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : hot dipped galvanized
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter rope	length	length	diameter	thickness	width inside	weight each
		a	b	c	d	e	
t	mm	mm	mm	mm	mm	mm	kg
0.4	12	203	118	45	39	24	0.9
0.8	16	262	158	62	45	28	1.5
1	18	278	173	82	49	28	2
2	24	346	233	98	60	30	3.8
2.2	28	388	246	111	64	30	5.1
2.4	30	415	280	136	68	30	7.7
3	32	450	314	159	75	48	11.4
3.6	34	492	350	174	75	48	13.5



G-6922



Galvanized malleable iron blocks

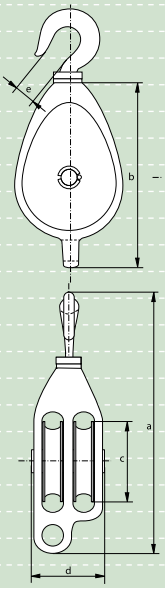
with eye, two sheaves, for use with wire or fibre rope

- **Material** : galvanized malleable iron
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : hot dipped galvanized
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter rope	length	length	diameter	thickness	width inside	length inside	weight each
		a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	mm	kg
0.4	12	164	118	45	62	14	25	1.2
0.9	16	232	158	62	70	18	37	2.1
1.1	18	270	175	82	74	24	52	3.1
2	24	340	233	98	102	30	59	6.0
2.3	28	350	246	111	112	30	59	7.4
2.6	30	390	280	136	119	30	59	9.0
3	32	420	314	159	130	44	70	16.2
3.6	34	460	350	174	130	44	70	18.3



G-6923

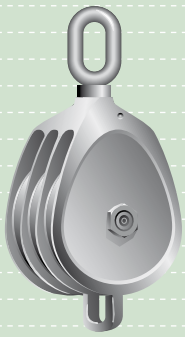


Galvanized malleable iron blocks

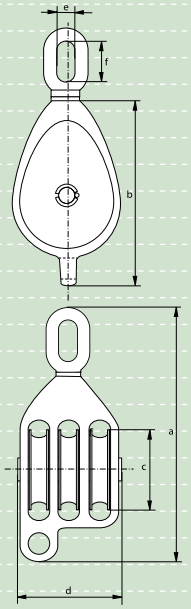
with hook, two sheaves, for use with wire or fibre rope

- **Material** : galvanized malleable iron
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : hot dipped galvanized
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter rope	length	length	diameter	thickness	width inside	weight each
		a	b	c	d	e	
t	mm	mm	mm	mm	mm	mm	kg
0.4	12	203	118	45	62	24	1.3
0.9	16	262	158	62	70	28	2.3
1.1	18	278	175	82	74	28	3.3
2	24	346	233	98	102	30	6.2
2.3	28	388	246	111	112	30	7.6
2.6	30	415	280	136	119	30	11.3
3	32	450	314	159	130	48	16.8
3.6	34	492	350	174	130	48	19.3



G-6927



Galvanized malleable iron blocks

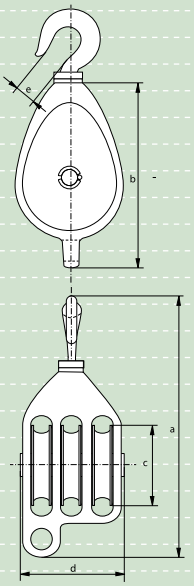
with eye, three sheaves, for use with wire or fibre rope

- **Material** : galvanized malleable iron
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : hot dipped galvanized
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter rope	length	length	diameter	thickness	width inside	length inside	weight each
		a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	mm	kg
0.6	12	170	120	45	83	14	25	1.5
1	16	229	154	62	90	18	37	2.6
1.5	18	287	190	82	103	24	52	4.1
3	24	342	235	98	133	30	59	7.8
3.9	28	392	284	136	155	30	59	14.5
5.4	30	485	350	174	166	44	70	25



G-6928

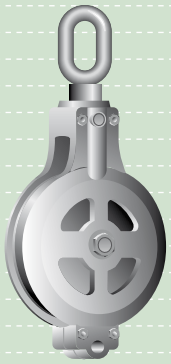


Galvanized malleable iron blocks

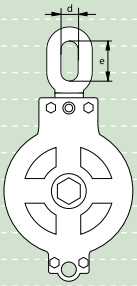
with hook, three sheaves, for use with wire or fibre rope

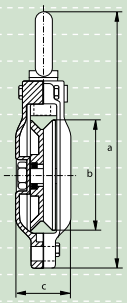
- **Material** : galvanized malleable iron
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : hot dipped galvanized
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter rope	length	length	diameter	thickness	width inside	weight each
		a	b	c	d	e	
t	mm	mm	mm	mm	mm	mm	kg
0.6	12	205	120	45	83	24	1.6
1	16	259	154	62	90	28	2.7
1.5	18	294	190	82	103	28	4.3
3	24	348	235	98	133	30	8.1
3.9	28	397	284	136	155	30	14.7
5.4	30	510	350	174	166	48	26.2



P-6916





American pattern cargo blocks

with eye, one sheave

- **Material** : carbon steel
  sheave with taper roller bearing
- **Safety factor** : MBL equals 4 x WLL
- **Finish** : painted
- **Certification** : test certificates can be supplied upon request
- **Note** : Working Load Limit is on the headfitting

working load limit	diameter wire rope	length	diameter	thickness	width inside	length inside	weight each
		a	b	c	d	e	
t	mm	mm	mm	mm	mm	mm	kg
4	10 - 13	437	156	82	35	75	11
6	20 - 22	512	200	104	35	75	20
6	20 - 22	610	260	130	40	85	27
10	20 - 22	750	305	165	54	125	40
10	20 - 24	840	355	165	54	125	55
20	32 - 35	1040	410	190	73	170	100
32	26 - 28	1018	430	192	73	170	125
40	26 - 28	1095	460	210	73	170	150



Applications

General hardware items, such as carabine hooks, quick links and s-hooks, are suitable for many different applications in various market segments like agriculture, industry, transportation, etc.

Range

Van Beest offers a wide range of general hardware products such as:
- Two types of quick links ranging from 3,5 up to 16 mm;
- Carabine hooks in four different types ranging from 4 up to 14 mm;
- Split pins from 2.5 up to 20 mm;
- Spring pins from 2 up to 8 mm;
- Linch pins from 4.5 up to 11 mm;
- Green Pin® RFID tag;
- Chain repair links from 3 up to 12 mm;
- S-hooks from 3 up to 8 mm.

Design

General hardware items are typically designed for multiple purpose usage.

Finish

General hardware items are electro-galvanized.

Certification

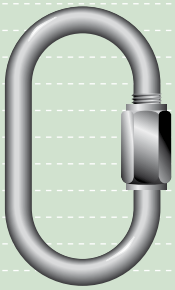
All general hardware can be supplied with test certificates upon request.

Instructions for use

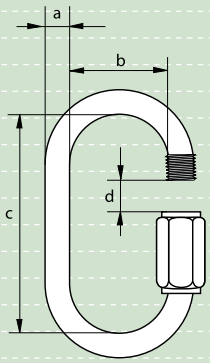
Items should be inspected before use to ensure that:

- items are free from nicks, gouges and cracks;
- the item is not used for lifting, general hardware items are not suitable for lifting applications;
- never modify, repair or reshape an item by machining, welding, heating or bending as this may affect its performance.

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure. Inspection should take place at least every six months and even more frequently when the products are used in severe operating conditions.



