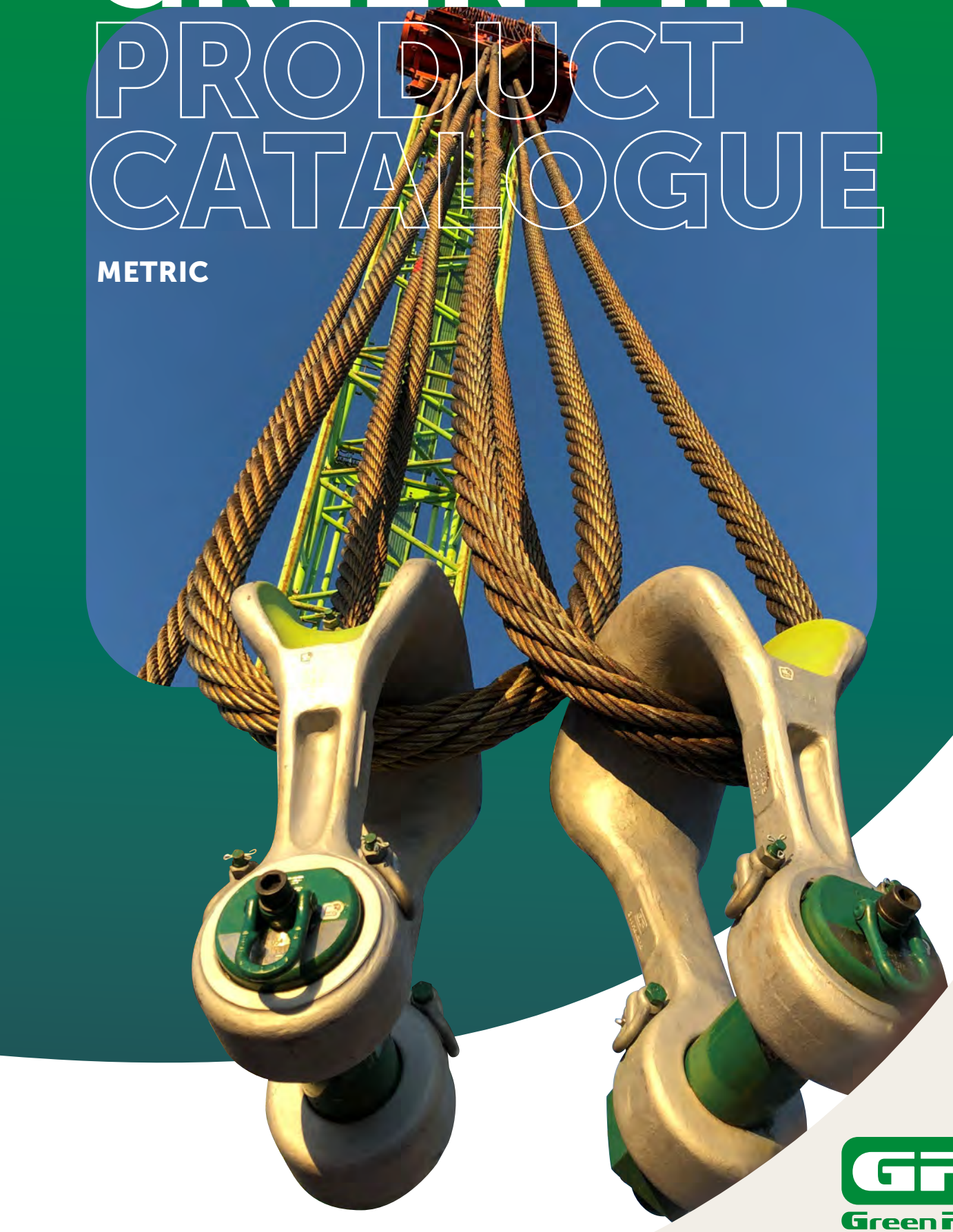
VAN BEEST

GREEN PIN®

PRODUCT CATALOGUE

METRIC



GP Green Pin®

KEY ICONS

Certificates

Depending on the type of product and certificate availability for a certain product, the below mentioned certificates are used in this catalogue. For more information see page 15.

Type 2.1	Works certificate to EN 10204	2.1
Type 2.2	Works certificate to EN 10204	2.2
Type 3.1	Inspection certificate to EN 10204	3.1
Type MTC a	Manufacturer test certificate	MTC [a]
Type MTC b	Manufacturer test certificate	MTC [b]
Type LROS	Proofload Statement	LROS
Type MPI a	Non-destructive testing report	MPI [a]
Type MPI b	Non-destructive testing report	MPI [b]
Type US a	Non-destructive testing report	US [a]
Type US b	Non-destructive testing report	US [b]
Type DNV 2.7-1 a	Type Approval certificate to DNV - ST - E271/E273	DNV 2.7-1 [a]
Type DNV 2.7-1 b	Type Approval certificate to DNV - ST - E271/E273	DNV 2.7-1 [b]
Type DNV CG3	Certificate Proof load witnessed and issued by DNV	DNV CG3
Type DNV 0377	Type Approval certificate to DNV - ST 0377 (former DNV 2.22)	DNV 0377
Type DNV 0378	Type Approval certificate to DNV - ST 0378 (former DNV 2.22)	DNV 0378
Type NYTEK / NS 9415	Type Approval certificate to NYTEK-regulation and NS 9415	DNV NS 9415
Type DGUV	DGUV Type approval certificate to EN 1677	DGUV
Type CE IIA	CE declaration of conformity	CE IIA
Type CE IIB	CE declaration of incorporation	CE IIB
Type BL	Break Load test certificate	BL
Type ABS PDA	Certificate of Product Design Assessment Approval	ABS PDA
Type ABS MA	Certificate of Manufacturing Assessment Approval	ABS MA

