

**the Crosby group®**

**PRODUCT CATALOG**  
with application & warning information  
**Imperial**

Crosby® Gunnebo Industries® Crosby Straightpoint® McKissick®  
Crosby BlokCam® CrosbyIP® Crosby Feubo® Speedbinders®

## GLOBAL HEADQUARTERS

### RICHARDSON

2600 North Central Expwy  
Richardson, TX 75080 USA

## NORTH AMERICA FACILITIES

### LONGVIEW

2414 Crosby Way  
Longview, TX 75602 USA

### TULSA

2801 Dawson Rd  
Tulsa, OK 74110 USA

### LITTLE ROCK

2511 West Main St  
Jacksonville, AR 72076 USA

### ARLINGTON

2101 Exchange Dr  
Arlington, TX 76011 USA

### MISSISSAUGA

3660 Odyssey Dr, #4  
Mississauga, Ontario, Canada  
L5M 7N4

## LATIN AMERICA FACILITIES

### SAO PAULO

Rua Guarani, 485, Vila Conceicão  
CEP 09991-060 Diadema, Sao Paulo

## CUSTOMER SERVICE

### UNITED STATES

800-772-1500  
crosbycustomerservice@thecrosbygroup.com

### CANADA

877-462-7672  
sales@crosby.ca

### LATIN AMERICA & ASIA

+1 918-832-5036  
internationalcs@thecrosbygroup.com

### EUROPE, MIDDLE EAST & AFRICA

+32 1575 7125  
salesbelgium@thecrosbygroup.com

## EUROPE FACILITIES

### HEIST

Industriepark 26/B, 2220  
Heist-op-den-Berg, Belgium

### PUTTE

Leuvensebaan 51  
2580, Putte, Belgium

### EDE

Celsiusstraat 51, 6716 BZ  
Ede, The Netherlands

### GUNNEBO

Trådgatan 5  
593 75, Gunnebo, Sweden

### VÄXJÖ

Stinavägen 1  
352 46, Växjö, Sweden

### GOTHENBURG

Marieholmsgatan 44  
415 02 Gothenburg, Sweden

### LONEVÅG

Osterøyvegen 1328  
N-5282, Lonevåg, Norway

### ORNETA

Przemysłowa 43, 11-130  
Orneta, Poland

### HAVANT

9, Dakota Business Park, 14  
Downley Rd, Havant PO9 2NJ, UK

### CRADLEY HEATH

Station St  
Cradley Heath B64 6AJ, UK

### HATTINGEN

Beuler Höhe 16  
45525, Hattingen, Germany

### JOIGNY

47, rue de la gare  
08700, Joigny-sur-Meuse, France

## ASIA PACIFIC FACILITIES

### BRISBANE

Unit 1, 24 Gassman Dr  
Yatala Qld 4207  
Brisbane, Australia

### PERTH

46 Goodwood Parade  
Burswood WA 6100  
Perth, Australia



## SALES

Visit [\[redacted\]](#) to find the local area sales manager for your region.

## ENGINEERED SOLUTIONS

To learn more about our global Engineered Solutions group and submit a request for a custom project, visit [thecrosbygroup.com/engineeredsolutions](#).



## AUTHORIZED DISTRIBUTORS

Products manufactured by The Crosby Group are available globally through authorized distributors.

Contact your local authorized Crosby Group distributor for product availability, service and support.

## LIMITED WARRANTY & LIMITATIONS OF LIABILITY

"Crosby" as used in these terms related to Crosby's Limited Warranty and Limitation of Liability means: the applicable product- or service-selling entity listed in the Order Acknowledgment issued to the Purchaser. For example, the product- or service-selling entity may be THE CROSBY GROUP LLC or a different product- or service-selling entity that is an affiliate of THE CROSBY GROUP LLC, including, without limitation, Gunnebo Industries; Speedbinders; The Crosby Group UK Limited; and Straightpoint UK Ltd. If there is any question as to the identity of "Crosby" or no Order Acknowledgment is issued, then THE CROSBY GROUP LLC (upon request) will specify the identity of "Crosby" as it relates to these terms.

Purchaser and Crosby expressly agree that Crosby's warranty with respect to sale of its products is LIMITED solely to Crosby's choice of repair, replacement or refund of the purchase price of any product or part thereof determined by Crosby to be defective within the first 12 months following the transfer of title of the product from Crosby to the purchaser. Installation or operation of the product in any manner other than as recommended by Crosby, shall void the warranty. No warranty is made for components and accessories made by others when such items are warranted by their respective manufacturer. Purchaser and Crosby expressly agree that upon termination of the aforementioned 12-month period, the purchased product carries no warranty whatsoever. Purchaser and Crosby expressly agree that the remedies provided in this section are the purchaser's exclusive remedies in connection with the purchase or use of the product.

Neither Purchaser, user nor any third party shall be entitled to recover from Crosby (1) any consequential, incidental, punitive, special or indirect damages of any nature, including but not limited to, the cost of any labor expended by others in connection with the goods sold by reason of any alleged non-conformity or breach of warranty on the part of Crosby or costs of material on account thereof, (2) damages of any kind for loss of profits, revenue, data or data use, or (3) damages of any kind for business interruption whether determinable or speculative, loss of business information, goodwill, reputation or privacy, (4), for costs of procuring substitute goods, software or services, incurred by Purchaser, user or any third party, however, arising, whether in an action in contract, tort, under statute or otherwise, and whether or not the possibility or likelihood of such damages were reasonably foreseeable.

ALL OTHER WARRANTIES, INCLUDING EXPRESS WARRANTIES AND THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. ADDITIONALLY, CROSBY HEREBY DISCLAIMS ANY OF ITS OBLIGATIONS OR LIABILITIES ARISING FROM STATUTE, WARRANTY, CONTRACT, TORT OR NEGLIGENCE.

Complete Agreement: This Warranty between purchaser and Crosby is complete. All prior or contemporaneous discussions, representations and/or understandings are merged into this Warranty. All prior or contemporaneous agreements between the parties are superseded by this Warranty.

Choice of Law and Venue: If the applicable Crosby entity's principal place of business is not in Europe, then Purchaser and Crosby expressly agree that any dispute arising out of these terms and all disputes concerning or relating to the purchase, use or operation of the goods shall be governed by the laws of the State of Oklahoma, USA, excluding any conflicts-of-law rules, and any lawsuit shall be filed in Tulsa, Oklahoma, USA. If the applicable Crosby entity's principal place of business is in Europe, then Purchaser and Crosby expressly agree that any dispute arising out of these terms and all disputes concerning or relating to the purchase, use or operation of the goods shall be governed by the laws of England, excluding any conflicts-of-law rules, and any lawsuit shall be filed in London, England. If there is any question as to the location of Crosby's principal place of business, then (upon request) Crosby shall provide specify the location of Crosby's principal place of business.



### DIGITAL CATALOG

Download the digital version of this catalog or order print copies at [thecrosbygroup.com/catalog](http://thecrosbygroup.com/catalog)

### SUPPLEMENTAL CATALOGS

Brand-specific catalogs for Gunnebo Industries and Crosby Straightpoint are available. For more information, visit [thecrosbygroup.com/catalog](http://thecrosbygroup.com/catalog)

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## DEFINITIONS

### STATIC LOAD

The load resulting from a constant applied force or load.

### WORKING LOAD LIMIT

The maximum mass or force that the product is authorized to support in general service when the pull is applied in-line, unless noted otherwise, with respect to the centerline of the product. This term is used interchangeably with the following terms: WLL, Rated Load Value, Resultant Working Load.

### WORKING LOAD

The maximum mass or force that the product is authorized to support in a particular service.

### PROOF LOAD

The average force applied in the performance of a proof test; the average force to which a product may be subjected before deformation occurs.

### PROOF TEST

A test applied to a product solely to determine injurious material or manufacturing defects.

### ULTIMATE LOAD

The average load or force at which the product fails or no longer supports the load. Interchangeable with Ultimate Strength.

### SHOCK LOAD

A force that results from the rapid application of a force (such as impacting or jerking) or rapid movement of a static load. A shock load significantly adds to the static load.

## GENERAL CAUTIONS & WARNINGS

All products manufactured by Crosby are sold with the express understanding that the purchaser is thoroughly familiar with the safe and proper use and application of the product.

Responsibility for the use and application of the products rests with the user. Crosby disseminates products warnings and end user application information through various channels. In addition, Crosby provides formal product training seminars and our engineering personnel are readily available to answer your technical questions. For more information read the Crosby General Catalog, refer to Crosby's website at [thecrosbygroup.com](http://thecrosbygroup.com), or contact your Crosby distributor or Crosby direct at 918-834-4611.

Failure of the product can occur due to misapplication, abuse, or improper maintenance. Product failure could allow the load to become out of control, resulting in possible property damage, personal injury or death. There are numerous government and industry standards that cover products made by Crosby. This catalog makes no attempt to reference all of them. We do reference the standards that are most frequently asked about. Ratings shown in Crosby literature are applicable only to new or in "as-new" condition products.

Load Limit ratings indicate the greatest force or load a product can carry under usual environmental conditions. Shock loading and extraordinary conditions must be taken into account when selecting products for use in a system.

In general, the products displayed in Crosby literature are used as parts of a system being employed to accomplish a task. Therefore, we can only recommend within the Working Load Limit ("WLL"), or other stated limitations, the use of products for this purpose.

The WLL, or Design Factor, or Efficiency Rating of each Crosby product may be affected by wear, misuse, overloading, corrosion, deformation, intentional alteration, and other use conditions. Regular inspection must be conducted to determine whether use can be continued at the catalog assigned WLL, a reduced WLL, or whether the product must be withdrawn from service.

Crosby products are generally intended for tension or pull. Side-loading must be avoided because it exerts additional force or loading which the product is not designed to accommodate.

### DESIGN FACTOR

An industry term denoting a product's theoretical reserve capacity; usually computed by dividing the ultimate load by the Working Load Limit. Generally expressed as a ratio (for example, 5:1).

### COMMERCIAL SURFACE QUALITY

The surface condition of the products shown in this catalog. The surface condition associated with the normal methods of production of raw material and machined surfaces. More refined surface qualities are considered as special.

### FATIGUE RATED

Tested to a minimum standard of 20,000 cycles at 1.5 times the Working Load Limit. Will meet the requirements of the Euronorm standards for fatigue.

### ADJUSTED WORKING LOAD LIMIT

The reduced maximum mass or force which the product is authorized to support for specific non-standard loading applications.

### SHORT TON (T)

North American unit of measure that equals 2,000 lb. Abbreviated by capital T.

### METRIC TON (t)

Metric unit of measure that equals 1,000 kg. Abbreviated by lower case t.

Welding Crosby load support parts or products can be hazardous. Knowledge of materials, heat treatment, and welding procedures are necessary for proper welding. Crosby should be consulted for information. The assigned Ultimate Load Rating of Crosby products for the reeving of wire, manila, or synthetic rope is based upon design; the catalog ultimate strength for the rope parts, when totaled, may exceed the assigned Ultimate Load Rating.

The WLL of a sling must not exceed the lowest WLL of the components in the system. The recommended Proof Load on all items in this catalog is 2 times the WLL unless otherwise shown. Products that Crosby intends for swaging are identified in this catalog. For proper swaging machine training, operations and die selection, refer to specific product section in this manual. To develop other product for swaging requires knowledge of materials, heat treatment, product design, die design and performance of the final product. Use only new genuine Crosby parts as replacements when servicing or repairing Crosby products. Crosby products are to be considered as sparking, unless otherwise noted.

Two decimal and fractional dimensions shown in catalog are intended as nominal dimensions only. If three decimal dimensions are shown, contact Crosby for tolerance information.

Product Label Replacement: In accordance with ANSI Z535.4, Product Safety Labels should be periodically inspected and cleaned. Product Safety Labels should be replaced when they are no longer legible. Current Crosby warning and application labels, for applicable products, are available from Crosby.

*Warning and application instructions for specific products are included in Section 17 of this catalog. The graphic below will appear on product pages for which this information can be found:*

APPLICATION AND WARNING INFORMATION  
SECTION 17

## ABBREVIATIONS

Below are common symbols that appear on product pages within The Crosby Group catalog:

C = Carbon

A = Alloy

B = Bronze

L = Hook supplied with latch kit

SS = Stainless steel

S or SC = Self colored, painted, or oiled

G = Coated for corrosion protection; may include hot dip galvanizing, electrolytic depositing, dimetcoted, impact galvanizing, spraying, etc.