E-7300

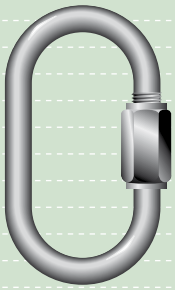


Quick links

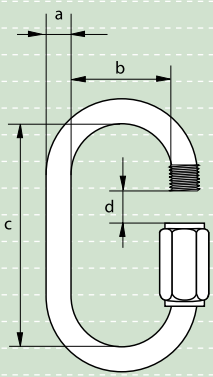
standard type

- **Material** : mild steel
- **Finish** : electro-galvanized

diameter	width inside	length inside	opening	minimum breaking load	weight per 100 pcs
a	b	c	d		
mm	mm	mm	mm	kg	kg
3.5	10	29	5	240	0.9
4	11	32	5	300	1.3
5	13	39	6	540	2
6	14	46	7	750	3.3
7	16	51	8	1125	5.3
8	17	59	10	1500	7.5
9	17	64	11	2000	10.3
10	20	70	12	2400	13
12	23	83	14	3600	25
14	26	97	17	5000	35
16	29	112	20	6000	50



E-7310

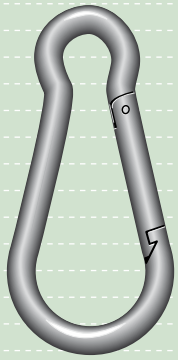


Quick links

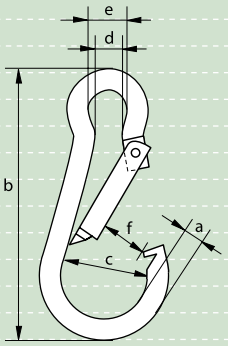
with enlarged opening

- **Material** : mild steel
- **Finish** : electro-galvanized

diameter	width inside	length inside	opening	minimum breaking load	weight per 100 pcs
a	b	c	d		
mm	mm	mm	mm	kg	kg
4	12	45	11	800	1.4
5	14	52	13	1250	2.5
6	16	58	14	1750	4.2
7	17	65	16	2500	6.7
8	19	73	17	3250	9.4
9	20	79	19	4000	13.1
10	22	88	20	5000	17.5
12	25	102	23	6250	28.2
14	28	114	26	10000	45.6
16	31	129	29	12500	60.7



E-7200

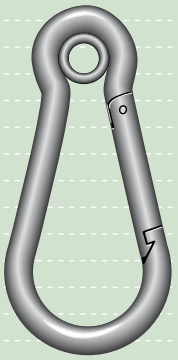


Carabine hooks

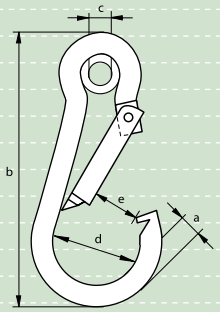
standard type

- **Material** : mild steel
- **Finish** : electro-galvanized

diameter	length	width	width inside	width inside	width opening	minimum breaking load	weight per 100 pcs
a	b	c	d	e	f		
mm	mm	mm	mm	mm	mm	kg	kg
4	40	14	5	7	6	-	0.6
5	50	16	7	8	6	100	0.8
6	60	18	7	9	7	120	1.6
7	70	22	9	10	8	180	2.6
8	80	24	11	12	9	300	4.4
9	90	26	11	12	10	330	6.4
10	100	30	12	15	11	460	9.3
11	120	36	14	18	15	600	12.5
12	140	40	16	20	19	680	19.5
13	160	44	20	22	24	800	25
14	180	48	20	22	28	860	35
15	200	60	20	22	35	1370	57.2



E-7210

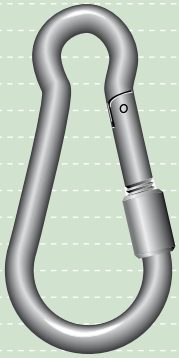


Carabine hooks

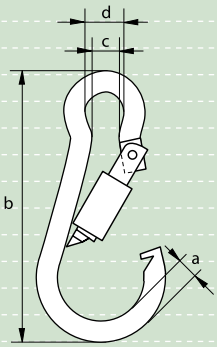
with pressed thimble

- **Material** : mild steel
- **Finish** : electro-galvanized

diameter	length	diameter inside thimble	width	width opening	minimum breaking load	weight per 100 pcs
a	b	c	d	e		
mm	mm	mm	mm	mm	kg	kg
4	40	4	14	6	-	0.8
5	50	5	16	6	100	1.6
6	60	6	18	7	120	2.6
7	70	7	22	8	180	4.4
8	80	10	24	9	300	6.4
9	90	12	26	10	330	9.3
10	100	13	30	11	460	12.5
11	120	13	36	15	600	19.5
12	140	15	40	19	680	25
13	160	17	44	24	800	35
14	180	17	48	28	860	50



E-7220

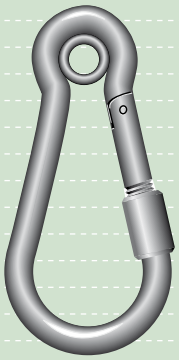


Carabine hooks

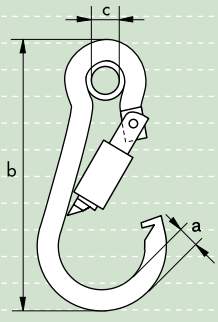
with screw nut

- **Material** : mild steel
- **Finish** : electro-galvanized

diameter	length	width inside	width inside	minimum breaking load	weight per 100 pcs
a	b	c	d		
mm	mm	mm	mm	kg	kg
4	40	4	7	-	1.7
5	50	5	7	100	1.9
6	60	6	8	120	2.9
7	70	7	10	180	4.6
8	80	10	12	300	6.9
9	90	12	12	330	10.3
10	100	13	15	460	13.4
11	120	13	16	600	19
12	140	15	19	680	26.5
13	160	17	28	800	37
14	180	17	28	860	52



E-7230

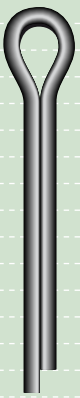


Carabine hooks

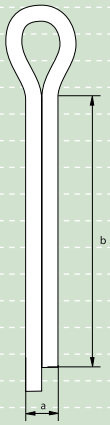
with pressed thimble and screw nut

- **Material** : mild steel
- **Finish** : electro-galvanized

diameter	length	diameter inside thimble	minimum breaking load	weight per 100 pcs
a	b	c		
mm	mm	mm	kg	kg
4	40	4	-	0.8
5	50	5	100	1.6
6	60	6	120	2.6
7	70	7	180	4.4
8	80	9	300	6.4
9	90	10	330	9.3
10	100	11	460	12.5
11	120	12	600	19.5
12	140	13	680	25
13	160	15	800	35
14	180	17	860	50



E-7950



Split pins

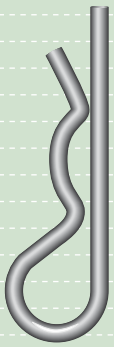
standard type

- **Material** : mild steel
- **Finish** : electro-galvanized

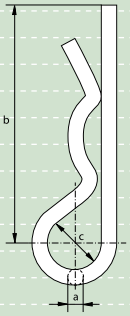
diameter	length	weight per 100 pcs
a mm	b mm	kg
2.5	20	0.08
4	32	0.3
5	36	0.6
6	45	1.2
8	63	2.8
8	80	4.4
10	71	5
10	90	6
10	100	6.6
10	120	4.4
12	140	7
12	160	7
12	180	7
13	110	12.1
16	160	16
16	200	20
20	230	30
20	265	17.6

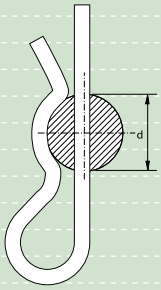


Split pin	for shackle								
	G-4163	G-4153	P-6036	G-6038	P-6033	G-5263	G-5163	P-6031	G-4263
a x b	WLL	WLL	WLL	WLL	WLL	WLL	WLL	WLL	WLL
mm	t	t	t	t	t	t	t	t	t
2.5 x 20	0.5 0.75 1 1.5								
4 x 32	2 3.25	2 3.25				3.3 5	2 3.25		
5 x 36	4.75 6.5	4.75 6.5				7 9.5	4.75 6.5		4.75
6 x 45	8.5 9.5 12	8.5 9.5 12			18	12.5 15 18	8.5 9.5 12		6.5 8.5 9.5
8 x 63	13.5 17	13.5 17				21 30	13.5 17		12 16
8 x 80					30 40				
10 x 71	25 35	25 35				40 55	25 35		25 30
10 x 90	42.5 55	42.5 55				85	42.5 55		55
10 x 100	85	85			55 75	120	85		75
10 x 120					125				
12 x 140					150 200				
12 x 160					250				
12 x 180					300				
13 x 110			120 150	120		150 175		120 150	
16 x 160			200 250 300					200 250 300	
16 x 200			400 500					400 500	
20 x 230			600 700 800					600 700 800	
20 x 265			900 1000					900 1000	