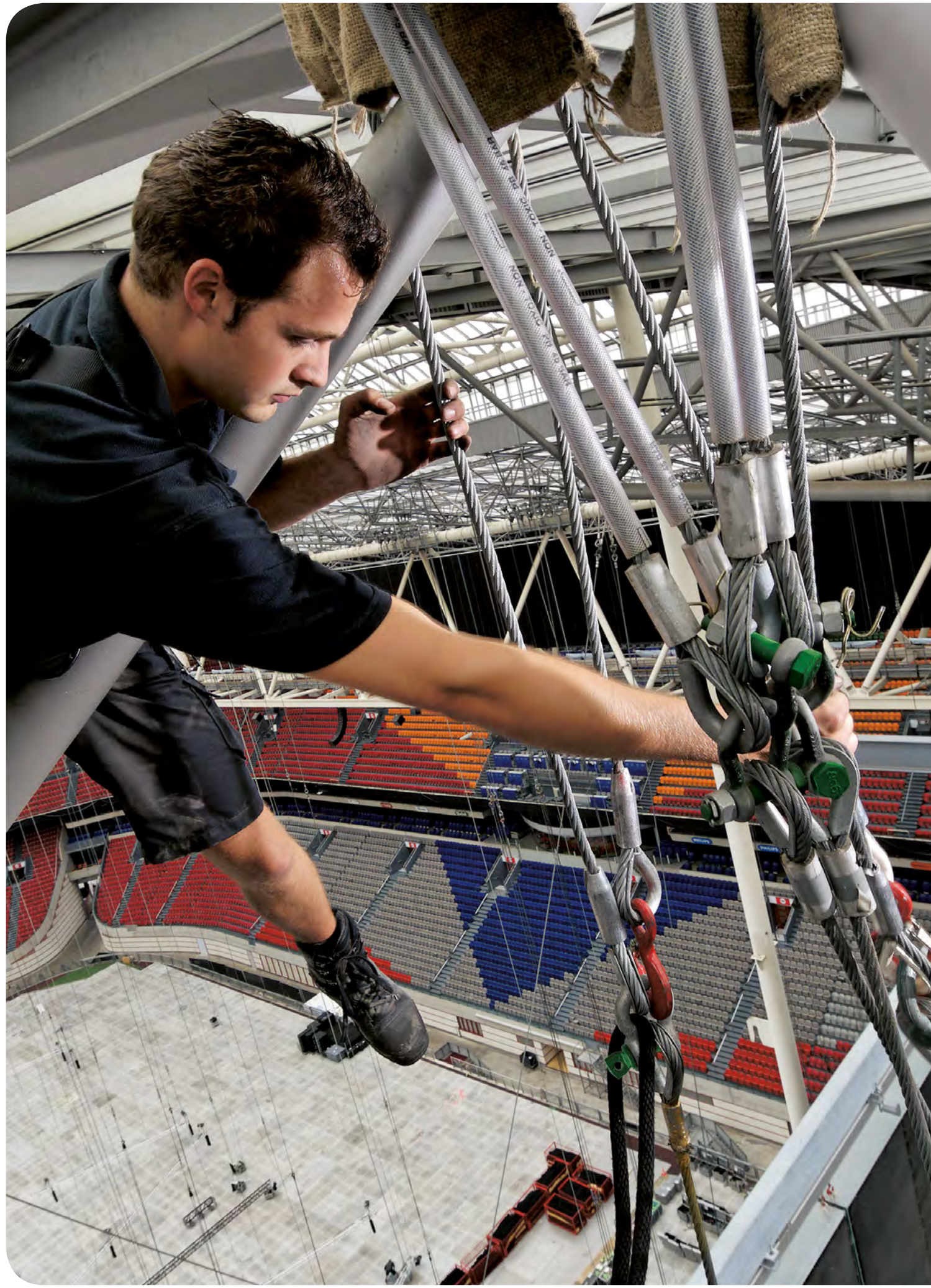
Conditions

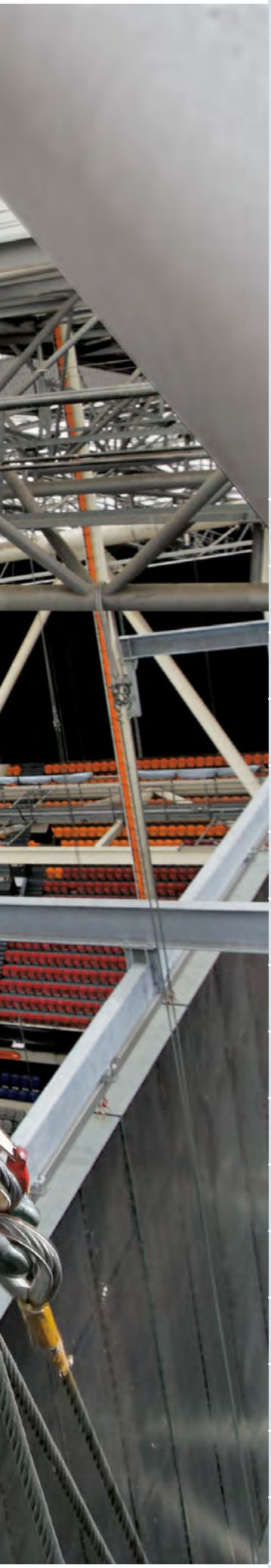
Certificate types 2.1, 2.2, 3.1, MTC a, DNV 2.7-1 a, DNV 2.7-1 b, DNV 0377, DNV 0378, DGUV, ABS PDA, ABS MA and CE can be supplied at no extra charge. For all other certificates, additional costs will be charged.

Other

RFID Tag	RFID
CAD drawings	CAD
More info	INFO

Complementary product	C





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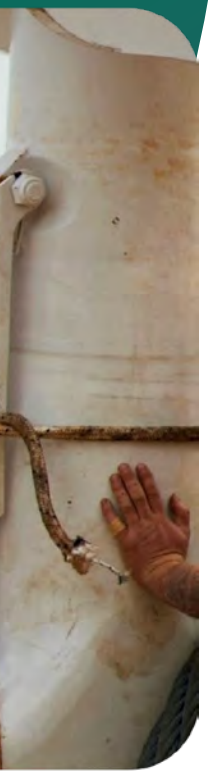
WELCOME TO THE WORLD OF GREEN PIN®



THE CENTREPIECE OF RIGGING

Welcome to the world of Green Pin®, the leading brand for premium quality lifting and lashing equipment. Leading, but modest. We know our role, the place of our Green Pin® products in your bigger picture. And that is right in the centre of your rigging. The centre of safety. The centre of reliability. And the centre of responsibility. Because we know that Green Pin® products are often part of extremely large and complex projects.

Being part of project that come with great risks and great interests to people and products at the same time, great responsibility is required. Taking that responsibility is key to Green Pin®. We want to reassure our customers by always providing products of the highest quality, as we have done for over a hundred years. Our quality is always 100%, but guaranteeing a 99% availability of our products is just as essential to us.

ALWAYS IN THE CENTRE OF RIGGING

Green Pin® combines innovative, high-quality products with the quickest delivery and the best customer support. The best lifting and lashing equipment developed with a clear vision of what you need. Produced with raw materials from trustworthy suppliers, at our state-of-the-art production facilities. Facilities that produce products with minimal margins of error compared to other production methods. These Green Pin® products are available all over the world by one of our 900 distributors. We make sure that we are always ready to meet the demands of the most complex lifting projects in the world.

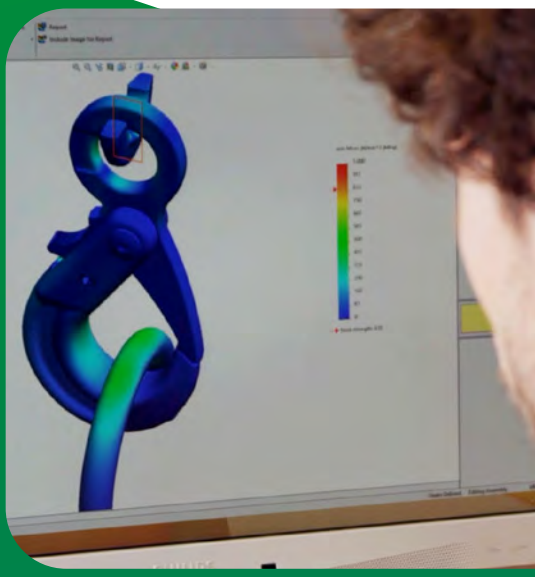
OVER 1000 DISTRIBUTORS IN MORE THAN 100 COUNTRIES STOCK GREEN PIN® PRODUCTS

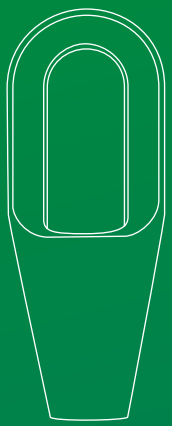
RELY ON THE BEST EQUIPMENT AND SUPPORT. GUARANTEED

The core, of the Green Pin® brand is quality. Green Pin® products are better designed, developed, engineered, produced, packed, delivered, and serviced. When it comes to quality, Green Pin® will not settle for less than best in breed. So, all our raw materials come from highest qualified suppliers who guarantee full traceability. Our steel is sourced from leading, fully certified European mills. Green Pin® is all about quality. That quality is the centrepiece of our brand, and our promise to you is we will never let you down. You can trust us to be the centrepiece of your rigging.

YOU GET THE BEST

- CAD-drawings and technical documentation that are distinguishing by their accuracy;
- A technical helpdesk that provides comprehensive answers swiftly;
- Technical training to provide insights into the benefits of our products and the different ways to apply them.





THE GREEN PIN® HISTORY

Green Pin® can trace its origins back to 1922. In Sliedrecht, which is located right at the heart of the Dutch maritime industry, blacksmith Dirk van Beest started producing components for dredging. He developed the shackles that would later be branded as Green Pin®. Van Beest's company grew quickly, in line with the expansion of the Dutch dredging and maritime industry.

Today, Green Pin® is part of the Royal Van Beest Group and is headquartered in The Netherlands with branches in the United States, France, Germany, Spain and Brazil.