All ratings given in tons refer to short tons of 2,000 lbs. Ratings given in metric tons equal 2,204 lbs, and are mentioned as "tonnes" (t) or "metric tons." Hot-dip galvanized Crosby products meet or exceed ASTM A 153 requirements.

## SYMBOLS & EXPLANATIONS

Below are common symbols that appear on product pages within The Crosby Group catalog:

QUIC-CHECK®



QUIC-CHECK® is a patented concept developed by The Crosby Group's research and development department that represents Crosby's ongoing commitment to quality. QUIC-CHECK incorporates the strategic placement of marking indicators on traditional rigging hardware to indicate reference points designed to enhance the safe and proper use of Crosby products.

Load Rated®

Load Rated® is a registered Crosby trademark that identifies products that have the Working Load Limit indicated or affixed to them.

Fatigue Rated®

Fatigue Rated® is a registered Crosby trademark that identifies products that have proven to provide improved fatigue life (fatigue resistance) in actual use.

Q&T  
QUENCHED & TEMPERED

Quenched & Tempered® is a registered Crosby trademark that identifies products that are heat treated utilizing Crosby's perfected quench and tempering methods.

MAXTOUGH®

MAXTOUGH® is a registered Crosby trademark identifying products that are statistically verified to meet or exceed impact values of 31 ft•lbf at -4° F (42 Joules at -20° C) based on a high level of confidence. The confidence level is an index of certainty.



The CE marking is an administrative marking with which the manufacturer or importer affirms its conformity with European health, safety, and environmental protection standards for products sold within the European Economic Area (EEA).



The IECEx symbol indicates a product is approved by the International Electrotechnical Commission and meets certification to standards relating to equipment for use in explosive atmospheres.



This symbol indicates The Crosby Group's Engineered Solutions department provides custom-designed variations of the product to meet your specific project requirements. Engineered Solutions designs simple variations of off-the-shelf products, as well as fully custom solutions for challenging applications.

TA  
TYPE APPROVED

Type Approved is a symbol that identifies products that have been type approved by a third party organization. Meeting a standard can be declared as a result of Type Approval by a third party organization. Type Approval requires:

1. A **Type Approval certificate** that verifies that the product design complies with the referenced standard(s) and,
2. A **manufacturing survey (MSA)** that verifies that the manufacturing location has been verified as capable of making the product.
3. A **product certificate** must be made available that verifies that the product shipped meets the requirements of the Type Approval and MSA. This product certificate must reference a serial number or PIC and is issued for each product produced.

# **THERE IS NO EQUAL**



When you choose The Crosby Group, you choose quality. No other rigging, lifting, and securement hardware manufacturer delivers more trusted product solutions, education, and service as close to the point of use. If the contract reads, 'Crosby or equal,' remember... there is no equal.

The Crosby Group is built upon:

- **Engineering & manufacturing excellence**
- **Unmatched quality & dependability**
- **World-class training programs**
- **Exceptional service & technical support**
- **Risk management tools & resources**
- **The broadest product portfolio in the industry**
- **Global distribution network with local support**



# COMPLETE WIND PROJECTS ON TIME & WITHIN BUDGET

Partner with the leading rigging provider with the most comprehensive product portfolio, training opportunities & local support



Keep your project on track through improved job site efficiency and safety with lifting and rigging hardware from The Crosby Group.

- Get the product you need, when you need it through a global network of 3,000+ authorized distributors with stock ready to ship.
- Ensure a well-trained workforce with access to extensive training curriculum and industry experience.
- Reduce time between lifts with quick-release shackle bolt securement and an adjustable, lightweight chain sling system.
- Prevent incidents through the use of top-quality hardware from a highly vertically integrated manufacturer.
- Create smarter lift plans with center of gravity calculations using wireless load cells.
- Obtain product authenticity certificates online at any time.



## VISIT OUR NEW WIND WEBSITE

- On-demand wind webinars
- Wind training course details
- Product information

**theCrosbygroup**

## VALUE ADDED FEATURES

# No other manufacturer in the industry can deliver the added value that you receive when you choose The Crosby Group



### ENGINEERING & MANUFACTURING EXCELLENCE

The Crosby Group boasts a global team of leading engineering experts, modern facilities, and state-of-the-art processes that deliver unique and extensive capabilities to provide the highest quality products on the market. Our Product Identification Code (PIC) traceability system helps ensure proper controls are maintained throughout the entire manufacturing process, from raw material to finished goods.



### UNMATCHED QUALITY & DEPENDABILITY

Our products provide consistent performance and enhanced material strength, ductility, and resilience because of careful selection of raw material and the most scientifically sophisticated heat treatment and quality control processes.



### WORLD-CLASS TRAINING PROGRAMS

The Crosby Group is known for its world-class training program. Since 1991, we have trained more than 500,000 people through our in-person seminars, on-site safe rigging clinics, and self-paced online courses.



### EXCEPTIONAL SERVICE & TECHNICAL SUPPORT

Customer service begins with product availability, a seamless order-placing process, and support after the sale. At The Crosby Group, delivering exceptional service is a company-wide initiative driven by all of our teams, including customer service, technical support, sales, distributor support, engineered solutions, marketing, product management, and training departments.



### RISK MANAGEMENT TOOLS & RESOURCES

We provide the most comprehensive product literature, in-person and online training in the industry. Many Crosby Group products are individually bagged or tagged with warning and proper application information to help users control and manage factors of uncertain hazards.



### THE BROADEST PRODUCT PORTFOLIO IN THE INDUSTRY

With leading brands, including Crosby, Gunnebo Industries, Crosby Straightpoint, McKissick, Crosby IP, Crosby Feubo, and Speedbinders, The Crosby Group is the leading source of rigging, lifting, and securement hardware. Our Engineered Solutions group is also available to work with you on custom product designs to meet your specific requirements.



### GLOBAL DISTRIBUTION NETWORK WITH LOCAL SUPPORT

Our global network of more than 3,000 authorized distributors means you have access to local stock, ready to ship, and local service worldwide. No one else can provide more support closer to the point of use than The Crosby Group.

## THIRD PARTY CERTIFICATION

ISO 9001 certification provides you:

- **Third party certification** that The Crosby Group meets the rigorous requirements of ISO 9001.
  - **Third party proof** that Crosby's quality assurance system is ongoing through a comprehensive audit program.
  - **Third party proof** that Crosby meets the high standards of design, manufacture, and service now demanded by global markets.
  - **Manufacturing accountability** at all of Crosby's facilities. This, in addition to Crosby's comprehensive traceability system (PIC) and our material verification program, provides total accountability.
  - **Audit savings.** Sourcing from Crosby saves you time and costs associated with your audits or third party audits because, by being ISO 9001 certified, Crosby is regularly audited by a third party.
  - **Global competitiveness.** Sourcing from Crosby positions you to be competitive in more markets throughout the world. Many major end users who operate internationally require their suppliers be ISO 9000 certified or offer products that are produced by an ISO 9001-certified source.
  - **A long-term partner.** Crosby's ability to meet ISO 9001 standards and to maintain third party certification makes it clear that The Crosby Group is a long-term partner you can depend on to provide the needed product at required performance levels.
  - **Support.** The Crosby Group will support committed distributors in their efforts to define and accomplish what is needed for them to attain ISO 9002 certification.



Third party certification by product provides one or more of the following services:

- Inspection
  - Certification Service
  - Testing Service

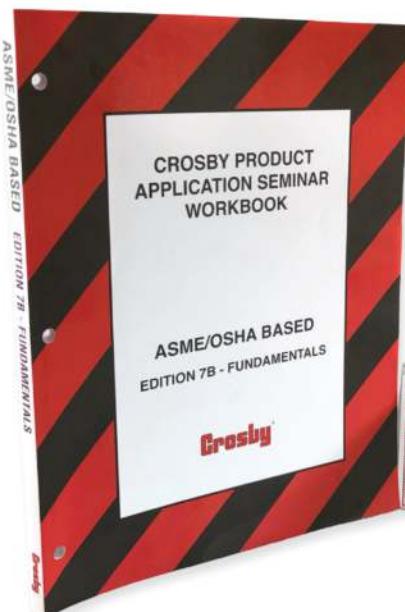
This certification can be confirmed to their standards, the customer's standards, or the manufacturer's own standards. If requested at time of order, The Crosby Group will work with you to certify any of our products to any third party organization.

## TYPE APPROVED PRODUCTS

Several Crosby products have been Type Approved by various third party organizations.

Type Approval requires:

1. A **Type Approval certificate** that verifies that the product design complies with the referenced standard(s) and,
  2. A **manufacturing survey (MSA)** that verifies that the manufacturing location has been verified as capable of making the product.
  3. A **product certificate** must be made available that verifies that the product shipped meets the requirements of the Type Approval and MSA. This product certificate must reference a serial number or PIC and is issued for each product produced.



# Order our popular training resources online

- Rigging seminar workbooks
  - Users Guide for Lifting pocket cards
  - Wall charts
  - Catalogs

Shop now at:

# Ensure only genuine Crosby Group products are being used on your job site

Access and verify the authenticity of certificates for your Crosby Group products – all online

COMPANY WITH  
QUALITY SYSTEM  
CERTIFIED BY DNV GL  
ISO 9001®

**Certificate of Conformance**

Certificate Number: CC1-2021071219204  
 Location of Issue: ABC Rigging & Lifting  
 100 W. 3rd St.  
 Houston, TX 77001 USA  
 Phone: 713-555-0022

Stock No: 1019515  
 Description of Gear: G2130 4-3/4t Bolt Type Anchor Shackle 3/4" Maxtough®  
 Working Load Limit: 4-3/4t [Max. Allowed Proof Load: 9-1/2t] t indicates metric tons

Comments: 6:1 Design Factor  
 Note: Meets the performance requirements of Federal Specification RR-C-271G Type IVA, Grade A, Class 3, except for those provisions required of the contractor.  
 Meets or exceeds all requirements of ASME B30.26.  
 Crosby forged shackles can be used in general service with good rigging practice down to temperatures of -40 °F (-40 °C).  
 Has not been contaminated by Mercury or Asbestos in the manufacturing process.

Number of Pieces: 16 Bow: 6VC Distributor Note: 2R-4541 to 2R-4556  
 PICs are based on visual observation  
 Certificate based on item being the Crosby product described above.

Mentioned products are in conformity to the Crosby literature available at the time of the manufacturer. We hereby certify that the above described material was manufactured and processed in a manner compatible to meeting the specified load ratings when used under normal and proper applications. This product at the time of manufacture does not contain any ozone-depleting substances.

This product at the time of manufacture does not exceed the threshold for any of the hazardous listed chemicals in Appendix 1 of MEPC.269(68) 2015 Guidelines.

For Product Delivered To: LIFTING PLUS  
 TULSA, OK 74110  
 USA

Supplier (Distributor) Order Number: 2021-0475  
 Customer (User) Order Number: 8300 055360

Date: September 15, 2021  
 Date of Issuance: \_\_\_\_\_

Signature: Michael Gill, Crosby Director of Quality

**Crosby**  
 2801 Dawson Rd  
 Tulsa, OK 74110  
[thecrosbygroup.com](http://thecrosbygroup.com)

## 3 key questions about the authenticity of your product:

**① Did you buy from an authorized Crosby Group distributor?** It's important to only purchase product through authorized distributors. Our global network of authorized distributors are poised to provide you local support and the many value added services available from The Crosby Group.

**② Did you receive a Certificate of Conformance?** Always require a Certificate of Conformance to provide assurance you are purchasing authentic Crosby products. These certificates include the item's Product Identification Code (PIC) and additional important information.

Your authorized distributor can generate Certificates of Conformance online through Crosby CertPro® at [thecrosbygroup.com/certpro](http://thecrosbygroup.com/certpro).

Other certificates are also available through Crosby CertPro, including Material Certificates and Type Approval Certificates.