E-7930





Spring pins

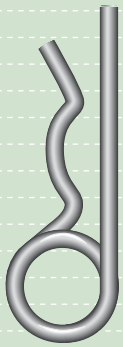
single type

- **Material** : mild steel
- **Finish** : electro-galvanized

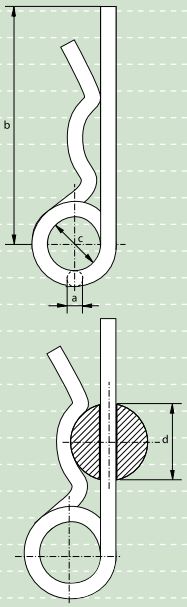
diameter	length	diameter	diameter	weight per 100 pcs
a	b	c	d	
mm	mm	mm	mm	kg
2	50	10	9 - 14	0.3
3	60	18	10 - 16	0.9
4	60	20	16 - 20	1.6
5	85	24	20 - 28	3.3
6	105	30	28 - 40	6.2
7	105	30	28 - 45	8.3
8	110	28	30 - 45	10.5

Spring pin	for shackle					
	G-4163	G-4153	P-6033	G-5263	G-5163	G-4263
a x b	WLL	WLL	WLL	WLL	WLL	WLL
mm	t	t	t	t	t	t
2 x 50	2	2		3.3	2	
3 x 60	3.25	3.25		5	3.25	
4 x 60	4.75 6.5	4.75 6.5		7 9.5	4.75 6.5	4.75
5 x 85	8.5 9.5 12	8.5 9.5 12	18	12.5 15 18	8.5 9.5 12	6.5 8.5 9.5
6 x 105	13.5 17	13.5 17		21 30	13.5 17	12 16
7 x 105	25	25	30 40	40	25	25





E-7931



Spring pins

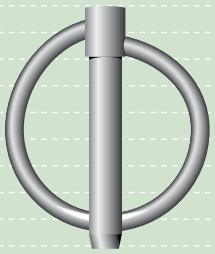
double type

- **Material** : mild steel
- **Finish** : electro-galvanized

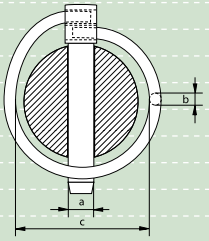
diameter	length	diameter	diameter	weight per 100 pcs
a	b	c	d	
mm	mm	mm	mm	kg
2	50	10	8 - 14	0.4
3	62	16	14 - 20	1.4
4	78	23	17 - 24	3
5	92	26	18 - 30	5.3
6	120	30	24 - 36	9.6
7	130	30	24 - 40	13.5
7	150	30	45 - 56	13.5
8	130	30	24 - 45	17.8

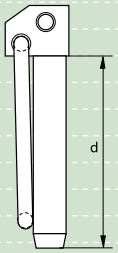
Spring pin	for shackle							
	G-4163	G-4153	P-6033	G-5263	G-5163	G-4263	G-4263	P-5363
a x b	WLL	WLL	WLL	WLL	WLL	WLL	WLL	WLL
mm	t	t	t	t	t	t	t	t
2 x 50	2	2		3.3	2			
3 x 62	3.25	3.25		5	3.25			
4 x 78	4.75 6.5 8.5	4.75 6.5 8.5		7 9.5 12.5	4.75 6.5 8.5	4.75	4.75	
5 x 92	9.5 12	9.5 12	18	15 18	9.5 12	6.5 8.5 9.5	6.5 8.5 9.5	6.5 9.5
6 x 120	13.5 17	13.5 17		21 30	13.5 17	12 16	12 16	12 17
7 x 150	35 42.5 55	35 42.5 55	55 75	55 85	35 42.5 55	30 50	30 50	55 85
8 x 130	25	25	30 40	40	25	25	25	25





E-7940





Linch pins

with round spring ring

- **Material** : mild steel
- **Finish** : electro-galvanized

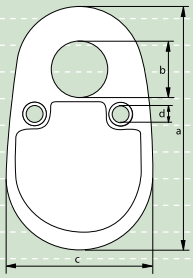
diameter pin	diameter spring ring	width inside spring ring	length pin	weight per 100 pcs
a	b	c	d	
mm	mm	mm	mm	kg
4.5	2	41	42	2
6	3.4	41	42	2.8
7	3.4	41	42	3
8	3.4	41	42	3.5
9	3.4	41	42	3.8
10	3.4	41	42	4.4
11	3.4	41	42	4.6

Linch pin	for shackle					
	G-4163	G-4153	P-6033	G-5263	G-5163	G-4263
diameter	WLL	WLL	WLL	WLL	WLL	WLL
mm	t	t	t	t	t	t
4.5	4.75	4.75	18	7	4.75	4.75
	6.5	6.5		9.5	6.5	6.5
	8.5	8.5		12.5	8.5	8.5
6	9.5	9.5		15	9.5	9.5
	12	12		18	12	
8	13.5	13.5	30	21	13.5	12
	17	17		30	17	16





TAGRFID



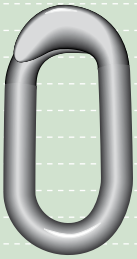
Green Pin® RFID Tag

- **Material** : stainless steel
- **Finish** : polymer

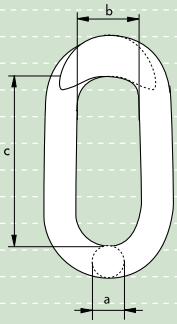
length	width	diameter	diameter	weight per 100 pcs
a	b	c	d	
mm	mm	mm	mm	kg
53	33	12	4	1.8

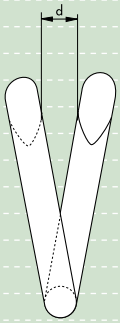


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E-7910



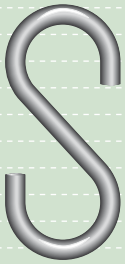


Chain repair links

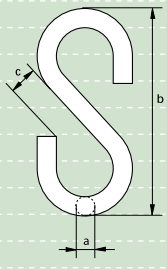
commercial quality

- **Material** : mild steel
- **Finish** : electro-galvanized

diameter	width inside	length inside	opening	weight per 100 pcs
a	b	c	d	
mm	mm	mm	mm	kg
3	6.5	16.5	4	0.4
4	8	20	5.5	0.8
4.5	9	22	6	1.1
5	9.5	23	6	1.2
5.5	10.5	26	6	1.8
6	10.5	29	7	2.1
6.5	11.5	30	8	3.2
7	13.5	32	8.5	3.9
8	15	37	9	5.6
9	16.5	37.5	9	7.6
10	17	37.5	9	9.5
12	25	50	12	10



E-7920

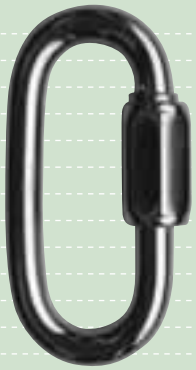


S-hooks

standard type

- **Material** : mild steel
- **Finish** : electro-galvanized

diameter	length	opening	weight per 100 pcs
a	b	c	
mm	mm	mm	kg
3	25	6	0.3
4	35	8	0.8
5	45	9	1.3
6	55	10	2.4
7	65	17	4.3
8	75	20	6.9



Applications

Specially in circumstances where corrosion can cause problems, the use of stainless steel products is recommended.

Range

Van Beest offers a wide range of stainless steel items like shackles, thimbles, wire rope clips, eye bolts, rigging screws etc.

Van Beest can also offer other stainless steel chain fittings. Please see our Excel® catalogue for more information.



Design

Items supplied by Van Beest are all manufactured from stainless steel quality AISI 316, except for some product groups that are manufactured from AISI 304, this concerns R-7856, R-7850, R-7852 and R-7854.

Most stainless steel items have an equivalent in a regular steel quality, we refer to the specific chapters for further design details.

Finish

All stainless steel items are polished.

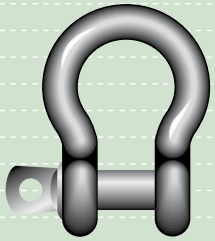
Instructions for use

We refer to the previous product chapters in this catalogue for details on use of a specific item.

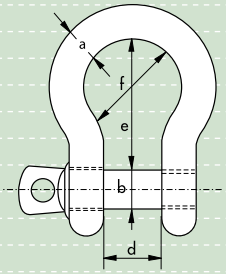
In general, items should be inspected before use to ensure that:

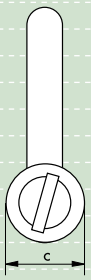
- all markings are legible;
- the item is free from nicks, gouges and cracks;
- never modify, repair or reshape an item by machining, welding, heating or bending as this may affect the strength.