2022

1922

COMPLEMENTARY PRODUCTS

In addition to the Green Pin® product range of chain and rope fittings, Green Pin® 's corporate parent Royal Van Beest offers complementary products (such as wire rope thimbles, sleeves, general hardware, etc.) to make a lifting assembly complete.

These products are all produced to the specifications indicated in this catalogue and are subject to the quality control of Royal Van Beest. Complementary products are highlighted on the product pages of the catalogue with this icon c.

PROUD MEMBER OF

We are a member of several organizations who 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 through publications, internet, 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.

AVAILABLE WORLDWIDE

We believe Green Pin® products should be available to everyone on earth within 72 hours. That's why Green Pin works with the most and the best distributors on this planet. To find the distributor nearest to you, please contact us at: info@greenpin.com

REFERENCES

Some companies that use our products in projects:

- ADNOC
- Aker Marine Contractors
- Allseas
- BAE Systems
- Bechtel Corporation
- BHP Billiton
- Bluestream Offshore
- Bluewater
- Boskalis
- Bouygues
- BP
- Buckner Heavylift Cranes
- Caterpillar
- Chevron
- Codelco
- ConocoPhillips
- Delmar Systems
- EDF
- Eiffage
- Equinor
- ExxonMobil
- Fluor
- Fugro
- General Electric
- Heerema Marine Contractors
- Hyundai Heavy Industries
- InterMoor
- Jumbo
- Kiewit
- Lamprell
- Liebherr
- Mammoet / ALE
- Manitou
- McDermott
- Nordex
- NOV
- NPCC
- Oceaneering
- Pacific Drilling
- Rio Tinto
- Saipem
- Sapura Energy
- Saudi Aramco
- Schlumberger
- Shell
- Siemens
- SpaceX
- Subsea 7
- Tata
- TechnipFMC
- TotalEnergies
- Transocean
- US Steel
- Van Oord
- Vestas
- Vinci
- Wood Group

INSIGHTFUL AND HANDS-ON GREEN PIN® TRAINING

Green Pin® seminars and webinars give you the chance to improve your knowledge and discover new features about Green Pin® products and instruct you on how to operate them safely and properly. The training also provides you with insights into the engineering and production technology that goes into manufacturing them.

All sessions are interactive: they allow you to ample opportunities to ask any questions you have, or put forward any challenges that you have faced in the past to knowledgeable presenters.

Organized online via webinar, via a hybrid set-up, or face-to-face at a Green Pin® location or an external venue, there's always a seminar to be found or to be created that fits your schedule and location. In case you want to use the training for accreditation points we can supply you with an official Green Pin® certificate of participation.

Available Green Pin® training

Green Pin® seminars and webinars are available in several pre-defined formats as shown in the table below. However, completely customized training can also be made. Such sessions allow us to focus on precisely those challenges that you and your colleagues have questions about.

E-mail info@greenpin.com for any inquiries.

Green Pin® Training	What will you learn?	Industry focus	Duration
Shackles	The complete resource on Green Pin® shackles. Topics include the product range, production method, design, testing, instructions for use, certifications and inspection.	All	Two parts of 1 hour each
ROV Shackles and Hooks	An overview of all the shackles and hooks specially designed for Remotely Operated Vehicles, includes many pointers for the most effective use of the products.	Subsea, Offshore	1 hour
Aquaculture Range	Overview of all products specially designed for fishing and aquaculture. Extremely safe products and designed for long use underwater.	Fishing, Aquaculture	1 hour
Chain Fittings	Overview of complete chain fittings range, production method, design, testing, instructions for use, certifications and inspection.	All	Two parts of 1 hour each
Catch Shackle	Reducing the number of injuries and possible deaths by preventing objects from falling with the Catch shackle when assembly or disassembly during installation at a height.	Onshore and Offshore installations	45 min
Fixed Nut Shackles	The benefits, functionality and applications of this extremely secure way of fastening a shackle bolt for permanent use.	Multiple but mostly Marine, Offshore	1 hour
Heavy Duty Master Links	Overview of the range and features that make this forged master link unique in its class.	Offshore	1 hour
Green Pin Tycan® Chain	The complete resource on Green Pin Tycan® fibre chain for lashing and lifting; topics include the product range, design, testing, instructions for use, certifications, inspections and project examples.	All	1 hour
Power Sling® Shackles	Improving rigging safety and saving wire rope costs with the most innovative heavy-lifting shackle in the industry. The session covers this and other benefits, design features, certifications and application instruction.	Offshore, Wind	1 hour
General introduction	The benefits of Green Pin®, usage in various industries and a general overview of the assortment.	All	1 hour
Royal Van Beest Group	Background on Green Pin®'s corporate parent, the Royal Van Beest Group: its history, current operations, subsidiary companies and their products.	All	1 hour
Tailormade webinars	A tailormade session focused on your specific topic of interest or zooming in on a technical challenge you have faced with our type of products (conditions apply).	-	-

INTRODUCTION

General

In case you do not use the products yourself but are reselling these as part of a manufactured product, 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

Various raw materials are used for the production of shackles, hooks and other lifting devices, depending on the use of the finished product. The following raw materials may be used:

- Mild steel, untreated, grade 3;
- High tensile steel, untreated or normalized, grade 4;
- High tensile steel, quenched and tempered, grade 6;
- Alloy steel, quenched and tempered, grade 8;
- Alloy steel, quenched and tempered, grade 10;
- Stainless steel AISI316L, AISI316 or Duplex 1.4462, grade 5.

Load

Following terms are used to define a load:

- Working Load Limit or WLL: the maximum load the product is designed to sustain, in general use and in in-line lifting.
- 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 information about the proof load applied, we refer to the separate paragraph on testing.
- Minimum Breaking Load or MBL: the minimum load at which the product may fail or no longer sustain the load. Where applicable the MBL is specified.
- Shock Load: a sudden impact of the load on the lifting product. Shock loads are to be avoided at all times since they increase 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, which stands for metric tonne.

Safety factor

This indicates the ratio between the MBL and the WLL. For example, the standard range of Green Pin® shackles has a the safety factor of 6:1. This means that the shackle may only fail to retain the load, when the load is in exceedance of at least 6 times its designed WLL. Green Pin® chain fittings generally have a safety factor of 4:1 (lifting eyes have a safety factor of 5:1).

Product dimensions

All product dimensions mentioned in this catalogue are nominal dimensions. Product design, materials and/or specifications may be changed without prior notification. You can find the most up to date information including CAD-drawings on **greenpin.com/products**.

Finish

Products can have the following finish:

- Self-coloured: the product is delivered in the condition as it has been forged or machined and has undergone no specific finish treatment.
- Electro-galvanized: the finished product is electro-galvanized according to the customary standards. The thickness of the galvanization is at least 5 µm.
- Hot dipped galvanized: the finished product is hot dipped galvanized according to the customary standards. The thickness of the coating is at least 70 µm.
- Painted: the finished product is painted in a specific colour.
- Polished: stainless steel products are polished.

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. Beyond the advised temperature range the WLL of a product may be affected.

Abbreviations

The following abbreviations are used in this catalogue:

Product class abbreviations (for example, G-4161)

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

Product name abbreviations (for example, Green Pin® Bow Shackle BN)

BN	Bolt & Nut or safety bolt	HH	Hook-Hook
CL	Clevis	HK	Hook
CP	Cotter Pin	H-type	Horizontal
D	D-Handle	JJ	Jaw-Jaw
E	Eye	ROV	Remotely Operated Vehicle
EE	Eye-Eye	RT	Recessed Trigger
EJ	Eye-Jaw	S	Shackle
EH	Eye-Hook	S/S	Stainless Steel
F	Fishtail handle	SC	Screw Collar or Screw Pin
FN	Fixed Nut	SCL	Swivel Clevis
FP	Flush Pin	SE	Swivel Eye
GR5	Grade 5	SQ	Square headed Screw Pin
GR8	Grade 8	U-type	Universal (Horizontal and Vertical)
GR10	Grade 10	V-type	Vertical

Certificates

Our company is ISO certified by Lloyd's; currently we are ISO 9001-2015 certified. Depending on the type of product and certificate availability for a certain product, below mentioned certificates can be provided.