**③ Did you validate the Crosby CertPro certificate?** If you have any questions about the authenticity of a Crosby CertPro certificate, you can verify it online yourself through Crosby VerificationPro® at [thecrosbygroup.com/verificationpro](http://thecrosbygroup.com/verificationpro).



For authorized distributors to access and generate customer certificates.



For anyone looking to verify the authenticity of a Crosby certificate.  
[thecrosbygroup.com/verificationpro](http://thecrosbygroup.com/verificationpro)

Gunnebo Industries certificates are now available on CertPro and VerificationPro.

## WORLD STANDARDS

### ISO 9001

The International Standardization Organization (ISO) brought standardization to the international level in 1987 by defining three levels of quality assurance. These are ISO 9001, ISO 9002, and ISO 9003.

ISO 9001 is the most comprehensive level. This level involves design, development, production, and shipping. A total of 20 quality system elements apply to ISO 9001. ISO 9001 requires that all procedures, work instructions, processes and related activities be documented. Certification to ISO 9001 requires a third party audit of all facilities prior to attainment and ongoing auditing every six months.

Certification to ISO 9001 is a solid foundation for transparency. Attainment of ISO 9001 forms the basis for meeting other world standards and provides customers with documented proof of the organization's ability to consistently provide product quality and performance. Adherence to ISO 9001 is a major element of purchasing contracts throughout the world.

#### Questions to ask your rigging provider

*Do they meet ISO 9001 standards?*

*Are they an ISO 9001 certified company or have an implementation schedule?*

*If not, how will they support the future needs of international companies and the Department of Defense?*

*What other world standards of performance do they meet?*

#### Why choose Crosby

The Crosby Group makes the commitment and investment needed to attain ISO 9001 certification to support the needs of our distributors and end users.

Crosby facilities worldwide have been awarded certification for our Quality Assurance Program according to ISO 9001 by DET NORSKE VERITAS (DNV).



The criteria outlined by ISO 9001 have been adopted by the company through our ongoing quality programs. Quality has been built into our products and corporate philosophy from the beginning.

### AMERICAN PETROLEUM INSTITUTE

The American Petroleum Institute (API) provides third party certification for products used in the oil field and other petroleum related activities. It provides quality assurance certification under the API-Q1 program. Manufacturers who meet the criteria qualify to manufacture under the API-Q1 program and utilize the API monogram. The API also provides design and manufacturing criteria for API-8C. All oil field blocks should meet API-8C criteria.

#### Questions to ask your rigging provider

*Are they certified to API-Q1?*

*Do they have the capability to meet API-8C when required?*

#### Why choose Crosby

McKissick is certified under API-Q1 to manufacture blocks and sheaves for use in the oil field. All oil field blocks are designed and manufactured to API-8C requirements.



### OTHER WORLD STANDARDS

American Bureau of Shipping (ABS)  
Lloyd's Register of Shipping (Lloyd's)  
DET NORSKE VERITAS (DNV)  
Association of Belgian Industry for Safety and Health (AIB-VINÇOTTE) (AV) (VGS)  
Control Organization of German Industry for Safety and Health (DIN)  
Netherland Labor Inspection (AI)  
Nuclear Regulatory Commission (NRC)  
Defense Contract Administration Services Management Area (DCAS)  
Registro Italiano Navale (RINA)

#### Questions to ask your rigging provider

*What world standards are they familiar with?*

*Can they demonstrate the ability to meet these standards when needed?*

*Do they have the quality systems and product performance needed to document adherence to these standards?*

#### Why choose Crosby

Crosby has demonstrated capability in various countries and with many products. Crosby actively participates in standards-setting committees in both the United States and Europe and has frequently certified shackles, sheaves, blocks, and hooks to various world standards when required.

## CAD DRAWINGS

Download 2D DWG and 3D STEP files for most products from

The Crosby Group website.



the Crosby group®

Account required.

## MATERIAL PROPERTIES

### PROCESS

The material used in a forged fitting, such as carbon or alloy steel, determines the potential properties. The manufacturing processes determine what the properties will actually be. The material must be special bar forging quality steel and fine grained. The heating of steel to forging temperature must be properly controlled to ensure that the steel is not 'injured' by overheating. Proper forging equipment and techniques must be employed to assure proper material flow in the dies and tooling. The heat treatment process must be well defined and precisely controlled.

#### Questions to ask your rigging provider

*What processes do they consider important, and how do they select their material?*

*Is the steel fine grained?*

*Are standards established to ensure sufficient cleanliness of the steel?*

#### Why choose Crosby

The Crosby Group's attention to material selection, forging techniques, machining, and heat treatment processes assures the properties required will be attained, thus providing superior performance of the product. Crosby has specific and demanding cleanliness requirements.

### TENSILE STRENGTH & DUCTILITY

The mechanical properties that are important when lifting a load under normal conditions are tensile strength and ductility. The ability to carry a load increases with the tensile (pulling) strength of the steel. The ability of steel to deform in an overload condition is known as its ductility.

Both of these factors enter greatly into determining the working load limit of a fitting. Ductility is measured by standard engineering tests of elongation and reduction of area. It is also measured by how much deformation the fitting incurs when overloaded. The tensile strength determines the actual working load, while ductility allows the product to deform significantly when overloaded, thus giving warning before ultimate failure.

#### Questions to ask your rigging provider

*Do they have an active program to determine tensile and ductility properties?*

*Are testing audits performed continuously on all products?*

*Is the actual deformation of a fitting when overloaded a major consideration for their shackles?*

#### Why choose Crosby

The Crosby Group has an active program to determine tensile and ductility properties, and testing audits are continuously performed on all products. Crosby's design philosophy considers the deformation of a fitting when loading is a key requirement.

### FATIGUE PROPERTIES

The mechanical properties of steel when a load is repeatedly applied is known as its fatigue strength. Fatigue testing determines the ability of a material to withstand repeated applications of a load. The load by itself may be too small to produce a failure. There are three factors involved when considering fatigue strength: the number of cycles at which a crack initiates, the number of cycles at which the crack starts to grow, and the number of cycles at which the fitting fails. One accepted method of fatigue rating fittings is to test them to 1-1/2 times the working load limit for 20,000 cycles, without failure. This standard test is accepted as indicating indefinite life when used within the working load limit under normal circumstances.

#### Questions to ask your rigging provider

*Does the material selection process recognize fatigue properties?*

*Do they have an active program to design and test fatigue properties?*

*Is there a program in place to fatigue rate all load-bearing products that are used in critical applications?*

#### Why choose Crosby

Crosby has an active program to determine fatigue properties. Included in this program is the use of finite element design methods to predict possible weak areas, which in turn allows us to design in superior fatigue properties.

Crosby specifies material of specific cleanliness and guaranteed hardenability which enhances fatigue. We design and manufacture products with fatigue in mind and ensure all load-bearing products used in critical applications being fatigue rated.

### IMPACT PROPERTIES

The mechanical properties of steel when a load is rapidly applied is known as its impact strength. Impact tests are made by applying a sudden load to a test piece and measuring the energy absorbed when the specimen breaks. The tougher the material, the greater the energy required to break the piece. A brittle piece can absorb virtually no energy upon breaking. The Charpy V Notched Impact test is one common method of performing the testing and measurement. Fittings must be able to have impact strengths that match the requirements of their application at all temperatures, even low temperatures commonly found in winter conditions. The difficulty of crack initiation and crack growth under impact is an important consideration.

#### Questions to ask your rigging provider

*Does the material selection process recognize impact properties?*

*Do they have an active program to perform actual testing of impact properties?*

*Do they recognize the need for good impact properties?*

#### Why choose Crosby

Crosby recognizes the importance of impact properties and has an active program to determine impact properties at various temperatures of each material used in the various heat treat conditions.

Our products are designed to be used in a wide range of temperatures. Crosby specifies material of specific cleanliness and guaranteed hardenability which enhances fatigue and impact properties.

### PERFORMANCE

Performance of a fitting requires a tensile strength that meets working load limits, ductility that allows deformation when overloaded, fatigue properties that support repeated use, and impact properties that provide toughness. All of these properties are essential if the product is to perform time after time in adverse conditions. They are also important to assure that the inspection criteria set forth by ANSI will effectively monitor the ability of the fitting to continue in service.

#### Questions to ask your rigging provider

*Does the fitting have required tensile strength, ductility, fatigue, and impact properties?*

*Are all material properties met?*

#### Why choose Crosby

Crosby designs its fittings to include required working load limits and design factors. Equally important are the ductility, fatigue, and impact properties. We provide you with material properties that minimize the risk of failure. No shortcuts in processing are made to save cost while sacrificing any of these performance elements.

### Material properties by product group (value added qualities)

**Tensile Strength** – Hooks, Shackles, Turnbuckles, Chain Fittings (Crosby can provide typical hardness, tensile, and typical yield strength values.)

**Ductility** – Hooks, Shackles, Turnbuckles, Chain Fittings (Crosby can provide typical reduction of area and elongation values upon special request.)

**Impact Properties** – Hooks, Shackles, Turnbuckles, Chain Fittings (Crosby's quenched and tempered products have enhanced impact properties for greater toughness at all temperatures.)

Charpy impact properties are available if requested at time of order.)

**Fatigue Properties** – Hoist Hooks, Shackles, Eye Bolts, Turnbuckles, Swivel Hoist Rings, Chain Fittings, Snatch Blocks are fatigue rated to 20,000 cycles at 1-1/2 times the WLL. (Crosby products are designed to meet specific fatigue performance levels. If requested at time of order, these fatigue properties can be provided.)

**Proof Testing** – All products (Proof testing and certification are furnished standard with some products. If requested at time of order, proof testing certification is available for most of Crosby's remaining product line, with the exception of swage sockets and sleeves, spelter sockets, thimbles, etc.)

**QC 1400 Audits** – Hoist Hooks only (Crosby's QC 1400 program provides reduction of are and elongation values, as well as hardness, tensile, and yield strength values for each production lot of hoist hooks. These factors are traceable by the Product Identification Code (PIC).)

**MAG Certification, Ultrasonic, X-Ray & Dye Penetrant Testing** – All products (If requested at time of order, different non-destructive testing and certification is available.)

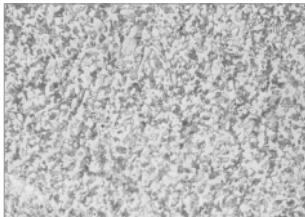
**Chemistry Analysis** – All products (Each heat of steel is individually verified to confirm chemical analysis prior to manufacturing.)

## HEAT TREATMENT

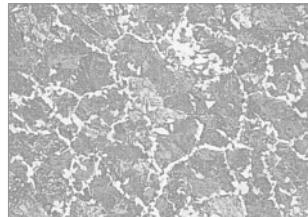
The heat treatment of steel is an ancient art and science that dates back to the Iron Age. Today, it has been refined to a sophisticated science. It is now possible to greatly enhance the strength, ductility, and resilience of steel through a properly controlled heat treatment process. The 'as forged' fitting results in variability that is detrimental in applications that require toughness. Normalizing, spheroidized annealing, and quench and tempering are heat treat processes. Proper heat treatment eliminates the risk of cooling variation at the forging process. This is true of all steels regardless of material grades.

Crosby heat treats all fittings that are load bearing components and minimizes risk by the effective heat treatment of fittings. We do not take shortcuts for the sake of cutting cost. A non-heat treated product compromises the performance ability of that product.

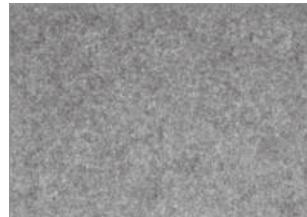
### Microstructures for various heat treatment processes



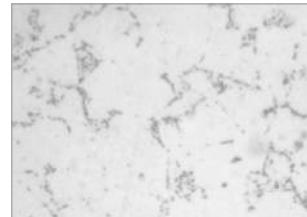
AS FORGED



NORMALIZED



QUENCHED & TEMPERED



COLD TUFF®

### QUENCHED & TEMPERED

Quenching and tempering of steel has been found to be the heat treatment best suited to fully develop the strength and enhance the grain flow of carbon and alloy forgings.

The quenched and tempered product will deform before ultimate failure, thus giving warning.