It is required that the products are regularly inspected and that the inspection should take place in accordance with the safety standards given in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. with a consequence of deformation and alteration of the material structure. Inspection should take place at least every six months and even more frequently when the products are used in severe operating conditions.



R-7825



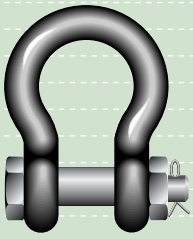


Shackles

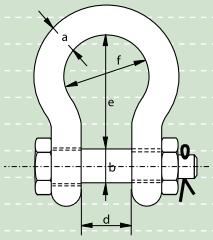
bow shackles with screw pin

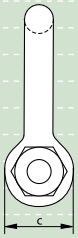
- **Material** : AISI 316
- **Safety factor** : MBL equals 6 x WLL
- **Standard** : generally to DIN 82103
- **Finish** : polished
- **Note** : marked with WLL, CE and manufacturer identification symbol (VBS), except for 4 mm as it is too small

working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight per 100 pcs
	a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	kg
-	4	4	8	8	16	12	1.2
0.12	5	5	10	10	20	15	1.8
0.15	6	6	12	12	24	18	2.8
0.3	8	8	16	16	32	24	6.4
0.4	10	10	20	20	40	30	15
0.6	12	12	24	24	48	36	22
1	16	16	32	32	64	48	55
1.5	20	20	40	40	80	60	97
2	22	22	44	44	88	66	146
3	25	25	50	50	100	75	211
3.6	28	28	54	56	116	86	285



R-7827



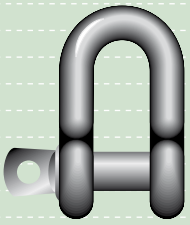


Shackles

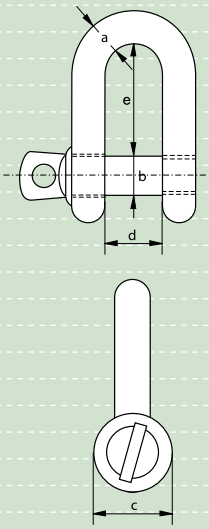
bow shackles with safety bolt

- **Material** : AISI 316
- **Safety factor** : MBL equals 6 x WLL
- **Finish** : polished
- **Note** : marked with WLL, CE, traceability code and manufacturer identification symbol (VBS)

working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	width bow	weight per 100 pcs
	a	b	c	d	e	f	
t	mm	mm	mm	mm	mm	mm	kg
0.3	8	8	16	16	32	24	7.2
0.4	10	10	19	20	40	30	13.4
0.6	12	12	24	25	49	36	23
1	16	16	31	32	64	48	56.6
1.5	19	19	38	38	80	60	95.2
2	22	22	43	44	85	66	146
3	25	25	49	50	100	75	218



R-7821

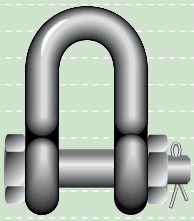


Shackles

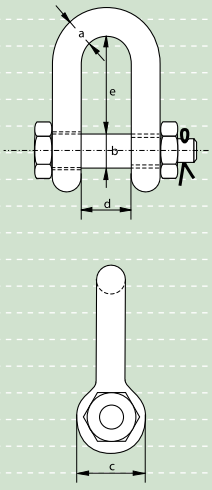
dee shackles with screw pin

- **Material** : AISI 316
- **Safety factor** : MBL equals 6 x WLL
- **Standard** : generally to DIN 82102
- **Finish** : polished
- **Note** : marked with WLL, CE and manufacturer identification symbol (VBS), except for 4 mm as it is too small

working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	weight per 100 pcs
t	a mm	b mm	c mm	d mm	e mm	kg
-	4	4	8	8	16	1.1
0.12	5	5	10	10	20	1.6
0.15	6	6	12	12	24	2.4
0.3	8	8	16	16	32	5.6
0.4	10	10	20	20	40	13
0.6	12	12	24	24	48	20
1	16	16	32	32	64	48
1.5	20	20	40	40	80	84
2	22	22	44	44	88	127
3	25	25	50	50	100	184
3.6	28	28	54	56	106	250



R-7823



Shackles

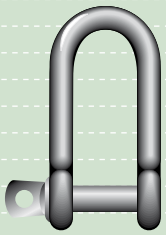
dee shackles with safety bolt

- **Material** : AISI 316
- **Safety factor** : MBL equals 6 x WLL
- **Finish** : polished
- **Note** : marked with WLL, CE, traceability code and manufacturer identification symbol (VBS)

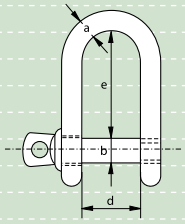
working load limit	diameter bow	diameter pin	diameter eye	width inside	length inside	weight per 100 pcs
t	a mm	b mm	c mm	d mm	e mm	kg
0.3	8	8	16	16	32	7.2
0.4	10	10	19	20	40	13.2
0.6	12	12	24	25	48	22.5
1	16	16	31	32	64	56
1.5	19	19	38	38	76	95.2
2	22	22	43	44	85	133
3	25	25	49	50	95	205

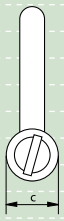
Shackles

long dee type



R-7829



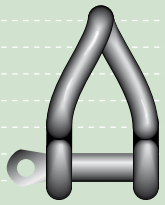


- **Material** : AISI 316
- **Finish** : polished

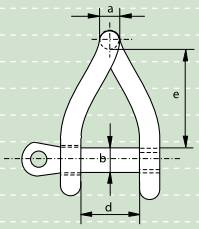
diameter bow	diameter pin	diameter eye	width inside	length inside	weight per 100 pcs
a	b	c	d	e	
mm	mm	mm	mm	mm	kg
4	4	8	8	30	1
5	5	10	10	37	2
6	6	12	12	45	4
8	8	16	16	60	9
10	10	20	20	75	20
12	12	24	24	90	32

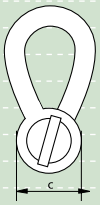
Shackles

short twisted type



R-7822



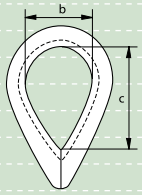


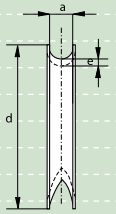
- **Material** : AISI 316
- **Finish** : polished

diameter bow	diameter pin	diameter eye	width inside	length inside	weight per 100 pcs
a	b	c	d	e	
mm	mm	mm	mm	mm	kg
5	5	10	10	36	2
6	6	12	12	42	4
8	8	16	16	56	9
10	9.5	19	20	60	11
12	12	24	24	72	32



R-7860



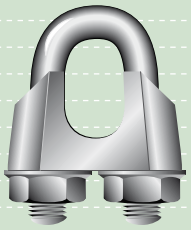


Thimbles

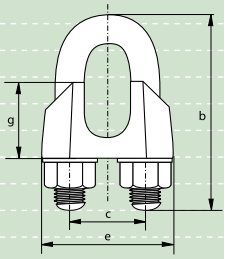
heavy type

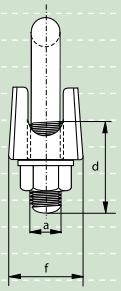
- **Material** : AISI 316
- **Finish** : polished

width groove	width inside	length inside	length	thickness	weight per 100 pcs
a	b	c	d	e	
mm	mm	mm	mm	mm	kg
2	9	15	23	1	0.2
2.5	9.5	15.7	24	1	0.2
3	10	16	25	1	0.4
4	11	17	28	1	0.5
5	13	20	32	1	0.6
6	16	25	39	1.2	1
7	18	28	40	1.2	1.2
8	20	32	49	1.4	1.8
10	26	40	55	1.9	2.9
12	28	45	70	2	4.6
14	34	56	80	2.2	7.3
16	37	62	85	2.5	9.7
18	42	65	95	2.5	16.5
20	45	78	115	3	21.3
22	50	88	125	3	22.3
24	58	96	135	4	40.5
26	66	105	140	4	49.7