Type 2.1	2.1	**Works certificate to EN 10204** Statement of compliance with the order.
Type 2.2	2.2	**Works certificate to EN 10204** Statement of compliance with the order, stating the results of non-specific inspection.
Type 3.1	3.1	**Inspection certificate to EN 10204** Statement of compliance with the order, stating the results of material specific inspection. This includes chemical composition and mechanical properties at component level.
Type MTC a	MTC [a]	**Manufacturer test certificate** Statement of compliance with the order, stating the results of proof load testing samples of a production batch. Products are not individually tested.
Type MTC b	MTC [b]	**Manufacturer test certificate** Statement of compliance with the order, stating the results of individual proof load testing.
Type LROS	LROS	**Proofload Statement** Statement of witness of proof load testing and visual examination by a surveyor from Lloyds Register, stating the results of individual proof load testing.
Type DNV PL	DNV PL	**Proofload Statement** Statement of witness of proof load testing and visual examination by a surveyor from DNV, stating the results of individual proof load testing. For P-6043, these shackles are proof load tested with presence of a DNV surveyor.
Type MPI a	MPI [a]	**Non-destructive testing report** Statement of compliance with the order, stating the results of Magnetic Particle Inspection (M.P.I.) in accordance with EN 10228-1 on samples of a production batch. Products are not individually tested.
Type MPI b	MPI [b]	**Non-destructive testing report** Statement of compliance with the order, stating the results of individual Magnetic Particle Inspection (M.P.I.) in accordance with EN 10228-1.

Table continues on next page

Type US a	US [a]	**Non-destructive testing report** Statement of compliance with the order, stating the results of Ultrasonic Inspection (U.S.) in accordance with EN 10228-3 on samples of a production batch. Products are not individually tested.
Type US b	US [b]	**Non-destructive testing report** Statement of compliance with the order, stating the results of individual Ultrasonic Inspection (U.S.) in accordance with EN 10228-3.
Type DNV 2.7-1 a	DNV 2.7-1 [a]	**Type Approval certificate to DNV 2.7-1** Green Pin® Standard Shackles, Green Pin Polar® Shackles, DNV Master links and DNV Master link assemblies are DNV Type approved to DNV standards DNV-ST-E271-2.71 Offshore containers and DNV-ST-E273 Portable offshore units. DNV Type approval certificates TAS000033J and TAS00003F7.
Type DNV 2.7-1 b	DNV 2.7-1 [b]	**Type Approval certificate to DNV 2.7-1** Statement of compliance with the order, of Green Pin® Standard Shackles and Green Pin Polar® Shackles, DNV Type approved to DNV standards DNV-ST-E271-2.71 Offshore containers and DNV-ST-E273 Portable offshore units. Stating the results of proof load testing samples of a production batch. Products are not individually tested.
Type DNV 0377	DNV 0377	**Type Approval certificate to DNV 0377** Green Pin Power Sling® shackles are DNV Type approved to DNV Standard DNV-ST-0377 Standard for shipboard lifting appliances. DNV Type approval certificate TAS000018M. Former DNV Certification No 2.22, Lifting Appliances – Application – Loose gear for offshore cranes.
Type DNV 0378	DNV 0378 DNV CG3	**Type Approval certificate to DNV 0378** Green Pin® Standard Shackles, Green Pin Polar® Shackles and Green Pin Power Sling® shackles are DNV Type approved to DNV Standard DNV-ST-0378 – Standard for offshore and platform lifting appliances. DNV Type approval certificates TAS00001H7 and TAS000018M. Former DNV Certification No 2.22, Lifting Appliances – Application – Loose gear for offshore cranes.
Type NYTEK / NS 9415	DNV NS 9415	**Type Approval certificate to NYTEK-regulation and NS 9415** Green Pin® products, (G-4139, G-8310, G-4863, G-4163BG and G-6870), are primarily used for Aquaculture applications. These products and the Royal Van Beest management system are certified by DNV for compliance with NYTEK-regulation and NS 9425 standard. DNV approval certificate PRONO 121.
Type DGUV	DGUV	**DGUV Type test certificate to EN 1677** Many Green Pin® chain sling components have a DGUV type approval certificate. Tests are based on GS-OA-15-05:2012-05: Principles for the testing and certification of chains and chain components. These components are Type approved to EN 818-2 or EN 1677 and are entitled to be marked H94.
Type CE IIA	CE IIA	**CE Declaration of Conformity** CE Declaration of Conformity in accordance with annex IIA of the Machinery Directive 2006/42/EC and the latest amendments.
Type CE IIB	CE IIB	**CE Declaration of Incorporation** CE Declaration of Incorporation in accordance with annex IIB of the Machinery Directive 2006/42/EC and the latest amendments.
Type BL	BL	**Break Load test certificate** A certificate with the actual breaking load results on tested samples.
Type ABS PDA	ABS PDA	**Certificate of Product Design Assessment Approval** The Green Pin® Standard Shackles G-4161, G-4163, G-4151, G-4153; The Green Pin Polar® Shackles G-5163 and the Green Pin Super® Shackles G-5261 and G-5263 are ABS Type Approved. Intended service: Loose Gear Items. Use on Lifting Equipment. ABS PDA certificates 23-2397435-PDA, 23-2397436-PDA and 23-2397437-PDA.
Type ABS MA	ABS MA	**Certificate of Manufacturing Assessment Approval** ABS MA certificate 18-RO 3524956.

Conditions

Certificate types 2.1, 2.2, 3.1, MTC a, DNV 2.7-1 a, DNV 2.7-1 b, DNV 0377, DNV 0378, DNV NS 9415, DGUV, ABS PDA, ABS MA and CE can be supplied at no extra charge. For all other certificates, additional costs will be charged.

Free of charge:

2.1 | 2.2 | 3.1 | MTC [a] | DNV 2.7-1 [a] | DNV 2.7-1 [b] | DNV 0377 | DNV 0378 | DNV NS 9415 | DGUV | CE IIA | CE IIB | ABS PDA | ABS MA

With additional charges:

MTC [b] | LROS | MPI [a] | MPI [b] | US [a] | US [b] | DNV CG3 | BL

On request the proof load test certificates can be supplied surveyed by an official classification society, such as LROS, DNV, BV, ABS or any other officially certified inspection body. Specific details of certificate availability can be found in each product chapter. Please verify your certification requirements at the time of order. For more information and specifications, see the table below for an overview of the different test methods.

Test method	Test type	Test description	Document
Visual inspection	Non Destructive	The products are inspected and approved by our QC-department. The products are inspected and approved by our QC-department, stating the results of non-specific inspection.	2.1 2.2
Material specific inspection	Destructive	The material of the products is inspected. This includes chemical composition and mechanical properties at component level.	3.1
Proof Load test	Non Destructive	Samples of a production batch of products are proof load tested. Products are not individually tested. All products of a production batch are individually proof load tested.	MTC[a] MTC[b]
Magnetic Particle inspection	Non Destructive	Samples of a production batch of products are Magnetic Particle Inspection (M.P.I.) tested in accordance with EN 10228-1. Products are not individually tested. All products of a production batch are individually Magnetic Particle Inspection (M.P.I.) tested in accordance with EN 10228-1.	MPI[a] MPI[b]
Ultrasonic inspection	Non Destructive	Samples of a production batch of products are Ultrasonic Inspection (U.S.) tested in accordance with EN 10228-3. Products are not individually tested. All products of a production batch are individually Ultrasonic Inspection (U.S.) tested in accordance with EN 10228-3.	US[a] US[b]
Break Load test	Destructive	Samples of a production batch are break load tested.	BL

CAD drawings

Green Pin® products 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 Aided Design (CAD) software to develop a 2D or 3D specification of the entire system.

For standard products engineers normally use a CAD drawing library. The use of this 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 engineers, Green Pin® has made CAD drawings available in various formats (e.g. STEP, IGS, CATIA, etc.) on the Green Pin® website (**www.greenpin.com**). These drawings can be integrated in almost every design program. Further details can be obtained through our website: **www.greenpin.com/cad**.