The quenching process is rapid cooling in water or oil, after heating, to form a strong but brittle structure. The tempering process is the reheating of the steel to obtain the desired strength while increasing the ductility and toughness.

Quench and tempering provides the consistency of performance needed by all critical applications, especially overhead lifting.

#### Questions to ask your rigging provider

*Are load-bearing fittings heat treated, and what type of heat treatment is used?*

*What products do they quench and temper, and are their products exposed to high-stress quenched and temper?*

*If not, why are they willing to accept inferior impact toughness properties of non-quenched and tempered products?*

Some supply critical fittings in 'as forged' or 'as cast' condition, and many normalize their forgings but do not quench and temper.

#### Why choose Crosby

Crosby fittings are exposed to high stress applications, designed as load-bearing elements, and are quenched and tempered.

The Crosby Quenched & Tempered process is the most consistent method of assuring that every fitting performs as needed, especially in overhead lifting.



### MATERIAL CONTROL

The proper heat treatment of forged fittings depends on the appropriate selection of materials and use of heat treat procedures. Fine grained, special bar forging quality steel of specific cleanliness requirements and guaranteed hardenability in the appropriate grades must be used.

Proper selection of steel is not enough, however. The control and management of these steels, from purchase through the entire manufacturing process, is essential to assure that the proper results are attained in the designated product. This control should utilize a production traceability program.

#### Questions to ask your rigging provider

*Do they have an identification code forged into the product that traces material back to verified certification?*

*Are all heat records maintained by the traceability code?*

Most do not provide traceability of material.

#### Why choose Crosby

Crosby uses the Product Identification Code (PIC) for material control, from receipt and verification of steel throughout the entire manufacturing process.

Crosby can provide certified material analysis for each production lot.

### ULTIMATE STRENGTH, DUCTILITY, IMPACT & FATIGUE PROPERTIES

The mechanical properties of steel when a load is very rapidly applied is known as its *impact strength*. Forged fittings must be able to have impact strengths that match the requirements of their application, especially in cold temperatures. The ability of a steel to withstand repeated applications of a load is measured by fatigue testing. The proper heat treatment of forgings, which includes quenching and tempering, can develop these properties to their desired level in a consistent and reliable manner. The ability to perform when overloaded is known as *ductility*.

#### Question to ask your rigging provider

*Are the products designed and manufactured with considerations for strength, fatigue, impact, and ductility?*

Some do not utilize materials that have good impact and fatigue properties.

#### Why choose Crosby

Crosby's product line benefits from the selection of steel and the heat treatment process that allows for superior strength, ductility, impact, and fatigue performance. The product deforms if overloaded, giving warning before ultimate failure. All of these properties are essential if the product is to perform time after time. They are also important to assure that the inspection criteria set forth by ANSI will effectively monitor the ability of the fitting to continue in service.

### Heat treatment process by product group

**Shackles** – Pins and bows are Quenched and Tempered

**Eye Hooks** – Quenched and Tempered

**Shank Hooks** – Quenched and Tempered

**Master Links** – Quenched and Tempered

**Hoist Rings** – Quenched and Tempered

**Swivels** – Quenched and Tempered

**Turnbuckles** – All ends are Q&T or Normalized bodies Normalized

**Pad Eyes** – Quenched and Tempered

**Eye Bolts** – Quenched and Tempered

**Load Binders** – Quenched and Tempered

**Swage Sockets** – Spheroidized Annealed

**Swage Sleeves** – Cold Tuff®

**Spelter Sockets** – Normalized

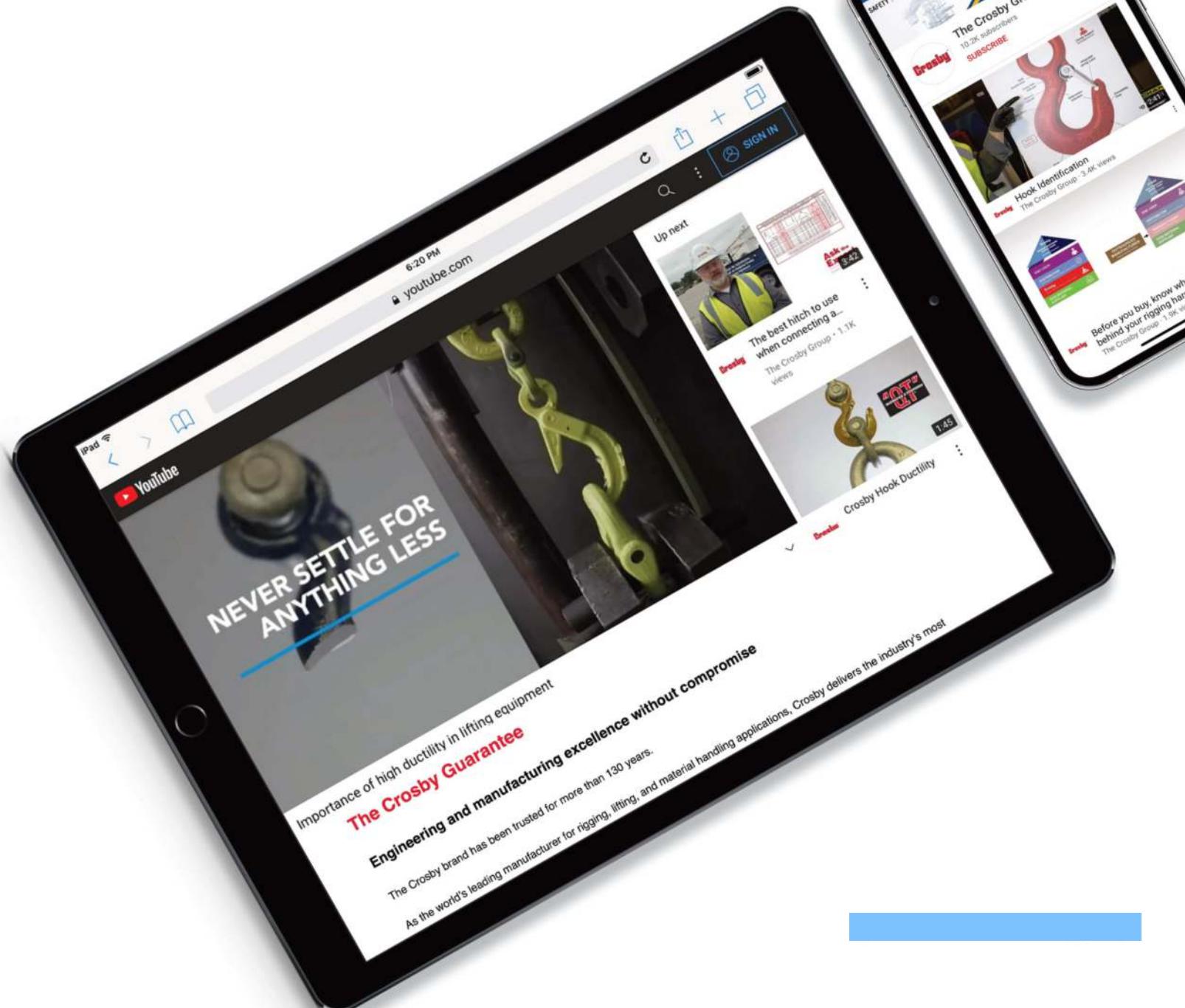




## Subscribe & watch

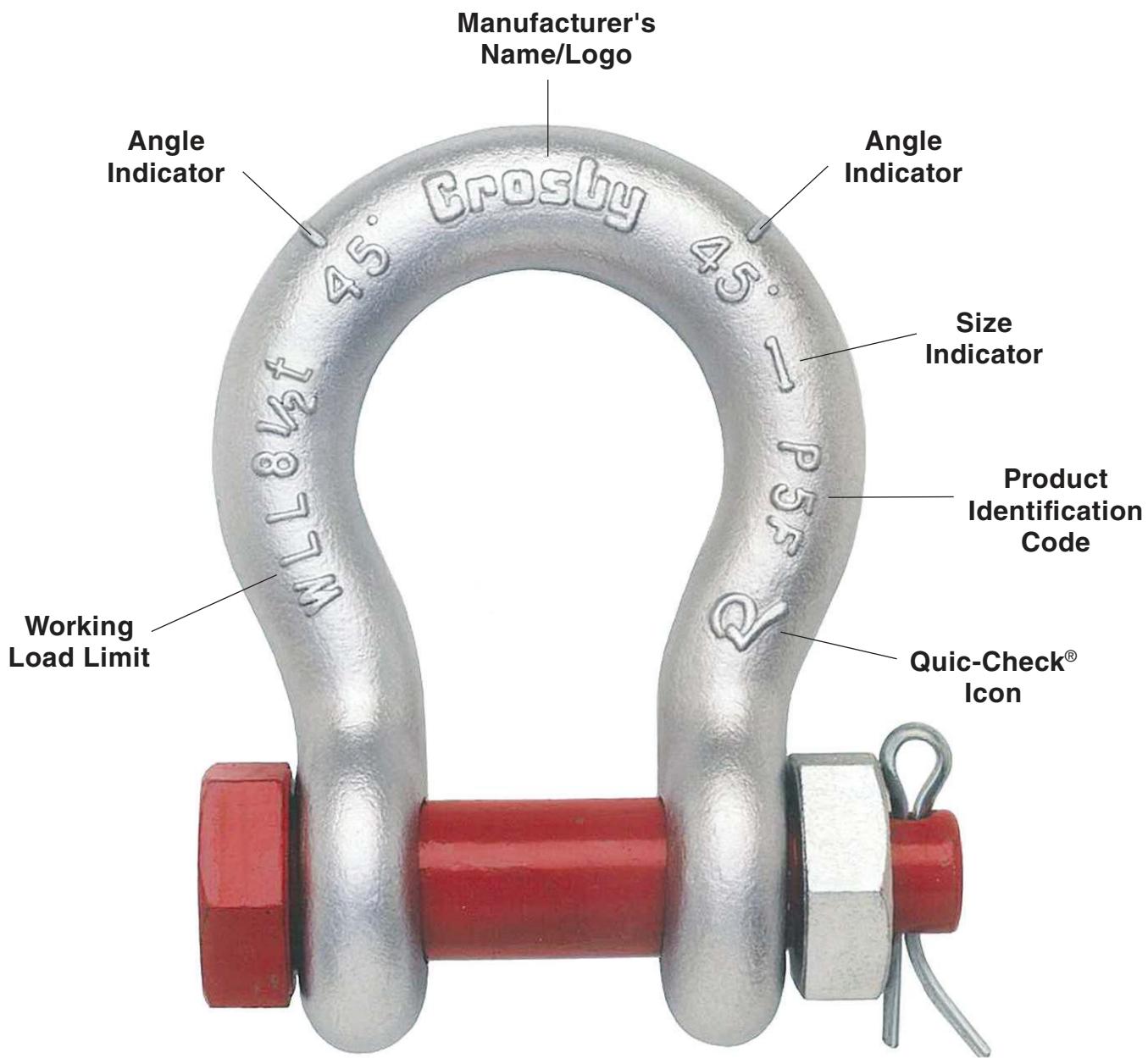
Training and insights, new product announcements, application demonstrations, behind-the-scenes factory tours and much more.

what is hook ductility?



# VALUE LONG AFTER THE SALE

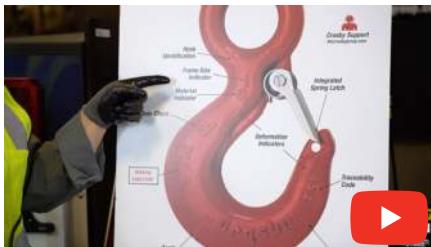
Crosby Group products are well known for quality, design, and safety features. It's important to know how to identify, interpret, and utilize the forged-in markings on your hardware to help ensure proper rigging for the life of the shackle, hook, or clip.



Watch our latest video training series on product identification



Shackle identification



Hook identification



Clip identification

## IDENTIFICATION

### PRODUCT IDENTIFICATION

The most effective way of knowing the product you are purchasing is as reliable as possible is to only buy from a reputable company that maintains consistent and adequate quality. The company should clearly mark its components and finished products with the company name or logo, the component size or working load limit, and a traceability code that is actively used by the manufacturer to control material and processes.