R-7863



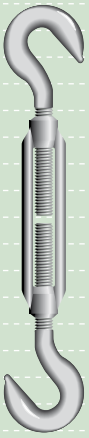


Wire rope clips

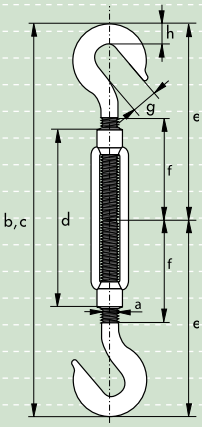
generally to DIN 741

- **Material** : Bridge : AISI 316
  Nuts : AISI 316
  U-bolt : AISI 316
- **Standard** : formerly DIN 741
- **Finish** : polished

diameter wire rope	diameter	length bow	width inside	length thread	length base	thickness base	height base	weight per 100 pcs
	a	b	c	d	e	f	g	
mm	mm	mm	mm	mm	mm	mm	mm	kg
3	4	20	9	12	21	10	10	1.4
4	4	22	9	12	21	10	10	1.4
5	5	24	11	13	23	11	10	1.5
6	5	28	13	15	26	12	11	2.1
8	6	34	16	19	30	14	15	4.1
10	8	42	19	22	34	18	17	6.8
13	10	55	24	30	42	23	21	13
16	12	63	29	33	50	26	26	21
19	12	75	32	38	54	29	30	28
22	14	85	37	44	61	33	34	40
26	14	95	41	45	65	35	37	44



R-7837

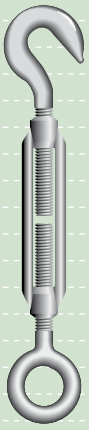


Open body rigging screws

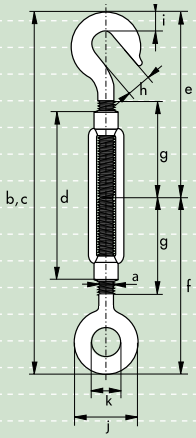
Hook - Hook

- **Material** : AISI 316
- **Finish** : polished

diameter thread	length closed position	length open position	length body	length	length	opening hook	thickness	weight each
a	b	c	d	e	f	g	h	
mm	mm	mm	mm	mm	mm	mm	mm	kg
M 5	120	170	70	58	33	8	5	0.04
M 6	150	210	90	73	43	9	6	0.08
M 8	200	290	120	98	56	11	8	0.16
M 10	240	355	150	117	71	12	9	0.27
M 12	310	470	200	157	95	14	11	0.51
M 16	390	590	250	186	116	16	15	1.2
M 20	440	675	300	214	139	18	19	1.9



R-7838

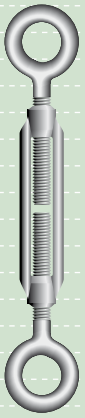


Open body rigging screws

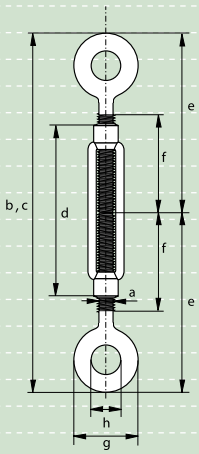
Hook - Eye

- **Material** : AISI 316
- **Finish** : polished

diameter thread	length closed position	length open position	length body	length	length	length	opening hook	thickness	diameter eye outside	diameter eye inside	weight each
a	b	c	d	e	f	g	h	i	j	k	
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
M 5	120	170	70	58	56	33	8	5	17	8	0.04
M 6	150	210	90	73	71	43	9	6	21	10	0.08
M 8	200	290	120	98	95	56	11	8	28	14	0.16
M 10	240	355	150	117	118	71	12	9	34	16	0.27
M 12	310	470	200	157	154	95	14	11	40	18	0.51
M 16	390	590	250	186	190	116	16	15	54	26	1.2
M 20	440	675	300	214	220	139	18	19	64	30	1.9



R-7839



Open body rigging screws

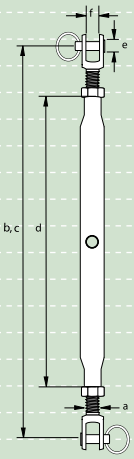
Eye - Eye

- **Material** : AISI 316
- **Finish** : polished

diameter thread	length closed position	length open position	length body	length	length	diameter eye outside	diameter eye inside	weight each
a	b	c	d	e	f	g	h	
mm	mm	mm	mm	mm	mm	mm	mm	kg
M 5	120	170	70	56	33	17	8	0.04
M 6	150	210	90	71	43	21	10	0.08
M 8	200	290	120	95	56	28	14	0.16
M 10	240	355	150	118	71	34	16	0.27
M 12	310	470	200	154	95	40	18	0.51
M 16	390	590	250	190	116	54	26	1.2
M 20	440	675	300	220	139	64	30	1.9



R-7830

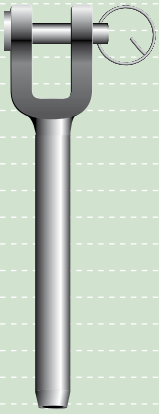


Closed body rigging screws

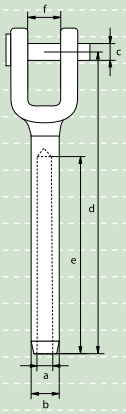
Jaw - Jaw

- **Material** : AISI 316
- **Finish** : polished

diameter thread	length open	length closed	length body	diameter pin	width jaw inside	weight per 100 pcs
a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	kg
M 5	190	125	80	5.2	6	6.5
M 6	210	155	95	6.2	7.5	8.1
M 8	240	180	105	8.7	10	13.9
M 10	270	220	125	9.7	12	25.3
M 12	360	255	150	12.7	14	57.3
M 14	385	270	165	12.7	14	64
M 16	450	320	190	16	16	94.2
M 20	450	355	210	19	20	145



R-7834

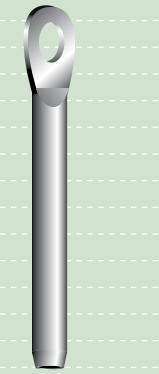


Fork terminals

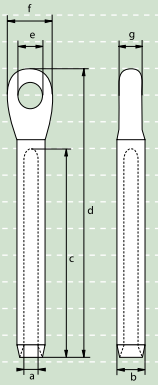
swage type

- **Material** : AISI 316
- **Finish** : polished

diameter wire rope	diameter inside	diameter outside	diameter pin	length	length inside	width jaw	weight per 100 pcs
	a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	mm	kg
3	3.3	6.3	5.2	65	32	7.5	2.3
4	4.3	7.5	6.2	77	40	10	4.9
5	5.3	9	8.7	88	57	12	7.2
6	6.6	12.5	9.7	106	63	14	13.9
7	7.5	14.2	12.6	116	70	14.5	18.1
8	8.3	16	14.6	145	85	16	21.6
9.5	10	17	16.5	150	87	17	48
10	10.5	17.8	16.5	150	89	17	52
12	12.5	20	19	204	105	25	67



R-7835



Eye terminals

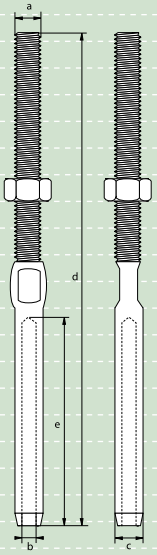
swage type

- **Material** : AISI 316
- **Finish** : polished

diameter wire rope	diameter inside	diameter outside	length inside	length	diameter eye inside	diameter eye outside	thickness eye	weight per 100 pcs
	a	b	c	d	e	f	g	
mm	mm	mm	mm	mm	mm	mm	mm	kg
3	3.3	6.5	36	62	8	14	4	1.3
4	4.3	7.5	39	71	10	19	6	2.3
5	5.3	9	50	88	12	23	7	4
6	6.3	12.5	62	104	12.5	28	8	8.8
8	8.3	16	85	126	14.5	32	10	15.4
10	10.3	17.5	90	150	16.4	36	12	22.8



R-7836

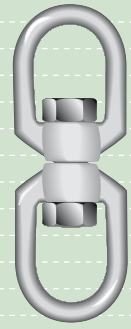


Threaded terminals

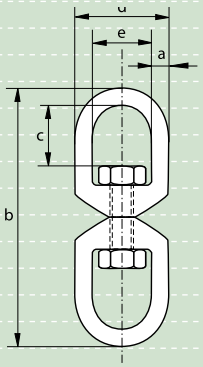
swage type

- **Material** : AISI 316
- **Finish** : polished

diameter wire rope	thread	diameter inside	diameter outside	length	length inside	weight per 100 pcs
	a	b	c	d	e	
mm	mm	mm	mm	mm	mm	kg
3	M 6	3.3	6.3	100	39	2.7
4	M 8	4.3	7.5	117	45	5.4
5	M 10	5.3	9	130	51	7.8
6	M 12	6.3	12	162	64	15.1
8	M 16	8.3	16	195	76	23.2
10	M 20	10.3	18	230	89	59