CAD In the product chapters the CAD icon indicates that cad drawings are available.

RFID RFID

Green Pin® offers an identification solution with an easily accessible Radio Frequency Identification (RFID) chip in our range of Green Pin® Shackles. The RFID icon in the product chapters indicates that the products can be equipped with a countersunk RFID chip.

For more information see page 24.

INFO More information

For some products we provide detailed technical information on our website. In the product chapters the INFO icon indicates that there is extra information on this product available at **www.greenpin.com/FAQ**.

General cautions and warnings

All WLL's indicated in this catalogue or in other Green Pin® literature or publications are only applicable to recently-supplied, new and unused products used under prescribed operating conditions. Any extreme circumstances or shock loading that occur during use must be taken into account when specifying the products to be used.

The WLL should be applied in in-line lifting. Overloads must be avoided. Side loads should be avoided too, as the products are not designed for this purpose and the application of a side load may significantly decrease product life. The WLL of the product represents the limit in static use. In case of dynamic use (breaking, accelerations, shocks), the effective stress on the product increases significantly which can lead to product failure.

Products must be regularly inspected in accordance with the safety standards valid in the country of use. This is required because the products in use may be affected by wear, misuse, overloading etc. which may lead to deformation and alteration of the material structure. Inspection should take place at least every six months and more frequently when the products are used in severe operating conditions.

Green Pin® is constantly improving products to make sure they meet the latest industry standards. Therefore some dimensions or product markings may differ from those stated in this catalogue. The characteristics mentioned in this catalogue or in other Green Pin® literature or publications are given merely as an indication. Green Pin® reserves the right to make any suitable modification to any product, even after acceptance of the customer order. The essential characteristics and performances of the products shall not be negatively affected by such modifications. Any critical dimensions or characteristics should be verified with our engineering department before ordering the product.

Green Pin® products are typically used to transfer loads during lifting, lashing or towing. These fittings are usually combined with steel wire rope, chain or synthetic rope or chain (Green Pin Tycan® chain) to form a lifting sling. You must therefore conduct the following verifications to safely use the products:

Verification before first use

Before first use of the sling it should be ensured that:

- The sling meets the exact requirements specified in the order;
- The valid manufacturer certificate and CE declaration are at hand;
- The identification and the WLL mentioned on the sling correspond to the information stated on the certificate;
- Full details of the sling (components, diameter, number of legs, angle, grade) are recorded in the register of lifting equipment;
- The users of the sling have received appropriate instruction and training.

Verification before each use

Before each use the sling should be visually inspected for obvious damage or deterioration. If faults are found during this inspection, the sling should be withdrawn from service and referred to a competent person for thorough examination. Some parts can be replaced or the complete sling can be discarded.

A thorough inspection should be carried out by a competent person at intervals not exceeding six months and more frequently when the slings are used in severe operation conditions. Records of such inspections should be maintained. Slings should be thoroughly cleaned to remove any oil, dirt or rust prior to inspection. Any cleaning method which does not damage the material is acceptable. Avoid the use of acids, overheating, removal of metal or movement of metal which may cover cracks or surface defects.

The sling should be inspected throughout its full length to detect any evidence of wear, distortion or external damage.

Any replacement component or part of the sling should be in accordance with the appropriate European Standard or the safety standards given in the country of use for that component or part. If a chain link in one of the legs of a chain sling is damaged, then the entire chain leg should be replaced. The repair of a link in a welded chain sling should exclusively be carried out by the chain manufacturer using the adequate welding process. Components showing any defects should be discarded and replaced. When replacing a mechanically assembled component, always use a replacement component that meets the certification requirements of the sling.

Handling of the load

- It is important to check the sling before lifting. Check if the manufacturer of the load indicates any specific instructions for the lifting of the load. Before starting the lift, make sure that the load is free to move and is not bolted down. Also check if no loose objects could fall down from the load. The path between the current location of the load and the new one must be free.
- The weight of the load must be known in order to select a sling with the correct WLL. If the weight of the load is not marked, the information should be obtained from the consignment notes, manuals or drawings, or assessed by calculation.
- Please observe the centre of gravity of the load. To prevent any tilting or toppling, the following conditions should be met:
  - for single leg slings and endless slings the lifting point should be positioned directly above the centre of gravity.
  - for two leg slings the lifting points should be positioned on both sides of, and higher than, the centre of gravity.
  - for three and four leg slings the lifting points should be distributed in a plane around the centre of gravity. Distribute the weight evenly over the lifting points, which should be placed higher than the centre of gravity.
- When using multi leg slings make sure that the angles between the lifting points and sling legs are within the range marked on the sling. The angle ß, which is the angle between the sling leg and the vertical, should never exceed 60°. Details about load reductions for slings at certain angles can be found in the tables corresponding to the relevant chain grade.
- Use the below reduction table if a multi leg sling is not used for the purpose for which it has been designed, for example for a lifting operation with fewer legs than the number of legs of the sling:

Types of chain sling	Number of legs used	Factor to apply to marked WLL
Two-leg	1	1/2
Three- and four-leg	2	2/3
Three- and four-leg	1	1/3

- The sling should at least have a WLL equal to or greater than the weight to be lifted.
- Ensure that the load to be moved is able to resist both the vertical and horizontal force without being damaged.
- A suspended load should not be left unattended.
- Riggers should be aware of the risks and dangers of shock loading which may lead to failure of the sling. The load should always be lifted and lowered slowly.

Method of connection

- A sling is usually attached to the load with endfittings such as hooks and/or links.
- The components should be used for in-line loading only in order to avoid bending.
- The lifting points fixed on the load should be seated well in the load bearing part of the hook (never on the tip of the hook or wedged in the opening of the hook).
- We refer to the detailed warnings of each component in the product chapters.

Symmetry of loading

The WLL values mentioned in our catalogue for each grade have been determined on the basis that the loading of the sling is symmetrical. This means that when the load is lifted the sling legs are symmetrically distributed in the plane and all legs of the sling have the same angles to the vertical.
For chain slings refer to EN 818-6:2000+A1:2008 for more details.

The loading can be assumed to be symmetric if all of the following conditions are met:

- the load is less than 80% of marked WLL and
- sling leg angles to the vertical are all more than 15° and
- sling leg angles to the vertical are all within 15° to each other and
- in the case of three- and four- leg slings, the plane angles are within 15° of each other.

If one of the above parameters is not met, the loading should be considered to be asymmetric and the lift should be referred to a competent engineer to establish the safe rating for the sling. Alternatively, in the case of asymmetric loading, the sling should be derated to half the marked WLL. If the load tends to tilt during the lift, it should be lowered and the attachments changed by repositioning the attachment points or by using compatible shortening devices. The safety factor on the individual components is designed for safety only. Never exceed the indicated WLL.

Safety of lift

Hands and other body parts should be kept away from the chain to prevent injuries. The load should be lifted slowly until the sling leg is taut. As soon as the load is slightly raised, check that it is secure and has the desired position. Refer to ISO 12480-1 for planning and management of the lifting operation and for a safe way of executing it. Never move the load over people during the lift.

Lowering the load
The point of destination of the load should be prepared and should be adapted to the weight and shape of the load. The access to this site must be clear of any unnecessary obstacles and people. The load should be lowered carefully. Avoid trapping the sling beneath the load as this may cause damage to the load or sling. Before taking the tension off the sling legs, the load should be checked to ensure that it is properly supported and stable. The sling should be removed by hand and not with the lifting device. The load should not be rolled off the sling as this may damage the sling.

Storage of slings
When not in use slings should be kept on a properly designed rack. They should not be left lying on the ground where they may be damaged. If the slings are left suspended from a crane hook, the sling hooks should be engaged in an upper link to reduce the risk of sling legs swinging freely or snagging. If the slings are out of use for some time they should be cleaned, dried and protected from corrosion, e.g. lightly oiled.