#### Questions to ask your rigging provider

*Do they have a traceability system?*

*If yes, is their traceability system also utilized for cast fittings, swage fittings, and all load-bearing components?*

#### Why choose Crosby

Crosby forges the Product Identification Code (PIC), each item's size or Working Load Limit (or a cross-reference code to working load limit) and 'Crosby' into each product.

### MATERIAL TRACEABILITY

A forged-in identification code should be used to record the material grade and origin. This record should trace the material to the heat lot of material of steel as rolled at the supplying mill. Verification checks of all materials purchased for forging must be done to ensure the steel supplied meets the specifications required. This verification should be traceable by a forged-in product identification code. The source and verification of material actually used in each forging must be able to be determined through appropriate documentation.

#### Questions to ask your rigging provider

*Do they have a permanently marked code in each product that traces material back to a verified certification?*

*Do they test each heat of steel with their own testing facilities?*

#### Why choose Crosby

Crosby uses the Product Identification Code (PIC) to maintain material control from the steel mill, to receipt at our plant, to verification, and throughout the manufacturing process. We can provide certified material analysis for each production lot, traceable by the PIC. Through our own laboratory, we verify the analysis of each heat of steel and only purchase special bar forging quality steel with specific cleanliness requirements and guaranteed hardenability.

### MANUFACTURING CONTROL

The permanent identification code should be used to maintain a record of which manufacturing facility produced the product and production dates. All quality records and product performance testing for audit and engineering purposes should also reference the code so that a history can be maintained.

#### Question to ask your rigging provider

*Do their products have a permanent code that is used to maintain control throughout the manufacturing process?*

#### Why choose Crosby

Crosby uses the Product Identification Code (PIC) to maintain control of its products as they are manufactured.

### PERFORMANCE & APPLICATION DATA

Detailed performance, application, and warning information will assist you in the proper use of products. This information is most effective when provided in supporting brochures and engineering documents. An identification marking must be used to reference this information by use of a cross reference between the product code and the literature. Proper performance data should include each item's working load limit, proof load and design factor. It should also include the item's manufacturing processes, such as heat treatment and galvanizing, and list any specification the product meets or exceeds.

#### Questions to ask your rigging provider

*What warning and application information do they provide?*

*Are there markings in products to aid in the proper use of the fitting?*

*Do they provide training support?*

#### Why choose Crosby

Crosby provides a comprehensive catalog that describes each product's performance, along with detailed application and warning information on selected products. Selected products incorporate markings forged into the product to aid in the proper use of the fitting.

In addition, we provide product and application training in both in-person and digital formats.

Identification & labeling on product by product group	Name/Logo	Size	WLL	Rated in Metric Tons (t)	Product Identification Code	Serial Number	QUIC-CHECK® Markings	QUIC-CHECK® RFID Equipped
Shackles								25t & larger
Shank Hooks		*See note below						
Eye Hooks								
Other Forged Hooks							S-322	
Snatch Blocks					Forged components			4-1/2" & larger
Clips					Forged components			
Fist Grip Clips								
Turnbuckles								
Load Binders								
Eye Bolts								
Master Links								
Tapered Swivel Bearings								
Chain Components								
Swage Sockets								
Sleeves & Buttons								
380 Blocks								
680 Blocks								
Oil Field Blocks								
750 Bridge Crane Blocks								
Shackles CT & 2160							CT only	
Swivel Hoist Rings				Select sizes				
Eliminator® Chain								
Lifting Clamps								
Angular Contact Swivel Bearings								

\*Both size and WLL are identified with a frame size that can be referenced back to our literature.



**30+ years of making  
industries safer through  
world-class training**



## TRAINING

The Crosby Group launched its official training program in 1991 with the mission of delivering unparalleled support through product and application education and demonstrations. Since then, we are proud to have trained more than **500,000 people** through in-person courses and seminars, live safe rigging clinics, online courses, webinars, and other digital content. Register for a training session today, or contact your area sales manager if you are interested in organizing an in-person or digital Crosby Group training event with your company.

### Training opportunities available from The Crosby Group

#### ONLINE COURSES

**User's Guide for Lifting** – Learn the fundamentals of rigging through this self-paced course that covers topics featured in the popular Crosby User's Guide for Lifting rigging card. This course is designed for anyone who uses Crosby products. Certificate available upon successful completion.

**Crosby Knowledge Center** – This course is designed to assist authorized Crosby Group distributors and their sales and marketing teams. The self-paced course covers, in detail, the value added features of the Crosby product line and other topics covered in this catalog.

#### IN-PERSON COURSES

**ASME/OSHA\*** – For individuals who work in manufacturing facilities, construction sites, utilities, etc., and anyone who must comply with the OSHA regulations. These courses also draw heavily from the ASME standards. Similar courses are offered in Europe, Latin America, Asia, and Middle East, except the OSHA emphasis is reduced and other applicable standards that apply such as EN standards may be inserted. The Rigging Trainer Development course is available in select cities.

**Land Based Energy (Oil & Gas)\*** – For individuals who work in land based oil and gas industry. These courses provide an extra emphasis on ASME (American Society of Mechanical Engineers) and API (American Petroleum Institute) information coupled with well servicing, gin pole truck, and energy industry specifics. The Rigging Trainer Development course is available in select cities.

#### WEBINARS & OTHER DIGITAL CONTENT

**Webinars** – We host numerous free topical training webinars throughout the year (public and private). Follow The Crosby Group on social media to be the first to know when a new public event is announced.

**Podcast** – Watch our popular *Ask the Expert* video podcast series on our YouTube channel, in which Crosby experts answer safe rigging, lifting, and securement questions from viewers.

**Video Training** – We offer on-demand toolbox-style training videos, available for select companies upon request.

**Offshore Energy (Oil & Gas)\*** – For individuals who work in offshore energy environments. These courses draw heavily from the API RP 2D recommended practices, coupled with ASME and Crosby recommendations. Rigging Trainer Development course is available in select cities.

**Fundamentals of Rigging for Wind Turbine Installation & Maintenance\*** – Offers in-depth discussions that address the standards and regulations pertaining to rigging equipment, such as OSHA, ASME and API, as well as Crosby recommendations that can assist onshore and offshore wind energy personnel in their endeavors for safe material handling activities. Interactive workshops and classroom exercises are designed to enhance the learning experience and cover information that is not always found in most rigging courses or readily available in industry literature.

\*certificate available upon successful completion

#### ON-SITE SAFE RIGGING CLINICS



Rig Safe, Rig Smart Truck (North America)



Rig Safe, Rig Smart Trailer (Europe)

The Crosby Group hosts on-site safe rigging clinics across North America and the United Kingdom. The custom-designed Rig Safe, Rig Smart Truck (North America) and Trailer (Europe) delivers valuable, practical hands-on rigging training at your job site. Clinics provide insights into key safe, effective, and efficient rigging best practices through a 30-45 minute toolbox talk, along with live demonstrations of a product proof test and live load application.

To learn more about any of these opportunities,  
visit [\[redacted\]](#).

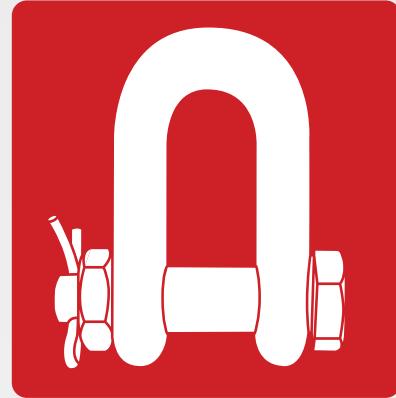
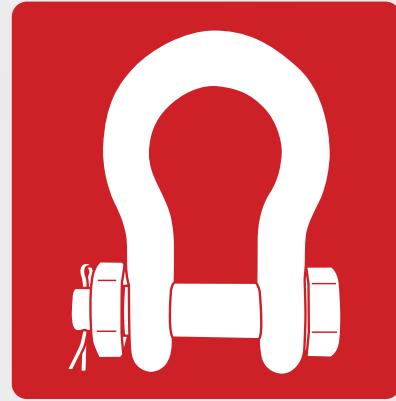


The latest news, events, insights (and some pretty interesting project photos). Follow and connect with us at [LinkedIn](#).

Linked

# SHACKLES

Forged, heat treated, and tested for unmatched strength and performance.



theCrosbygroup<sup>®</sup>

[thecrosbygroup.com](http://thecrosbygroup.com)

## SHACKLES

### DESIGN

The theoretical reserve capability of carbon shackles should be at a minimum 5 to 1, and alloy shackles a minimum of 4 to 1. Known as the Design Factor, it is usually computed by dividing the catalog Ultimate Load by the Working Load Limit.

The Ultimate Load is the average load or force at which the product fails or no longer supports the load.

The Working Load Limit is the maximum mass or force which the product is authorized to support in general service. The Design Factor is generally expressed as a ratio such as 5 to 1, or 5:1.

Also important to the design of shackles is the selection of proper steel to support fatigue, ductility, and impact properties.

#### Questions to ask your rigging provider

*What is the Working Load Limit and Design Factor for shackles?*

*Is deformation upon overloading a critical consideration in their design?*

*Do they jeopardize other properties by having high hardness in order to increase Working Load Limit or Design Factor?*

#### Why choose Crosby

Crosby carbon shackles have the highest design factor (6 to 1) in the industry. All of Crosby's Design Factors are documented.

Crosby purchases only special bar forging quality steel with cleanliness and guaranteed harden ability. All material chemistry is independently verified prior to manufacturing.

The design of Crosby shackles assures that strength, ductility, and fatigue properties are met.

### CLOSED DIE FORGING

The proper performance of premium shackles depends on good manufacturing techniques that include proper forging and accurate machining. Closed-die forging of shackles assures clear lettering, superior grain flow, and consistent dimensional accuracy.

A closed-die forged bow allows for an increased cross section that, when coupled with quench and tempering, enhances strength and ductility.

Closed-die bow forgings combined with close tolerance pin holes assures good fatigue life. Close pin-to-hole tolerance has been proven to be critical for good fatigue life, particularly with screw pin shackles.

#### Questions to ask your rigging provider

*Are their shackles closed-die forged with close tolerance pin holes?*

*Do their shackles have good fatigue life?*

*Do their shackles have a fatigue life that meets the new world standards?*

Many forge bows utilize an open die forging process which allows for inconsistent dimensional accuracy and increased pin hole clearance, thus jeopardizing the fatigue life of the shackle in actual use.

#### Why choose Crosby

Each shackle is closed-die forged. Closed-die forging produces consistent dimensions. A closed-die forged bow allows for an increased cross section that, when coupled with quench and tempering, enhances strength and ductility.

Close tolerance holes and concentric pins with good surface finishes are provided by Crosby and are proven to provide improved fatigue life in actual use.

Crosby shackles are fatigue rated as well as load rated. Close pin to hole tolerance has been proven to be critical for good fatigue life, particularly with screw pin shackles.

### FATIGUE PROPERTIES

The mechanical properties of steel when a load is repeatedly applied is known as its fatigue strength. Fatigue testing determines the ability of a material to withstand repeated applications of a load. The load by itself may be too small to produce a failure. There are three factors involved when considering fatigue strength: the number of cycles at which a crack initiates, the number of cycles at which the crack starts to grow, and the number of cycles at which the fitting fails. One accepted method of fatigue rating fittings is to test them to 1-1/2 times the working load limit for 20,000 cycles, without failure. This standard test is accepted as indicating indefinite life when used within the working load limit under normal circumstances.

#### Questions to ask your rigging provider

*Does the material selection process recognize fatigue properties?*

*Do they have an active program to design and test fatigue properties?*

*Is there a program in place to fatigue rate all load-bearing products that are used in critical applications?*

#### Why choose Crosby

Crosby has an active program to determine fatigue properties. Included in this program is the use of finite element design methods to predict possible weak areas, which in turn allows us to design in superior fatigue properties.

Crosby specifies material of specific cleanliness and guaranteed hardenability which enhances fatigue. We design and manufacture products with fatigue in mind and ensure all load-bearing products used in critical applications being fatigue rated.

### QUENCHED & TEMPERED

Quench and tempering assures the uniformity of performance and maximizes the properties of the steel. This means that each shackle meets its rated strength and has required ductility, toughness, impact, and fatigue properties.