R-7877

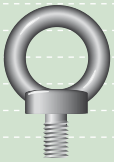


Swivels

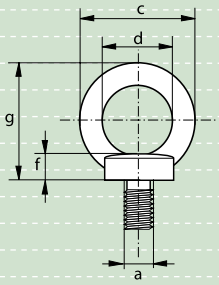
Eye - Eye

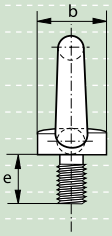
- **Material** : AISI 316
- **Finish** : polished

diameter	length	length inside	width outside	width inside	weight per 100 pcs
a	b	c	d	e	
mm	mm	mm	mm	mm	kg
5	60	13	23	13	3.4
6	65	15	26	15	5.1
8	90	22	35	20	13.1
10	115	27	44	24	26
13	154	35	57	32	58
16	188	45	71	39	105
19	229	50	84	41	220



R-7840





Eye bolts

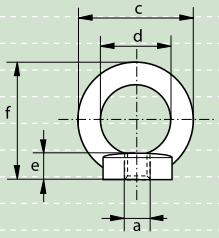
generally to DIN 580

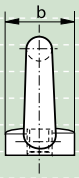
- **Material** : AISI 316
- **Standard** : generally to DIN 580
- **Finish** : polished

diameter thread	diameter base	diameter eye outside	diameter eye inside	length thread	thickness base	height	weight per 100 pcs
a	b	c	d	e	f	g	
mm	mm	mm	mm	mm	mm	mm	kg
M 6	20	36	20	13	6	36	3
M 8	20	36	20	13	6	36	6
M 10	25	45	25	17	8	45	10.3
M 12	30	54	30	20.5	10	53	17.7
M 16	35	63	35	27	12	62	28
M 20	40	72	40	30	14	71	45
M 24	45	90	45	36	18	90	74



R-7842



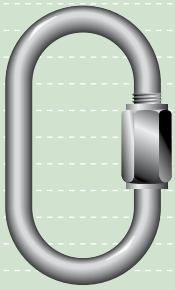


Eye nuts

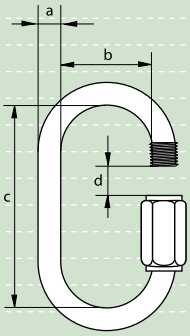
generally to DIN 582

- **Material** : AISI 316
- **Standard** : generally to DIN 582
- **Finish** : polished

diameter thread	diameter base	diameter eye outside	diameter eye inside	thickness base	height	weight per 100 pcs
a	b	c	d	e	f	
mm	mm	mm	mm	mm	mm	kg
M 6	20	36	20	8.5	36	4.2
M 8	20	36	20	8.5	36	5.2
M 10	25	45	25	10	45	9.4
M 12	30	54	30	11	53	16
M 16	35	63	35	13	62	24



R-7873

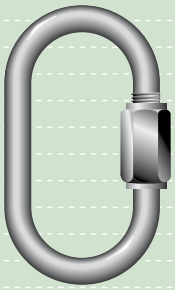


Quick links

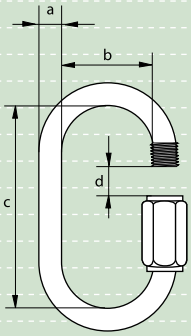
standard type

- **Material** : AISI 316
- **Finish** : polished

diameter	width inside	length inside	opening	minimum breaking load	weight per 100 pcs
a	b	c	d		
mm	mm	mm	mm	kg	kg
3.5	10	29	5	155	0.9
4	12	32	5.5	450	1.3
5	13	39	6.5	585	2
6	14	46	7.5	790	3.3
7	16	51	8.5	1085	5.3
8	17	59	10.5	1380	7.5
9	17	64	11.5	1790	10.3
10	20	70	12.5	2085	13
12	23	83	14.5	2265	22.5



R-7874

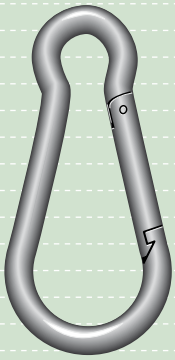


Quick links

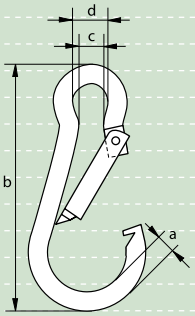
with enlarged opening

- **Material** : AISI 316
- **Finish** : polished

diameter	width inside	length inside	opening	minimum breaking load	weight per 100 pcs
a	b	c	d		
mm	mm	mm	mm	kg	kg
3.5	10	40	10	155	1.2
5	14	52	14	585	2.7
6	16	60	16	790	4.4
8	18	74	18	1380	10.1
10	20	85	20	2085	17.6
12	23	98	23	2265	30.4
14	27	116	26	2540	41.5



R-7872

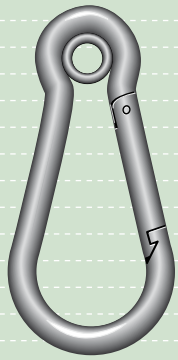


Carabine hooks

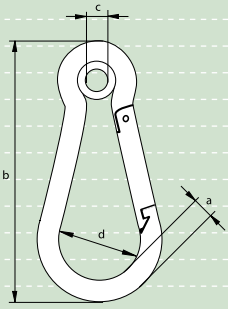
standard type

- **Material** : AISI 316
- **Finish** : polished

diameter	length	width inside	width inside	minimum breaking load	weight per 100 pcs
a	b	c	d		
mm	mm	mm	mm	kg	kg
4	40	5	7	70	0.6
5	50	7	8	110	0.8
6	60	7	9	132	1.6
7	70	9	10	198	2.6
8	80	11	12	330	4.4
9	90	11	12	363	6.4
10	100	12	15	506	9.3
11	120	14	18	660	12.5
12	140	16	20	748	19.5
13	160	20	22	880	25
14	180	20	22	946	35



R-7875

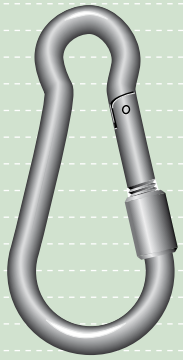


Carabine hooks

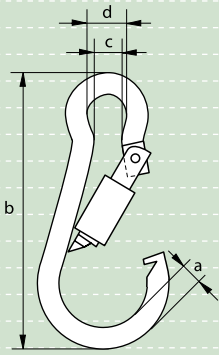
with pressed thimble

- **Material** : AISI 316
- **Finish** : polished

diameter	length	diameter inside thimble	width	minimum breaking load	weight per 100 pcs
a	b	c	d		
mm	mm	mm	mm	kg	kg
4	40	5	14	70	0.8
5	50	5	16	110	1.6
6	60	5	18	132	2.6
7	70	7	22	198	4.4
8	80	10	24	330	6.4
9	90	10	26	363	9.3
10	100	13	30	506	12.5
11	120	13	36	660	19.5
12	140	15	40	748	25
13	160	17	44	880	35
14	180	17	48	946	50



R-7876

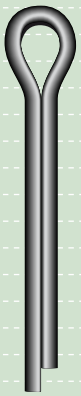


Carabine hooks

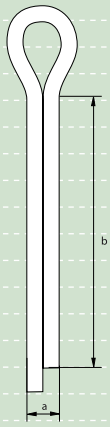
with screw nut

- **Material** : AISI 316
- **Finish** : polished

diameter	length	width inside	width inside	minimum breaking load	weight per 100 pcs
a	b	c	d		
mm	mm	mm	mm	kg	kg
4	40	5	7	70	0.8
5	50	7	8	110	1.6
6	60	7	9	132	2.6
7	70	9	10	198	4.4
8	80	11	12	330	6.4
9	90	11	12	363	9.3
10	100	12	15	506	12.5
11	120	14	18	660	19.5
12	140	16	20	748	25
13	160	20	22	880	35
14	180	20	22	946	50