Maintenance
Slings must be regularly inspected in accordance with the safety standards valid in the country of use.

A competent engineer should examine the sling, observing the following:
- the sling markings (ID, WLL) must be legible;
- there may be no distortion of the upper or lower end fittings;
- sling leg stretch and wear may not exceed the tolerances.

If the identification tag of the sling is missing and the necessary information is not marked on the sling itself, the sling should be withdrawn from service. Use original Green Pin® spare kits to replace parts (such as a load pin or the latch of a hook) or if a load pin is misused, damaged or distorted.

Limitations in use
- Never modify components by welding, heat treating, grinding or any other process. It could alter their mechanical and/or chemical characteristics;
- Consult Green Pin® if the sling is to be exposed to highly concentrated chemicals. Green Pin® products may not be used under chemical influences such as acids or alkaline solutions;
- The rating of lifting accessories in European Standards assumes the absence of exceptionally hazardous conditions. This concerns offshore activities, lifting of persons and lifting of potentially dangerous loads. In such cases the degree of hazard should be assessed by a competent engineer and the WLL adjusted accordingly;
- If a product is used under extreme temperature conditions, the WLL must be reduced. We refer to the relevant product chapter in this catalogue for guidance on use at extreme temperatures.

Conversion factors

To convert		
from	to	multiply by
Length		
mm	inch	0.0393701
inch	mm	25.4
Mass		
US tonnes	metric tonnes	0.9071847
metric tonnes	US tonnes	1.1023113
metric tonnes	pounds	2204.6226218
pounds	metric tonnes	0.0004536
metric tonnes	kilogram	1000
kilogram	metric tonnes	0.001
metric tonnes	kilo Newton	9.8066500
kilo Newton	metric tonnes	0.1019716
pounds	kilogram	0.4535924
kilogram	pounds	2.2046226
Temperature		
Celcius	Fahrenheit	1.8 +32
Fahrenheit	Celcius	(-32) * 0.5555556
Torque		
Newton meter	foot pound-force	0.7375621
foot pound-force	Newton meter	1.3558180

FISHING & AQUACULTURE

Applications

Green Pin® Fishing shackles are used for easy and efficient connection of fishing components. Green Pin® aquaculture products are used for aquaculture applications and are suitable for extreme marine conditions. The cages need to be secured reliably for long periods to safeguard the investment. That's why cages need mooring equipment which is above standard.

Range

Green Pin® offers a wide range of fishing and aquaculture products for a variety of applications. The range stretches from WLL 2 t to 25 t and MBL 30 t up to 170 t. This provides our customers with a very extensive range to choose products that suit their application best. Check out the complete range of fishing and aquaculture products at **www.greenpin.com/aquaculture**.

Design

Green Pin® offers four types of fishing shackles and five types of aquaculture products.
All fishing shackles are in compliance with EN 13889.

These products are generally marked with:

- Working Load Limit / Minimum Breaking Load - e.g. WLL 25 T or MBL 40 T
- manufacturer's symbol - GP
- traceability code - e.g. HA
- steel grade - e.g. 8
- CE conformity code (Conformité Européenne) - e.g. CE
- Origin - e.g. Holland

Finish

Green Pin® fishing shackles are painted or hot dipped galvanized.
The Green Pin® aquaculture products are completely hot dipped galvanized.

Certification

Specific details of certificate availability can be found on each product page.
Please verify your certification requirements at the time of order. All aquaculture products are certified by DNV in compliance with NYTEK regulation and NS 9415. The aquaculture approval certificates provided by DNV can be found at **www.greenpin.com**.

Instructions for use

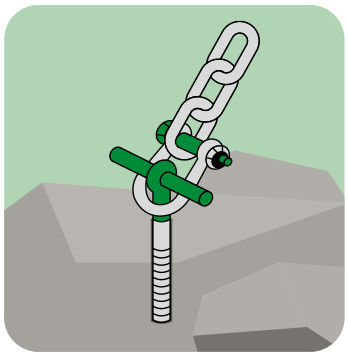
For general (assembly) instructions about shackles we refer to chapter 1, and for master links to chapter 3. For the mooring bolt, please find the specific instructions below.

Fishing and aquaculture products must be regularly inspected in accordance with the safety standards and regulations given in the country of use. This is required because the products in use may be affected by deteriorating conditions such as wear, misuse and overloading, which may lead to deformation and alteration of the material structure. Inspection should take place at least every six months (follow the local rules in the country of use), and more frequently when the links are used in severe operating conditions.

Installation of the Green Pin® Mooring Bolt

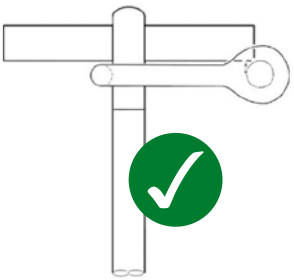
Green Pin® Mooring Bolt NS9415 T must be installed by the use of two-component grouting. The advised grouting to be used is Fosroc® Lokfix S25 or equivalent. Before installation of the Green Pin® Mooring Bolt NS9415, always consult the installation manual of the used grouting and respect the instructions.

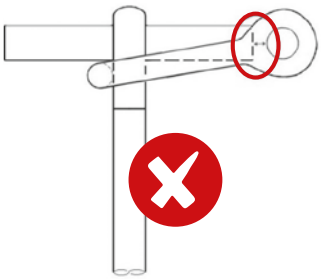
For instructions on how to machine the hole and the application and hardening time of the grouting, please always consult the installation manual of the grouting supplier first. The mounting depth is indicated by the green colour. Install the Mooring Bolt NS9415 T until the green-coloured part is reached.
The green-coloured part may not enter the hole.



Assembly of Green Pin® Shackles to Green Pin® Mooring Bolts

Ensure that the inside length of the chosen shackle is minimized so that the shackle cannot be (dis)assembled from/to the Mooring bolt without disassembling the shackle pin.

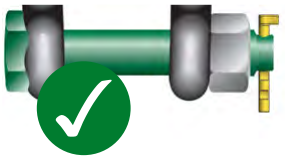


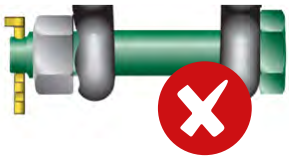


In any case; Shackles and mooring bolts that are connected to each other shall have dimensions that are adapted to each other, in order to prevent any increase in the risk of damage and fish escape.

Assembly of Green Pin® Mooring Shackles

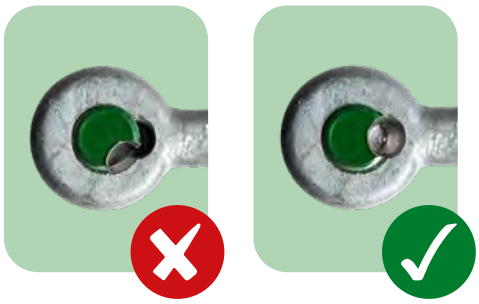
Green Pin® Mooring Shackle is equipped with a chamber in which the pinhead will fit. During assembling the pinhead will block in the chamber which facilitates easier assembling. Please note that it is not allowed to fit the nut into this chamber.





Assembly of Green Pin® Safety Plug

Please also consult chapter 1: shackles for general user instructions on the screw pin shackles, including the Green Pin® Dee Shackle NS9415 FP.



1. Assemble the shackle pin and secure it hand tight;

2. When a misalignment of the drilled hole can be seen, fasten the pin further using the Green Pin® Sunken hole key until the drilled hole is aligned;

3. Insert the Green Pin® safety plug, with the blind side first, using a small nylon hammer; Make sure that the safety plug is completely inserted into the drilled hole.

Disassembly of Green Pin® Safety Plug

There are two ways in which the safety plug can be disassembled:

1. Using a screw and cordless drill

Use force to break the plug screw the 4 x 25 mm screw into the centre hole of the safety plug till you reach the (steel) bottom of the drilled hole. By continuing the screwing, the rotating effect will force the plug to come out of the hole automatically;

2. Use force to break the plug

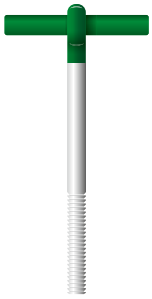
Use the square key to break the plug. If needed, a cheater pipe can be used to increase the force on the plug.