The requirements of your job demand this reliability and consistency. This process develops a tough material that reduces the risk of brittle, catastrophic failure.

The shackle bow will deform if overloading occurs, giving warning before ultimate failure.

#### Questions to ask your rigging provider

*Are their bows and pins quenched and tempered?*

*If not, are they willing to accept inferior impact toughness, product deformation, and the increased risk of inconsistency?*

*Why do many manufacturers not recommend non-heat-treated shackles for overhead lifting?*

*Why do some recommend quench and tempering for alloy but not carbon grades?*

Many normalize the shackle bows. As a result, desired properties are not achieved. A few even provide bows in an 'as-forged' condition, resulting in the possibility of brittle failure.

#### Why choose Crosby

All Crosby shackle bows and pins are quenched and tempered, which enhances their performance under cold temperatures and adverse field conditions. Crosby's carbon shackles are recommended for all critical applications including overhead lifting. Alloy shackles are recommended when specific dimensional requirements dictate a size that requires higher working load limits. Crosby shackles provide the tensile strength, ductility, impact, and fatigue properties that are essential if they are to perform time after time in adverse conditions.

These properties assure that the inspection criteria set forth by ANSI will effectively monitor the ability of the shackles to continue in service.

Watch our video on the Quench & Tempered process at [thecrosbygroup.com/QT](http://thecrosbygroup.com/QT).



### IDENTIFICATION & APPLICATION INFO

The proper application of shackles requires that the correct type and size of shackle be used. The shackle's Working Load Limit, its size, a traceability code, and the manufacturer's name should be clearly marked in the bow.

Traceability of the material chemistry and properties is essential for total confidence in the product. Material chemistry should be independently verified prior to manufacturing.

#### Questions to ask your rigging provider

*Do they have an active traceability system used in manufacturing?*

*Is the material chemistry independently verified?*

*What training support is provided?*

#### Why choose Crosby

We forge the Crosby name or "CG," the Working Load Limit, and the Product Identification Code (PIC) into each bow, and the Crosby name or "CG," and the PIC into each pin of its full line of screw pin, round pin, and bolt type anchor and chain shackles. Crosby also provides training on the proper use of shackles.

Watch our training video on shackle identification at [\[link\]](#)

## CROSBY VALUE ADDED

- Charpy impact properties:** Crosby shackles are quenched and tempered and have enhanced impact properties for greater toughness at all temperatures. If requested at the time of order, Crosby can provide Charpy impact properties.
- Fatigue properties:** Fatigue properties are available for 1/3 to 55 metric ton shackles. These Crosby shackles are fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit.
- Ductility properties:** Typical ductility properties are available for all sizes upon special request.
- Hardness levels and material tensile strengths:** Typical values are available for all sizes of shackles, and actual values can be furnished if requested at the time of order.
- Proof Testing:** If requested at the time of order, shackles can be proof tested with certificates.
- Mag Certification:** If requested at the time of order, shackles can be magnetic particle inspected with certificates.
- Certification:** Certification to world class standards is available upon special request at the time of order; American Bureau of Shipping, Lloyds Register of Shipping, Det Norske Veritas, American Petroleum Institute, RINA, Nuclear Regulatory Commission, and several other worldwide standards.
- Applications:** **Round pin shackles** can be used in tie down, towing, suspension or lifting applications where the load is strictly applied in-line. **Screw pin shackles** can be used in any application where a round pin shackle is used. In addition, screw pin shackles can be used for applications involving side-loading circumstances. Reduced working load limits are required for side-loading applications. **Bolt type shackles** can be used in any application where round pin or screw pin shackles are used. In addition, they are recommended for permanent or long-term installations and where the load may slide on the shackle pin causing the pin to rotate.
- Material analysis:** Crosby can provide certified material (mill) analysis for each production lot, traceable by the Product Identification Code (PIC). Crosby, through its own laboratory, verifies the analysis of each heat of steel. Crosby purchases only **special bar** forging quality steel with specific cleanliness requirements and guaranteed hardenability.
- Field inspection:** Written instructions for visual, magnaflux, and dye penetrant inspection of shackles are available from Crosby. In addition, acceptance criteria and repair procedures for shackles are available.
- QUIC-CHECK®:** Shackles incorporate two marking indicators forged into the shackle bow at 45° angles from vertical. These are utilized to quickly check the approximate angle of a two-legged hitch or check the angle of a single leg hitch. If the load is off vertical or side loaded a reduction in the Working Load Limit of the shackle is required.

**G-213**

Round pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 1, except for those provisions required of the contractor.

**G-209**

Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 2, except for those provisions required of the contractor.

**G-2130**

Bolt type anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 3, except for those provisions required of the contractor.

**G-210**

Screw pin chain shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVB, Grade A, Class 2, except for those provisions required of the contractor.

**G-215**

Round pin chain shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVB, Grade A, Class 1, except for those provisions required of the contractor.

**G-2150**

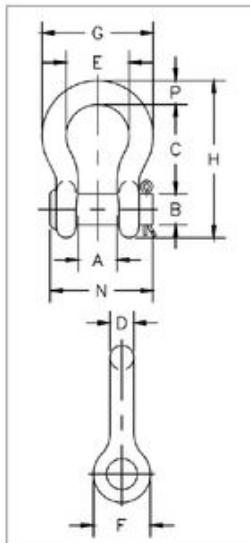
Bolt type chain shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVB, Grade A, Class 3, except for those provisions required of the contractor.



### G-213/S-213



- Forged, Quenched & Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Hot-dip galvanized (G) or self colored (S).
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit.
- Shackles 25t and larger are RFID equipped.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Shackles are Quenched & Tempered and can meet DNV impact requirements of 42 Joules (31 ft-lb) at -20°C (-4°F).
- G-213 Round pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 1, except for those provisions required of the contractor.
- DO NOT SIDE LOAD ROUND PIN SHACKLES.**
- Look for the Red Pin®... the mark of genuine Crosby quality.



### G-213 / S-213 Round Pin Anchor Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No.		Weight Each (lb)	Dimensions (in)										Tolerance (+/- in)	
		G-213	S-213		A	B	C	D	E	F	G	H	N	P	C	A
1/4	0.5	1018017	1018026	.13	.47	.31	1.13	.25	.78	.61	1.28	1.84	1.34	.25	.06	.06
5/16	0.75	1018035	1018044	.18	.53	.38	1.22	.31	.84	.75	1.47	2.09	1.59	.31	.06	.06
3/8	1	1018053	1018062	.29	.66	.44	1.44	.38	1.03	.91	1.78	2.49	1.86	.38	.13	.06
7/16	1.5	1018071	1018080	.38	.75	.50	1.69	.44	1.16	1.06	2.03	2.91	2.13	.44	.13	.06
1/2	2	1018099	1018106	.71	.81	.63	1.88	.50	1.31	1.19	2.31	3.28	2.38	.50	.13	.06
5/8	3.25	1018115	1018124	1.50	1.06	.75	2.38	.63	1.69	1.50	2.94	4.19	2.91	.69	.13	.06
3/4	4.75	1018133	1018142	2.32	1.25	.88	2.81	.75	2.00	1.81	3.50	4.97	3.44	.81	.25	.06
7/8	6.5	1018151	1018160	3.49	1.44	1.00	3.31	.88	2.28	2.09	4.03	5.83	3.81	.97	.25	.06
1	8.5	1018179	1018188	5.00	1.69	1.13	3.75	1.00	2.69	2.38	4.69	6.56	4.53	1.06	.25	.06
1-1/8	9.5	1018197	1018204	6.97	1.81	1.25	4.25	1.13	2.91	2.69	5.16	7.47	5.13	1.25	.25	.06
1-1/4	12	1018213	1018222	9.75	2.03	1.38	4.69	1.29	3.25	3.00	5.75	8.25	5.50	1.38	.25	.06
1-3/8	13.5	1018231	1018240	13.25	2.25	1.50	5.25	1.42	3.63	3.31	6.38	9.16	6.13	1.50	.25	.13
1-1/2	17	1018259	1018268	17.25	2.38	1.63	5.75	1.54	3.88	3.63	6.88	10.00	6.50	1.62	.25	.13
1-3/4	25	1018277	1018286	29.46	2.88	2.00	7.00	1.84	5.00	4.19	8.86	12.34	7.75	2.25	.25	.13
2	35	1018295	1018302	45.75	3.25	2.25	7.75	2.08	5.75	4.81	9.97	13.68	8.75	2.40	.25	.13

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit.

Load Rated

Fatigue Rated

QUIC-CHECK®

QT

MAXTOUGH®

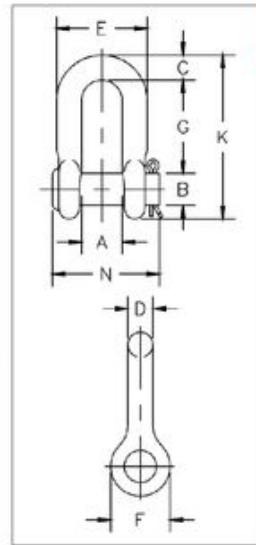
CE

APPLICATION AND WARNING INFORMATION  
SECTION 17

## G-215/S-215



- Forged, Quenched & Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Hot-dip galvanized (G) or self colored (S).
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit.
- Shackles 25t and larger are RFID equipped.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Shackles are Quenched & Tempered and can meet DNV impact requirements of 42 Joules (31 ft-lb) at -20° C (-4° F).
- G-213 Round pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 1, except for those provisions required of the contractor.
- DO NOT SIDE LOAD ROUND PIN SHACKLES.
- Look for the Red Pin®... the mark of genuine Crosby quality.



## G-215 / S-215 Round Pin Chain Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No.		Weight Each (lb)	Dimensions (in)								Tolerance (+/- in)		
		G-215	S-215		A	B	C	D	E	F	G	K	N	G	A
1/4	0.5	1018810	1018829	.10	.47	.31	.25	.25	.97	.62	.91	1.59	1.34	.06	.06
5/16	0.75	1018838	1018847	.18	.53	.38	.31	.31	1.15	.75	1.07	1.91	1.63	.06	.06
3/8	1	1018856	1018865	.25	.66	.44	.38	.38	1.42	.92	1.28	2.31	1.86	.13	.06
7/16	1.5	1018874	1018883	.40	.75	.50	.44	.44	1.63	1.06	1.48	2.67	2.13	.13	.06
1/2	2	1018892	1018909	.50	.81	.63	.50	.50	1.81	1.18	1.66	3.03	2.38	.13	.06
5/8	3.25	1018918	1018927	1.21	1.06	.75	.63	.63	2.32	1.50	2.04	3.76	2.91	.13	.06
3/4	4.75	1018936	1018945	2.00	1.25	.88	.81	.75	2.75	1.81	2.40	4.53	3.44	.25	.06
7/8	6.5	1018954	1018963	3.28	1.44	1.00	.97	.88	3.20	2.10	2.86	5.33	3.81	.25	.06
1	8.5	1018972	1018981	4.75	1.69	1.13	1.00	1.00	3.69	2.38	3.24	5.94	4.53	.25	.06
1-1/8	9.5	1018990	1019007	6.30	1.81	1.25	1.25	1.13	4.07	2.68	3.61	6.78	5.13	.25	.06
1-1/4	12	1019016	1019025	9.00	2.03	1.38	1.38	1.25	4.53	3.00	3.97	7.50	5.50	.25	.13
1-3/8	13.5	1019034	1019043	12.00	2.25	1.50	1.50	1.38	5.01	3.31	4.43	8.28	6.13	.25	.13
1-1/2	17	1019052	1019061	16.15	2.38	1.63	1.62	1.50	5.38	3.62	4.87	9.05	6.50	.25	.13
1-3/4	25	1019070	1019089	29.96	2.88	2.00	2.12	1.75	6.38	4.19	5.82	10.97	7.75	.25	.13
2	35	1019098	1019105	43.25	3.25	2.25	2.36	2.10	7.25	5.00	6.82	12.74	8.75	.25	.13

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit.