R-7856



Split pins

standard type

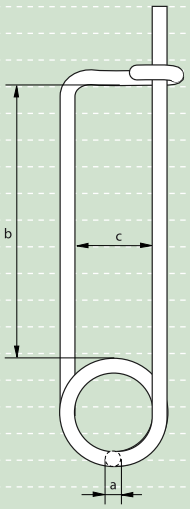
- **Material** : AISI 304
- **Finish** : polished

diameter a mm	length b mm	weight per 100 pcs kg
2.5	20	0.08
4	32	0.3
5	36	0.6
6	45	1.2
8	63	2.8
8	80	4.4
10	71	5
10	90	6
10	100	6.6
10	120	4.4
12	140	7
12	160	7
12	180	7
13	110	12.1
16	160	16

Split pin	for shackle										
	G-4163	G-4153	P-6036	G-6038	P-6033	G-5263	G-5163	P-6031	G-4263	R-7827	R-7823
a x b mm	WLL t	WLL t	WLL t	WLL t	WLL t	WLL t	WLL t	WLL t	WLL t	WLL t	WLL t
2.5 x 20	0.5 0.75 1 1.5									0.4 0.6	0.4 0.6
4 x 32	2 3.25	2 3.25				3.3 5	2 3.25			1 1.5	1 1.5
5 x 36	4.75 6.5	4.75 6.5				7 9.5	4.75 6.5		4.75	2 3	2 3
6 x 45	8.5 9.5 12	8.5 9.5 12			18	12.5 15 18	8.5 9.5 12		6.5 8.5 9.5		
8 x 63	13.5 17	13.5 17				21 30	13.5 17		12 16		
8 x 80					30 40						
10 x 71	25 35	25 35				40 55	25 35		25 30		
10 x 90	42.5 55	42.5 55				85	42.5 55		55		
10 x 100	85	85			55 75	120	85		75		
10 x 120					125						
12 x 140					150 200						
12 x 160					250						
12 x 180					300						
13 x 110			120 150	120		150 175		120 150			
16 x 160			200 250 300					200 250 300			



R-7850



Safety pins

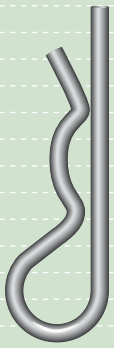
double type

- **Material** : AISI 304
- **Finish** : polished

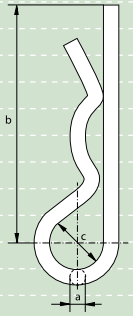
diameter	length inside	width inside	weight per 100 pcs
a	b	c	
mm	mm	mm	kg
2	38	16	0.5
3	53	20	1.8
4	59	21	3.9
5	95	22	6.9
6	114	38	12.5

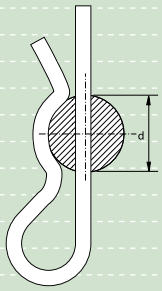
Safety pin	for shackle					
	G-4163	G-4153	P-6033	G-5263	G-5163	G-4263
diameter	WLL	WLL	WLL	WLL	WLL	WLL
mm	t	t	t	t	t	t
2	4.75	4.75		7	4.75	4.75
	6.5	6.5		9.5	6.5	6.5
3	8.5	8.5	18	12.5	8.5	8.5
	9.5	9.5		15	9.5	9.5
	12	12		18	12	12
4	13.5	13.5	30	21	13.5	16
	17	17		30	17	25
	25	25		40	25	
5	35	35	40	55	35	30
	42.5	42.5	55		42.5	
6	55	55	75	85	55	65
	85	85	125	120	85	75





R-7852





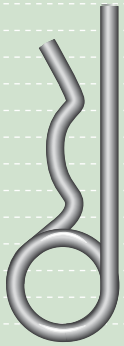
Spring pins

single type

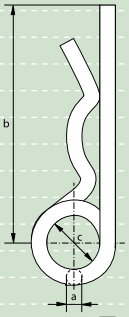
- **Material** : AISI 304
- **Finish** : polished

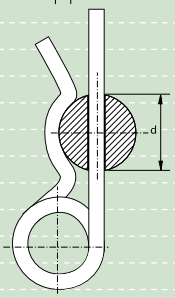
diameter a mm	length b mm	diameter c mm	diameter d mm	weight per 100 pcs kg
2	50	10	9 - 14	0.3
3	60	18	10 - 16	0.9
4	60	20	16 - 20	1.6
5	85	24	20 - 28	3.3
6	105	30	28 - 40	6.2
7	105	30	28 - 45	8.3
8	110	28	30 - 45	10.5

Spring pin	for shackle					
	G-4163	G-4153	P-6033	G-5263	G-5163	G-4263
diameter mm	WLL t	WLL t	WLL t	WLL t	WLL t	WLL t
2	2	2		3.3	2	
3	3.25	3.25		5	3.25	
4	4.75 6.5	4.75 6.5		7 9.5	4.75 6.5	4.75
5	8.5 9.5 12	8.5 9.5 12	18	12.5 15 18	8.5 9.5 12	6.5 8.5 9.5
6	13.5 17	13.5 17		21 30	13.5 17	12 16
7	25	25	30 40	40	25	25



R-7854





Spring pins

double type

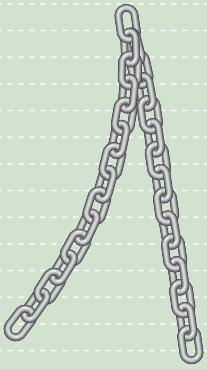
- **Material** : AISI 304
- **Finish** : polished

diameter	length	diameter	diameter	weight per 100 pcs
a	b	c	d	
mm	mm	mm	mm	kg
2	50	10	8 - 14	0.4
3	62	16	14 - 20	1.4
4	78	23	17 - 24	3
5	92	26	18 - 30	5.3
6	120	30	24 - 36	9.6
7	130	30	24 - 40	13.5
8	130	30	24 - 45	17.8

Spring pin	for shackle						
	G-4163	G-4153	P-6033	G-5263	G-5163	G-4263	P-5363
diameter	WLL	WLL	WLL	WLL	WLL	WLL	WLL
mm	t	t	t	t	t	t	t
2	2	2		3.3	2		
3	3.25	3.25		5	3.25		
4	4.75 6.5 8.5	4.75 6.5 8.5		7 9.5 12.5	4.75 6.5 8.5	4.75	
5	9.5 12	9.5 12	18	15 18	9.5 12	6.5 8.5 9.5	6.5 9.5
6	13.5 17	13.5 17		21 30	13.5 17	12 16	12 17
8	25	25	30 40	40	25	25	25

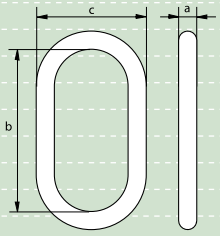
Short link chain

generally to DIN 766



R-7880

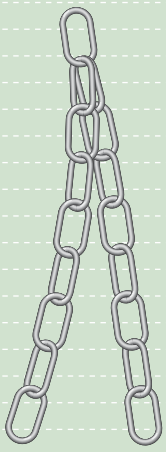
- **Material** : AISI 316
- **Standard** : generally to DIN 766



diameter	length inside	width outside	weight per m
a	b	c	
mm	mm	mm	kg
3	16	11	0.17
4	16	14	0.32
5	18.5	17	0.5
6	18.5	20	0.75
8	24	26	1.35
10	28	34	2.25

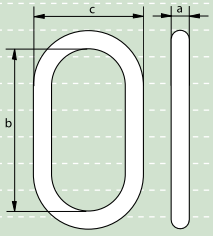
Long link chain

generally to DIN 763



R-7890

- **Material** : AISI 316
- **Standard** : generally to DIN 763



diameter	length inside	width outside	weight per m
a	b	c	
mm	mm	mm	kg
3	26	12	0.14
4	32	16	0.27
5	36	20	0.43
6	42	24	0.63
7	48	28	0.86
8	54	32	1.1
10	66	40	1.75

Index by Chapter

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Version: AL 5/2012

General conditions of Sale of the private company with limited liability Van Beest BV, established in Sliedrecht

Article 1 General

These General Conditions are applicable to all agreements concluded by Van Beest B.V. (hereinafter referred to as: "Van Beest") with third parties (hereinafter referred to as: the "client").
The trading conditions of the client are not accepted by Van Beest.