Green Pin® Mooring Bolt NS9415 T

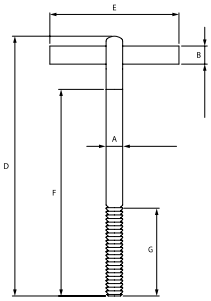
Bolt with T-shaped end-fitting

Scan for additional product details

- **Material:** high tensile steel, grade 8, quenched and tempered
- **Standard:** NYTEK regulation and NS 9415
- **Finish:** hot dipped galvanized
- **Temperature Range:** -20 °C up to +200 °C
- **Certification:** 2.1 2.2 3.1 MTC [a] CE IIA DNV NS 9415
- **Article code:** scan QR code to see article codes



G-8310



minimum breaking load	diameter bolt	diameter crossing bar	diameter eye	length	width	mounting depth	length mounting thread	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	kg
40	32	35	73	503	250	400	170	5.16
60	38	42	88	628	300	500	210	9.06
80	45	50	104	744	400	600	300	15.6
100	50	57	112	774	400	600	300	20
130	57	57	119	779	400	600	300	23.7
170	65	57	140	900	400	700	350	32.8

CAD INFO

CERTIFIED PRODUCT DNV NYTEK NS 9415

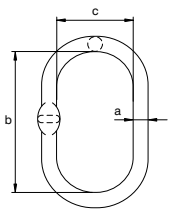
Green Pin® Master Link NS9415 GR8

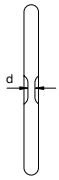
Grade 8 master link acc. to NS 9415

Scan for additional product details

- **Material:** alloy steel, grade 8
- **Standard:** EN 1677-4 and NYTEK regulation and NS 9415
- **Finish:** hot dipped galvanized
- **Temperature range:** -40 °C up to +200 °C
- **Certification:** 2.1 2.2 3.1 MTC [b] MPI [a] DNV NS 9415
- **Article code:** scan QR code to see article codes

G-6870





minimum breaking load	diameter	length inside	width inside	weight each
t	a mm	b mm	c mm	kg
32.8	22	170	90	1.60
51.5	28	209	113.5	3.20
68.3	32	270	140	5.30
112.4	38	270	140	7.80

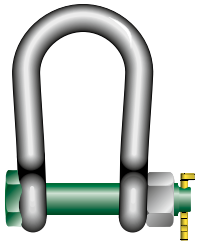
CAD INFO

CERTIFIED PRODUCT DNV NYTEK NS 9415

Green Pin® Mooring Bow Shackle NS9415 BN

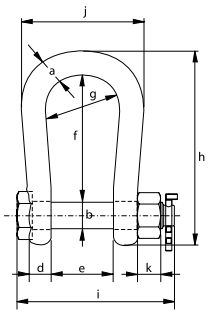
Grade 8 mooring bow shackle with safety bolt and sunken bolt head

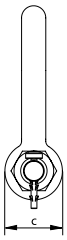
Scan for additional product details



G-4863

- **Material:** bow and pin alloy steel, grade 8, quenched and tempered
- **Standard:** NYTEK regulation and NS 9415
- **Finish:** hot dipped galvanized
- **Temperature Range:** -20 °C up to +200 °C
- **Certification:** 2.1 2.2 3.1 MTC [a] CE IIA DNV NS 9415
- **Article code:** scan QR code to see article codes
- **Note:** the synthetic cotter pin is available for sizes MBL 30 t up to 90 t and must be ordered separately



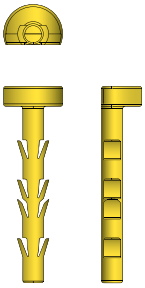


minimum breaking load	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	j mm	k mm	kg
30	19	22	48	19	44	100	58	154	125	96	19	1.34
40	22	25	54	22	52	125	68	187	142	112	22	2.08
60	28	32	66	28	62	150	89	227	178	145	27	4.07
90	32	35	76	32	82	170	98	258	207	162	30	5.95
110	42	45	90	42	112	200	150	310	261	234	25	14.7
150	45	50	105	45	125	225	175	348	288	265	23	16.7

CAD INFO

Secure pin for mooring shackles

SPSECUREPIN



CERTIFIED PRODUCT DNV NYTEK NS 9415

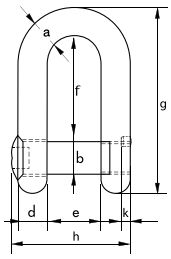
Green Pin® Dee Shackle NS9415 FP

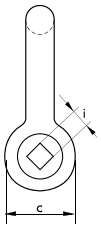
Dee shackle with square sunken hole screw pin (flush) and double safety plug

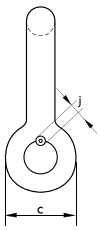
Scan for additional product details

G-4139

- **Material:** bow and pin high tensile steel, grade 6, quenched and tempered
- **Safety Factor:** MBL equals 7 x WLL
- **Standard:** NYTEK regulation and NS 9415, ISO 2415, EN 13889, ASME B30.26
- **Finish:** hot dipped galvanized
- **Certification:** 2.1 2.2 3.1 MTC [a] CE IIA DNV NS 9415
- **Article code:** scan QR code to see article codes
- **Note:** key for unscrewing the pin and safety plug must be ordered separately





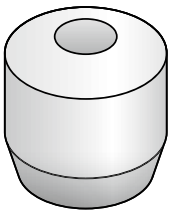


working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	size square hole	diameter plug hole	depth plug hole	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	j mm	k mm	kg
2	13.5	16	34	13	22	43	81	51	11	8	8	0.29
3.25	16	19	40	16	27	51	97	63	11	8	8	0.60
4.75	19	22	46	19	31	59	112	74	11	8	8	0.98
6.5	22	25	52	22	36	73	134	85	13	8	8	1.26
8.5	25	28	59	25	43	85	154	99	13	8	8	2.14

CAD

Safety plug for screw pin

GPPLUG

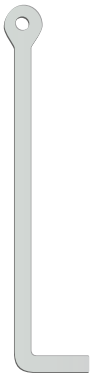


CERTIFIED PRODUCT DNV NYTEK NS 9415

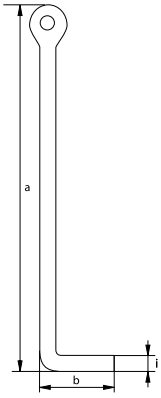
Green Pin® Sunken Hole Key

Accessory for fishing shackle with square sunken hole

Scan for additional product details



E-4170



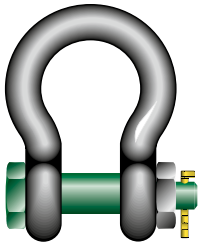
Shackle size

t	i mm	a mm	b mm
2- 3.25 - 4.75	10	190	45
6.5 - 8.5	12	230	45
9.5 - 17	16	280	45

Green Pin® Bow Shackle NS9415 BN

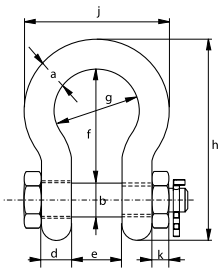
Standard bow shackle with safety bolt acc. to NS 9415

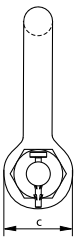
Scan for additional product details



G-4163BG

- **Material:** bow and pin high tensile steel, grade 6, quenched and tempered
- **Safety Factor:** MBL equals 6 x WLL
- **Standard:** NYTEK regulation and NS 9415, ISO 2415, EN 13889 and meets performance requirements of US Fed. Spec. RR-C-271, Type IVA, Class 3, Grade A
  From 2 t and upward these shackles comply with ASME B30.26
- **Finish:** hot dipped galvanized
- **Temperature Range:** -40 °C up to +200 °C
- **Certification:** 2.1 2.2 3.1 MTC [a] CE IIA DNV NS 9415
- **Article code:** scan QR code to see article codes
- **Note:** the synthetic cotter pin is available for sizes WLL 4.75 t up to 12 t and must be ordered separately