Load Rated

Fatigue Rated

QUIC-CHECK®

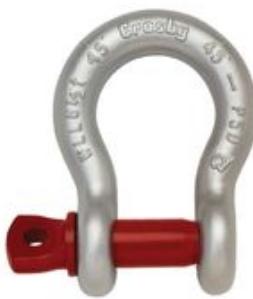
QT

MAXTOUGH®

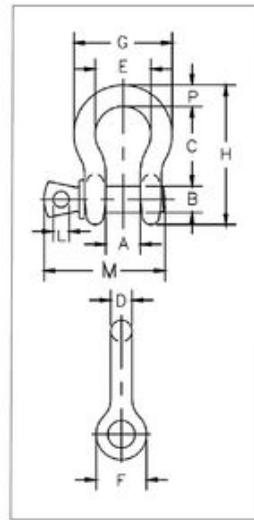
CE

APPLICATION AND WARNING INFORMATION  
SECTION 17

G-209 / S-209



- Meets performance requirements of Grade 6 shackles.
- Forged, Quenched & Tempered, with alloy pins.
- Working Load Limit and Grade 6 permanently shown on every shackle.
- Hot-dip galvanized (G) or self colored (S).
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certifications. Proof testing and certification available when requested at the time of order, charges will apply.
- Approved for use at -40° F (-40° C) to 400° F (204° C).
- All 209 and 210 shackles can meet charpy requirements of 31 ft-lb (42 Joules) avg. at -4° F (-20° C) upon special request.
- Meets or exceeds all requirements of ASME B30.26.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and ABS Guide for Certification of Lifting Appliances available. Certificates available when requested at time of order and may include additional charges.
- G-209 Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 2, except for those provisions required of the contractor.
- Look for the Red Pin®... the mark of genuine Crosby quality.



### G-209 / S-209 Screw Pin Anchor Shackles

Nominal Size (in)	Working Load Limit (l)	Stock No.		Weight Each (lb)	Dimensions (in)										Tolerance (+/- in)		
		G-209	S-209		A	B	C	D	E	F	G	H	L	M	P	C	A
3/16	0.33	1018357	—	.06	.38	.25	.88	.19	.60	.56	.98	1.47	.16	1.14	.19	.06	.06
1/4	0.5	1018375	1018384	.10	.47	.31	1.13	.25	.78	.62	1.28	1.84	.19	1.43	.25	.06	.06
5/16	0.75	1018393	1018400	.18	.53	.38	1.21	.31	.84	.75	1.46	2.09	.22	1.71	.31	.06	.06
3/8	1	1018419	1018428	.31	.66	.44	1.45	.38	1.03	.92	1.79	2.50	.25	2.06	.38	.13	.06
7/16	1.5	1018437	1018446	.38	.75	.50	1.69	.44	1.16	1.06	2.04	2.91	.31	2.37	.44	.13	.06
1/2	2	1018455	1018464	.72	.81	.62	1.88	.50	1.31	1.18	2.31	3.28	.38	2.69	.50	.13	.06
5/8	3.25	1018473	1018482	1.37	1.06	.75	2.38	.62	1.69	1.50	2.93	4.19	.44	3.34	.69	.13	.06
3/4	4.75	1018491	1018507	2.35	1.25	.88	2.81	.75	2.00	1.81	3.50	4.97	.50	3.97	.81	.25	.06
7/8	6.5	1018516	1018525	3.62	1.44	1.00	3.31	.88	2.28	2.10	4.04	5.83	.50	4.50	.97	.25	.06
1	8.5	1018534	1018543	5.03	1.69	1.12	3.76	1.00	2.69	2.38	4.69	6.56	.56	5.13	1.06	.25	.06
1-1/8	9.5	1018552	1018561	7.41	1.81	1.25	4.27	1.16	2.91	2.68	5.15	7.47	.63	5.97	1.25	.25	.06
1-1/4	12	1018570	1018589	9.50	2.03	1.38	4.69	1.29	3.26	3.00	5.76	8.26	.69	6.50	1.38	.25	.06
1-3/8	13.5	1018598	1018605	13.53	2.25	1.53	5.22	1.42	3.62	3.31	6.38	9.16	.75	6.93	1.50	.25	.13
1-1/2	17	1018614	1018623	17.20	2.38	1.63	5.76	1.53	3.88	3.62	6.94	10.00	.81	7.43	1.62	.25	.13
1-3/4	25	1018632	1018641	27.78	2.88	2.00	7.00	1.84	5.00	4.19	8.80	12.34	1.00	9.19	2.25	.25	.13
2	35	1018650	1018669	45.00	3.25	2.25	7.75	2.08	5.75	4.81	10.15	13.68	1.13	10.36	2.40	.25	.13
2-1/2	55	1018678	1018687	85.75	4.12	2.75	10.51	2.72	7.25	5.81	12.75	17.92	1.38	13.17	3.13	.25	.25

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

Load Rated

Fatigue Rated



MAXTOUGH®

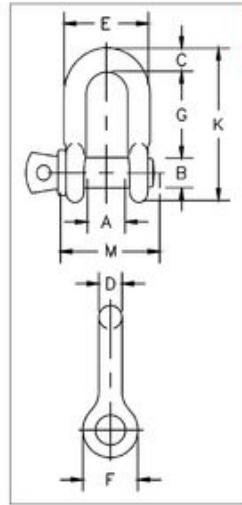


APPLICATION AND WARNING INFORMATION SECTION 17

### G-210 / S-210



- Forged, Quenched & Tempered, with alloy pins.
- Working Load Limit and Grade 6 permanently shown on every shackle.
- Hot-dip galvanized (G) or self colored (S).
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certifications. Proof testing and certification available when requested at the time of order, charges will apply.
- Approved for use at -40° F (-40° C) to 400° F (204° C).
- All 209 and 210 shackles can meet charpy requirements of 31 ft-lb (42 Joules) avg. at -4° F (-20° C) upon special request.
- Meets or exceeds all requirements of ASME B30.26.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and ABS Guide for Certification of Lifting Appliances available. Certificates available when requested at time of order and may include additional charges.
- G-210 Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVB, Grade A, Class 2, except for those provisions required of the contractor.
- Look for the Red Pin®... the mark of genuine Crosby quality.



### G-210 / S-210 Screw Pin Chain Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No.		Weight Each (lb)	Dimensions (in)										Tolerance (+/- in)	
		G-210	S-210		A	B	C	D	E	F	G	K	L	M	G	A
1/4	0.5	1019150	1019169	.11	.47	.31	.25	.25	.97	.62	.97	1.59	.19	1.43	.06	.06
5/16	0.75	1019178	1019187	.17	.53	.38	.31	.31	1.15	.75	1.07	1.91	.22	1.71	.06	.06
3/8	1	1019196	1019203	.28	.66	.44	.38	.38	1.42	.92	1.28	2.31	.25	2.02	.13	.06
7/16	1.5	1019212	1019221	.43	.75	.50	.44	.44	1.63	1.06	1.48	2.67	.31	2.37	.13	.06
1/2	2	1019230	1019249	.59	.81	.63	.50	.50	1.81	1.18	1.66	3.03	.38	2.69	.13	.06
5/8	3.25	1019258	1019267	1.25	1.06	.75	.63	.63	2.32	1.50	2.04	3.76	.44	3.34	.13	.06
3/4	4.75	1019276	1019285	2.63	1.25	.88	.81	.75	2.75	1.81	2.40	4.53	.50	3.97	.25	.06
7/8	6.5	1019294	1019301	3.16	1.44	1.00	.97	.88	3.20	2.10	2.86	5.33	.50	4.50	.25	.06
1	8.5	1019310	1019329	4.75	1.69	1.13	1.00	1.00	3.69	2.38	3.24	5.94	.56	5.13	.25	.06
1-1/8	9.5	1019338	1019347	6.75	1.81	1.25	1.25	1.13	4.07	2.69	3.61	6.78	.63	5.71	.25	.06
1-1/4	12	1019356	1019365	9.06	2.03	1.38	1.38	1.25	4.53	3.00	3.97	7.50	.69	6.25	.25	.13
1-3/8	13.5	1019374	1019383	11.63	2.25	1.50	1.50	1.38	5.01	3.31	4.43	8.28	.75	6.53	.25	.13
1-1/2	17	1019392	1019409	15.95	2.38	1.63	1.62	1.50	5.38	3.62	4.87	9.05	.81	7.33	.25	.13
1-3/4	25	1019418	1019427	26.75	2.88	2.00	2.12	1.75	6.38	4.19	5.78	10.97	1.00	9.06	.25	.13
2	35	1019436	1019445	42.31	3.25	2.25	2.36	2.10	7.25	5.00	6.77	12.74	1.13	10.35	.25	.13
2-1/2	55	1019454	1019463	71.75	4.12	2.75	2.63	2.63	9.38	5.68	8.07	14.85	1.38	13.00	.25	.25

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

Load Rated

Fatigue Rated



MAXTOUGH®

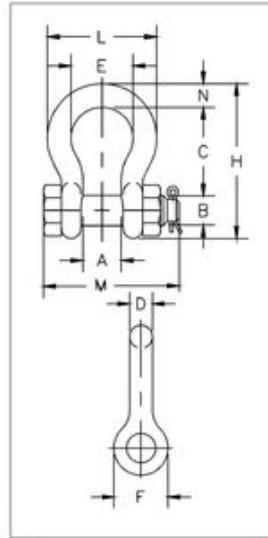


APPLICATION AND WARNING INFORMATION  
SECTION 17

### G-2130 / S-2130



- Working Load Limit and Grade 6 permanently shown on every shackle.
- Forged, Quenched & Tempered, with alloy bolts.
- Hot-dip galvanized (G) or self colored (S). 85, 120, and 150-metric ton shackles are all hot-dip galvanized bows and the bolts are Dimetcoted® and painted red.
- Sizes 3/8 and below are mechanically galvanized.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit (1/3t - 55t).
- Approved for use at -40° F (-40° C) to 400° F (204° C).
- Meets or exceeds all requirements of ASME B30.26.
- Shackles 85 metric tons and larger are individually proof tested to 2.0 times the working load limit.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules ABS Guide for Certification of Lifting Appliances available. Certificates available when requested at time of order and may include additional charges.
- 3.1 Certification as standard available for charpy and statistical proof test from 3.25t up to 25 tons to DNV 2.7-1 and EN13889.
- Crosby 3.25t through 25t G-2130OC anchor shackles are type approved to DNV Certification Notes 2.7-1-Offshore Containers. These Crosby shackles are statistical proof and impact tested to 31 ft-lb (42 Joules) min. avg. at -4° F (-20° C). The tests are conducted by Crosby and 3.1 test certification is available upon request.
- All other 2130 shackles can meet charpy requirements of 31 ft-lb (42 Joules) avg at -4° F (-20° C) when requested at time of order.
- Meets the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade A, Class 3, except for those provisions required of the contractor.
- Look for the Red Pin®... the mark of genuine Crosby quality.