Article 2 Offers

2.1 Quotations made by or on behalf of Van Beest are without obligation and are based on data, drawings et cetera provided by the client, if any.

2.2 The prices stated by Van Beest are based on the price determining factors valid at the time of the quotation , including government levies and wages, calculated according to the usual working times adhered to by Van Beest. If one or more of these cost price factor changes before the offer is accepted, - including changes due to fluctuations in the exchange rate of foreign currency - even if this is a result of foreseeable circumstances, Van Beest is entitled to modify the price quoted accordingly. Van Beest will inform the client accordingly in that case.

Article 3 Agreements

3.1 Orders accepted by agents, representatives, commercial travellers and intermediaries will only become valid after they have been confirmed in writing by Van Beest, i.e. by a document signed by both parties, or by letter, fax, e-mail, or any other instrument as agreed by both parties.

3.2 All drawings, calculations, plans, systems, stamps and moulds, methods and other data will remain the property of Van Beest and may not be disclosed to third parties by the client without the prior written permission of Van Beest.

3.3 Price increases caused by production activities being delayed and/or made more difficult through no fault of Van Beest or as a result of an increase in one or more cost price factors, even if such increase has occurred due to foreseeable circumstances, or as a result of government regulations coming into force, will be for the account of the client.

The client will be entitled to make modifications to the goods to be delivered after the conclusion of the agreement as well, but these will only be implemented if Van Beest judges that the production process so allows and provided that the client has stated in writing that he will pay all extra costs associated therewith.

Article 4 Prices and Payment

4.1 The prices quoted by Van Beest in catalogues, price lists, et cetera are without obligation and may be modified without prior notification. Prices do not include turnover tax and are based on "ex works" Incoterms current on the date of the quotation.

4.2 All amounts due are payable within 30 days of the date of the invoice, unless agreed otherwise. Claims for a reduction or settlement will not be accepted. Any costs in connection with effecting payments via banks, conversion of currency, credit costs, etc. are at all times for the account of the client.

4.3 In the event of late payment the client owes interest, as from the due date of the invoice, equal to 3 points above the percentage of the current statutory interest in the Netherlands as referred to in Sections 6:119a and 6:120 Paragraph 2 of the Dutch Civil Code, while Van Beest will be entitled to suspend the fulfilment of its obligations by the amount of time by which the payment has been delayed.
Once Van Beest has passed on its claim for collection by third parties, the client will owe extra judicial costs of 15% over and above the amount due, including interest, without prejudice to the costs which the client is required to pay by law.

Article 5 Delivery

5.1 The delivery time commences as from the latest of the following dates:
a. the day of signing of Van Beest's written order confirmation;
b. the date of receipt of the instalment due under the order;
c. the date of receipt of the technical data, documents and/or securities to be provided to Van Beest by the client.

5.2 Exceeding the delivery date does not entitle the client to compensation nor give it the right to demand cancellation of the agreement or to suspend fulfilment of its own obligations.

5.3 In the case of mass production by Van Beest or its suppliers of products which deviate from the standard products in the production range, Van Beest will be entitled to maintain a margin in respect of the delivered products of 5% above or below the number of products ordered.

Article 6 Risk and Retention of Title

6.1 The risk with regard to damage, theft, loss, etc. of the products passes to the client at the moment when the products are delivered at the client.

6.2 The ownership of the products manufactured by Van Beest and delivered to the client will be transferred to the client once he has paid all that Van Beest is owed in respect of deliveries or services, including the interest and costs, or once he has provided satisfactory security for the fulfilment of his obligations. For as long as this is not the case Van Beest will remain entitled to repossess the products it has delivered. All costs connected therewith will be for the account of the client. The client is not entitled to deliver products to third parties that have not been paid for, except in the normal course of business.

Article 7 Security

7.1 Notwithstanding the agreed conditions of payment, Van Beest will be entitled at all times to demand security from the client for the fulfilment of his obligations before commencing delivery or before continuing a delivery that has already commenced.

Article 8 Guarantee and Complaints

8.1 Van Beest guarantees that the products it sells and delivers meet the specifications applicable to these products, as stated in the Van Beest catalogue. Only specifications expressly agreed in writing apply to products not included in the Van Beest catalogue. The guarantee will in no event be valid for more than three months as from the date of delivery to the client.

8.2 Defects caused by normal wear and tear, inappropriate and/or improper use, or insufficient maintenance, will in no event be covered by the guarantee.

8.3 Van Beest will supply the following test certificates at additional costs:
- dock regulations certificate certificates of classification societies ABS, DNV, Bureau Veritas, R.I.N.A., Germanischer Lloyd, A.I.B.-Vinçotte, and Lloyd's Register of Shipping.

8.4 The client is obliged to inspect the goods delivered - or have them inspected - immediately upon arrival. Complaints regarding the quality or quantity, or other deviations and/or damage must be submitted by the client in detail to Van Beest within 14 days of receipt of the goods, in writing, by post, telex, fax or e-mail. Complaints will no longer be accepted once the client has processed the delivered products or has them delivered to third parties.

8.5 Should Van Beest consider a complaint to be well-founded, it is only obliged to replace the defective product free of charge; Van Beest will in no event be obliged to compensate any consequential loss or damage suffered by the client, howsoever named.

Article 9 Non-attributable Failure

9.1 Where the non-fulfilment of an agreement by Van Beest is caused by circumstances beyond the control of Van Beest - even though such circumstances could have been foreseen at the time when the agreement was concluded - such as war or kindred risks, terrorism, mobilisation, revolt, strike, sit-ins or blockades, boycotts, disruptions in public utilities, government measures, and shortcoming by suppliers, the consequences will not be attributed to Van Beest. In such cases the parties will consult in order to agree a possible adjustment or suspension of the agreement. If no consensus is reached and it is no longer possible to perform the agreement , the agreement may be cancelled by either party.

Article 10 Liability for Damage

10.1 Van Beest will compensate any damage suffered by the Client, provided the client is able to prove that the damage is caused by a defect in a product supplied by Van Beest. Financial loss, such as loss of profit, lost earnings, costs in connection with delays in or interruption of the production or any other consequential loss will in no event be eligible for compensation save in the event of deliberate intent or recklessness on the part of Van Beest.

10.2 Damage to goods belonging to the client and personal injury will be compensated to a maximum of the amount for which Van Beest receives compensation from its insurer.

10.3 The client will indemnify Van Beest against all third-party claims in connection with products supplied to the client by Van Beest, save where such loss is for the account of Van Beest by agreement.

10.4 Van Beest accepts no liability whatsoever for any advice it provides without express agreement, save in the event of deliberate intent or recklessness on the part of Van Beest.

10.5 All claims for compensation will lapse after 5 years, as from the date when the client has become aware of the loss.

Article 11 Cancellation

11.1 Should the client wish to cancel an agreement, giving reasons , he will be obliged to purchase all goods ordered and/or already wholly or partially processed by Van Beest, at the agreed price and to pay Van Beest a compensation equal to 15% of the amount of the order, plus exchange loss, if any, on the part of Van Beest.

Article 12 Taxes

12.1 All taxes and duties imposed on Van Beest in the case of export, including import duties, are for the account of the client.

Article 13 Intellectual Property Rights

13.1 The client will indemnify Van Beest against all third-party claims arising from the alleged violation of any intellectual property rights these third parties are entitled to.

13.2 The client is not allowed to use the trade name and the brand or designation "Green Pin®" and/or "EXCEL®" for its own business activities or to associate these with other than "Green Pin®" and/or "EXCEL®" products, without the written permission of Van Beest. Furthermore the client undertakes to inform Van Beest immediately of any infringement by third parties of this trade name or brand.

Article 14 Termination

14.1 In the event that the client is declared bankrupt, his goods are attached, the client applies for a moratorium or fails to fulfil any obligation towards Van Beest, Van Beest will be entitled to terminate any agreement concluded with the client that has not yet been performed or not fully, by a statement in writing.

Article 15 Applicable Law; Disputes

15.1 All agreements with Van Beest are governed exclusively by Dutch Law. The provisions of the Vienna Sales Convention (CISG) are expressly excluded.

15.2 Disputes arising from any agreement concluded with Van Beest will be submitted to the judgement of the District Court of Dordrecht, with the exception of the right of Van Beest to summon the client before the court that has jurisdiction according to Dutch law and subject to the competence of the subdistrict court in accordance with the rules of the Dutch law of civil procedure.