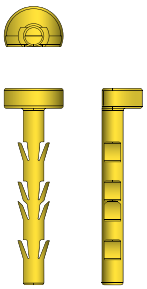


working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	weight each
	a	b	c	d	e	f	g	h	i	j	k	
t	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg
2	13.5	16	34	13	22	51	32	89	82	58	13	0.42
3.25	16	19	40	16	27	64	43	110	98	75	17	0.74
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

CAD

Secure pin for mooring shackles

SPSECUREPIN



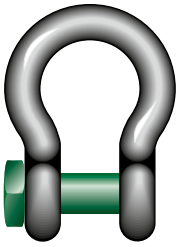
CERTIFIED PRODUCT DNV NYTEK NS 9415

Scan for additional product details

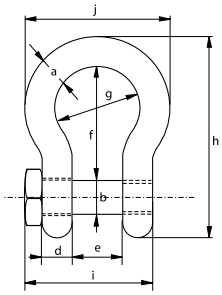
Green Pin® Fishing Bow Shackle SQ

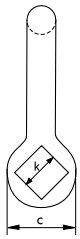
Bow shackle with square headed screw pin

- **Material:** bow and pin high tensile steel, grade 6, quenched and tempered
- **Safety Factor:** MBL equals 6 x WLL
- **Standard:** ISO 2415, EN 13889, ASME B30.26 and meets performance requirements of US Fed. Spec. RR-C-271, grade A
- **Finish:** hot dipped galvanized
- **Certification:** 2.1 2.2 3.1 MTC [a] CE IIA
- **Article code:** scan QR code to see article codes



G-4164





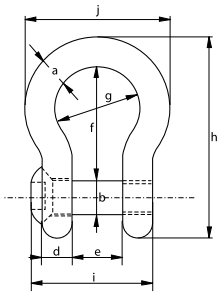
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	width bolt head	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	j mm	k mm	kg
2	13.5	16	34	13	22	51	32	90	57.5	59	22	0.34
3.25	16	19	40	16	27	64	43	110	71	75	27	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	67	28	47	108	75	186	120	131	41	3.18
12	32	35	73	32	51	115	83	201	137	147	50	4.32
13.5	35	38	79	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	104	45	74	178	126	300	192	216	60	12.4

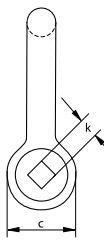
Green Pin® Fishing Bow Shackle FP

Bow shackle with square sunken hole screw pin (flush pin)

- **Material:** bow and pin high tensile steel, grade 6, quenched and tempered
- **Safety Factor:** MBL equals 6 x WLL
- **Standard:** ISO 2415, EN 13889, ASME B30.26 and meets performance requirements of US Fed. Spec. RR-C-271, grade A
- **Finish:** hot dipped galvanized
- **Certification:** 2.1 2.2 3.1 MTC [a] CE IIA
- **Article code:** scan QR code to see article codes
- **Note:** key for unscrewing the pin must be ordered separately

G-4169





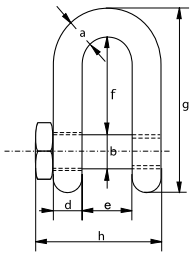
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	size hole head	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	j mm	k mm	kg
2	13.5	16	34	13	22	51	32	89	51	59	11	0.31
3.25	16	19	40	16	27	64	43	110	63	75	11	0.56
4.75	19	22	46	19	31	76	51	129	74	89	11	0.96
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	67	28	47	108	75	185	110	131	17	2.84
12	32	35	73	32	51	115	83	201	122	147	17	3.91
17	38	42	88	38	60	146	99	249	145	175	17	6.81

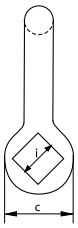
Green Pin® Fishing Dee Shackle SQ

Dee shackle with square headed screw pin

Scan for additional product details

G-4154





- **Material:** bow and pin high tensile steel, grade 6, quenched and tempered
- **Safety Factor:** MBL equals 6 x WLL
- **Standard:** ISO 2415, EN 13889, ASME B30.26 and meets performance requirements of US Fed. Spec. RR-C-271, grade A
- **Finish:** hot dipped galvanized
- **Certification:** 2.1 2.2 3.1 MTC [a] CE IIA
- **Article code:** scan QR code to see article codes

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	82	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	67	28	47	90	168	120	41	2.75
12	32	35	73	32	51	94	180	137	50	3.96
13.5	35	38	79	35	57	115	209	149	50	5.03
17	38	42	88	38	60	127	230	164	60	6.80
25	45	50	104	45	74	149	271	192	60	11.2

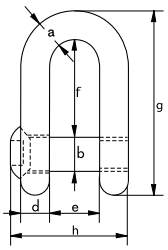
Green Pin® Fishing Dee Shackle FP

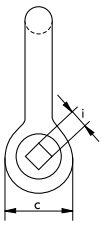
Dee shackle with square sunken hole screw pin (flush pin)

Scan for additional product details

- **Material:** bow and pin high tensile steel, grade 6, quenched and tempered
- **Safety Factor:** MBL equals 6 x WLL
- **Standard:** ISO 2415, EN 13889, ASME B30.26 and meets performance requirements of US Fed. Spec. RR-C-271, grade A
- **Finish:** hot dipped galvanized
- **Certification:** 2.1 2.2 3.1 MTC [a] CE IIA
- **Article code:** scan QR code to see article codes
- **Note:** key for unscrewing the pin must be ordered separately

G-4159

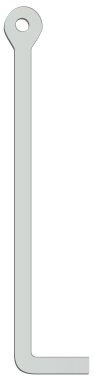




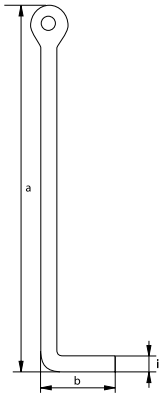
working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	length	length bolt	size hole head	weight each
t	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	kg
2	13.5	16	34	13	22	43	82	51	11	0.29
3.25	16	19	40	16	27	51	97	63	11	0.60
4.75	19	22	46	19	31	59	112	74	11	0.98
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	67	28	47	90	168	110	17	2.58
12	32	35	73	32	51	94	180	122	17	3.49
17	38	42	88	38	60	127	230	145	17	6.22

Green Pin® Sunken Hole Key

Accessory for fishing shackle with square sunken hole



E-4170



Shackle size

t	i mm	a mm	b mm
2- 3.25 - 4.75	10	190	45
6.5 - 8.5	12	230	45
9.5 - 17	16	280	45

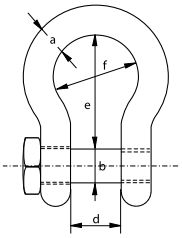
C

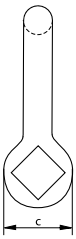
Fishing Shackles

Bow shackle with square head screw pin

- **Material:** mild steel
- **Safety factor:** MBL equals 5 x WLL
- **Finish:** painted blue
- **Certification:** 2.1 2.2

P-3764





working load limit	diameter 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	kg
1.5	13	16	32	25	48	36	0.37
2.5	16	20	40	32	64	48	0.71
3	20	22	48	38	79	60	1.24

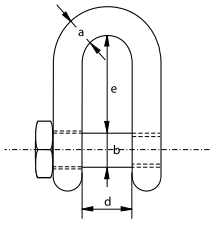
C

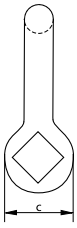
Fishing Shackles

Dee shackle with square head screw pin

- **Material:** mild steel
- **Safety factor:** MBL equals 5 x WLL
- **Finish:** painted blue
- **Certification:** 2.1 2.2

P-3754





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
1.5	13	16	32	25	48	0.36
2.5	16	20	40	32	64	0.69
3	20	22	48	38	75	1.18
4	22	25	53	44	83	1.61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