### G-2130 / S-2130 Bolt Type Anchor Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No.			Weight Each (lb)	Dimensions (in)										Tolerance (+/- in)	
		G-2130	S-2130	G-2130OC		A	B	C	D	E	F	H	L	M	N	C	A
3/16	0.33 ‡	1019464	-	-	.06	.38	.25	.88	.19	.60	.56	1.47	.98	1.29	.19	.06	.06
1/4	0.5	1019466	-	-	.11	.47	.31	1.13	.25	.78	.61	1.84	1.28	1.56	.25	.06	.06
5/16	0.75	1019468	-	-	.22	.53	.38	1.22	.31	.84	.75	2.09	1.47	1.82	.31	.06	.06
3/8	1	1019470	-	-	.33	.66	.44	1.44	.38	1.03	.91	2.49	1.78	2.17	.38	.13	.06
7/16	1.5	1019471	-	-	.49	.75	.50	1.69	.44	1.16	1.06	2.91	2.03	2.51	.44	.13	.06
1/2	2	1019472	1019481	-	.79	.81	.64	1.88	.50	1.31	1.19	3.28	2.31	2.80	.50	.13	.06
5/8	3.25	1019490	1019506	1262013	1.68	1.06	.77	2.38	.63	1.69	1.50	4.19	2.94	3.56	.69	.13	.06
3/4	4.75	1019515	1019524	1262022	2.72	1.25	.89	2.81	.75	2.00	1.81	4.97	3.50	4.15	.81	.25	.06
7/8	6.5	1019533	1019542	1262031	3.95	1.44	1.02	3.31	.88	2.28	2.09	5.83	4.03	4.82	.97	.25	.06
1	8.5	1019551	1019560	1262040	5.66	1.69	1.15	3.75	1.00	2.69	2.38	6.56	4.69	5.39	1.06	.25	.06
1-1/8	9.5	1019579	1019588	1262059	8.27	1.81	1.25	4.25	1.13	2.91	2.69	7.47	5.16	5.90	1.25	.25	.06
1-1/4	12	1019597	1019604	1262068	11.71	2.03	1.40	4.69	1.29	3.25	3.00	8.25	5.75	6.69	1.38	.25	.06
1-3/8	13.5	1019613	1019622	1262077	15.83	2.25	1.53	5.25	1.42	3.63	3.31	9.16	6.38	7.21	1.50	.25	.13
1-1/2	17	1019631	1019640	1262086	19.00	2.38	1.66	5.75	1.53	3.88	3.63	10.00	6.88	7.73	1.62	.25	.13
1-3/4	25	1019659	1019668	1262095	33.91	2.88	2.04	7.00	1.84	5.00	4.19	12.34	8.80	9.68	2.25	.25	.13
2	35	1019677	1019686	-	52.25	3.25	2.30	7.75	2.08	5.75	4.81	13.68	10.15	10.81	2.40	.25	.13
2-1/2	55	1019695	1019702	-	98.25	4.13	2.80	10.50	2.71	7.25	5.69	17.90	12.75	13.58	3.13	.25	.25
3	† 85	1019711	-	-	154	5.00	3.30	13.00	3.12	7.88	6.50	21.50	14.62	15.13	3.62	.25	.25
3-1/2	† 120 ‡	1019739	-	-	265	5.25	3.76	14.63	3.62	9.00	8.00	24.88	17.02	17.00	4.38	.25	.25
4	† 150 ‡	1019757	-	-	338	5.50	4.26	14.50	4.00	10.00	9.00	25.68	18.00	17.75	4.56	.25	.25

6:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications..

† Individually Proof Tested with certification. ‡ Furnished with eye bolts for handling.

Load Rated

Fatigue Rated



MAXTOUGH®

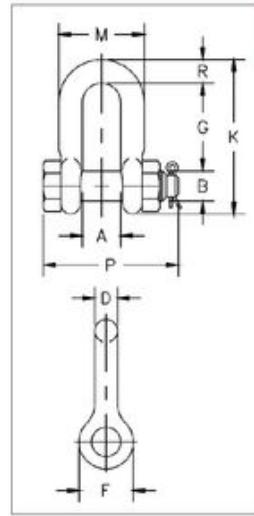


APPLICATION AND WARNING INFORMATION  
SECTION 17

## G-2150 / S-2150



- Working Load Limit and Grade 6 permanently shown on every shackle.
- Forged, Quenched & Tempered, with alloy pins.
- Hot-dip galvanized (G) or self-colored (S). 85 ton shackles have hot-dip galvanized bows and the bolts are Dimetcoted® and painted red.
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit. ( $1/2t - 55t$ ).
- Approved for use at  $-40^{\circ}\text{ F}$  ( $-40^{\circ}\text{ C}$ ) to  $400^{\circ}\text{ F}$  ( $204^{\circ}\text{ C}$ ).
- Meets or exceeds all requirements of ASME B30.26.
- Sizes 1/2 - 25t meet the performance requirements of EN13889:2003.
- Shackles 55 metric tons and smaller can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification when requested at time of order.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and 2016 ABS Guide for Certification of Lifting Appliance. Certificates available when requested at time of order and may include additional charges.
- Meets the performance requirements of Federal Specification RR-C-271G, Type IVB, Grade A, Class 3, except for those provisions required of the contractor.
- All 2150 shackles can meet charpy requirements of 31 ft-lb (42 Joules) avg at  $-4^{\circ}\text{ F}$  ( $-20^{\circ}\text{ C}$ ) upon special request.
- Look for the Red Pin®... the mark of genuine Crosby quality.



## G-2150 / S-2150 Bolt Type Chain Shackles

Nominal Size (in)	Working Load Limit (lb)*	Stock No.		Weight Each (lb)	Dimensions (in)								Tolerance (+/- in)		
		G-2150	S-2150		A	B	D	F	G	K	M	P	R	G	A
1/4	0.5	1019768	-	.13	.47	.31	.25	.62	.91	1.59	.97	1.56	.25	.06	.06
5/16	0.75	1019770	-	.23	.53	.38	.31	.75	1.07	1.91	1.15	1.82	.31	.06	.06
3/8	1	1019772	-	.33	.66	.44	.38	.92	1.28	2.31	1.42	2.17	.38	.13	.06
7/16	1.5	1019774	-	.49	.75	.50	.44	1.06	1.48	2.67	1.63	2.51	.44	.13	.06
1/2	2	1019775	1019784	.75	.81	.64	.50	1.18	1.66	3.03	1.81	2.80	.50	.13	.06
5/8	3.25	1019793	1019800	1.47	1.06	.77	.63	1.50	2.04	3.76	2.32	3.56	.63	.13	.06
3/4	4.75	1019819	1019828	2.52	1.25	.89	.75	1.81	2.40	4.53	2.75	4.15	.81	.25	.06
7/8	6.5	1019837	1019846	3.85	1.44	1.02	.88	2.10	2.86	5.33	3.20	4.82	.97	.25	.06
1	8.5	1019855	1019864	5.55	1.69	1.15	1.00	2.38	3.24	5.94	3.69	5.39	1.00	.25	.06
1-1/8	9.5	1019873	1019882	7.60	1.81	1.25	1.13	2.68	3.61	6.78	4.07	5.90	1.25	.25	.06
1-1/4	12	1019891	1019908	10.81	2.03	1.40	1.25	3.00	3.97	7.50	4.53	6.69	1.38	.25	.06
1-3/8	13.5	1019917	1019926	13.75	2.25	1.53	1.38	3.31	4.43	8.28	5.01	7.21	1.50	.25	.13
1-1/2	17	1019935	1019944	17.01	2.38	1.66	1.50	3.62	4.87	9.05	5.38	7.73	1.62	.25	.13
1-3/4	25	1019953	1019962	31.40	2.88	2.04	1.75	4.19	5.82	10.97	6.38	9.33	2.12	.25	.13
2	35	1019971	1019980	46.75	3.25	2.30	2.10	5.00	6.82	12.74	7.25	10.41	2.36	.25	.13
2-1/2	55	1019999	1020004	85.00	4.12	2.80	2.63	5.68	8.07	14.85	9.38	13.58	2.63	.25	.25
3	† 85	1020013	-	124.25	5.00	3.25	3.00	6.50	8.56	16.87	11.00	15.13	3.50	.25	.25

\*1: Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.  
† Individually Proof Tested with certification.

Load Rated

Fatigue Rated



QUIC-CHECK®



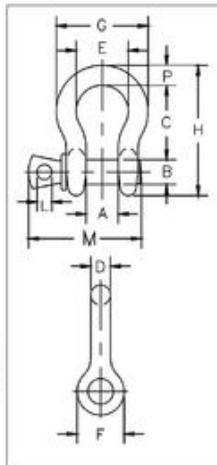
MAXTOUGH®

APPLICATION AND WARNING INFORMATION  
SECTION 17

### G-209A Grade 8



- Forged alloy steel, Quenched & Tempered, with alloy pins.
- Meets performance requirements of Grade 8 shackles.
- Working Load Limit permanently shown on every shackle.
- Hot-dip galvanized.
- Size 3/8 inch is mechanically galvanized.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification. Charges for proof testing and certification available when requested at the time of order.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these shackles meet other critical performance requirements including impact properties and material traceability, not addressed by ASME B30.26.
- G-209A Screw pin anchor shackles meet the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade B, Class 2, except for those provisions required of the contractor.



### G-209A Alloy Screw Anchor Pin Shackles

**Load Rating**

QUICK-CHECK®

**Q&T**

**CE**

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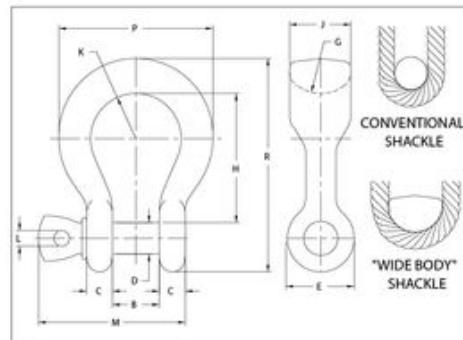
Nominal Size (in)	Working Load Limit (t)	Stock No.	Weight Each (lb)	Dimensions (in)												Tolerance (+/- in)		
				A	B	C	D	E	F	G	H	L	M	P	C	A		
3/8	2	1017450	.31	.66	.44	1.44	.38	1.03	.91	1.78	2.49	.25	2.03	.38	.13	.06		
7/16	2.67	1017472	.38	.75	.50	1.69	.44	1.16	1.06	2.03	2.91	.31	2.38	.44	.13	.06		
1/2	3.33	1017494	.63	.81	.63	1.88	.50	1.31	1.19	2.31	3.28	.38	2.69	.50	.13	.06		
5/8	5	1017516	1.38	1.06	.75	2.38	.63	1.69	1.50	2.94	4.19	.44	3.34	.69	.13	.06		
3/4	7	1017538	2.35	1.25	.88	2.81	.75	2.00	1.81	3.50	4.97	.50	3.97	.81	.25	.06		
7/8	9.5	1017560	3.61	1.44	1.00	3.31	.88	2.28	2.09	4.03	5.83	.50	4.50	.97	.25	.06		
1	12.5	1017582	5.32	1.69	1.13	3.75	1.00	2.69	2.38	4.69	6.56	.56	5.07	1.06	.25	.06		
1-1/8	15	1017604	7.25	1.81	1.25	4.25	1.16	2.91	2.69	5.16	7.47	.63	5.59	1.25	.25	.06		
1-1/4	18	1017626	9.88	2.03	1.38	4.69	1.29	3.25	3.00	5.75	8.25	.69	6.16	1.38	.25	.06		
1-3/8	21	1017648	13.25	2.25	1.50	5.25	1.42	3.63	3.31	6.38	9.16	.75	6.84	1.50	.25	.13		

4.5:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit (metric tons) and 2.2 times the Working Load Limit (short tons). For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

### G-2169



- Quenched & Tempered for maximum strength.
- Forged alloy steel.
- Available in galvanized (G) and self colored (S) finish.
- Individually proof tested and magnetic particle inspected. Crosby certification available at time of order.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these shackles meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.
- Look for the Red Pin®... the mark of genuine Crosby quality.



### G-2169 / S-2169 Alloy Screw Pin Wide Body Shackles

**Load Rating**

**Q&T**

APPLICATION AND WARNING INFORMATION SECTION 17

Working Load Limit (t)	G-2169 Stock No.	S-2169 Stock No.	Weight Each (lb)	Dimensions (in)													
				B +/- .25	C	D +/- .02	E	G	H	J	K	L	M	P	R		
7	1021655	1021664	3.5	1.25	.69	.88	1.82	1.25	3.56	1.60	1.25	.50	3.97	4.10	5.87		
12.5	1021673	1021682	8.8	1.69	.92	1.13	2.38	1.37	4.63	2.13	1.63	.56	5.13	5.51	7.63		
18	1021691	1021699	13	2.03	1.16	1.38	2.69	1.50	5.81	2.50	2.00	.69	6.25	6.76	9.38		

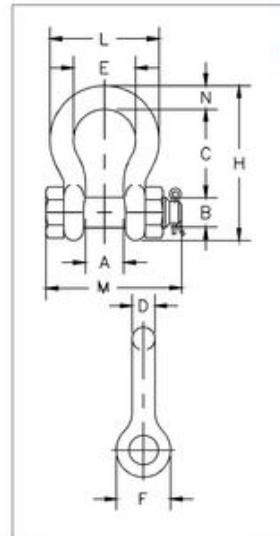
5:1 Design Factor. Proof Load is 2 times the Working Load Limit.

## G-2130A

Grade 8



- Forged alloy steel, Quenched & Tempered, with bow and bolt.
- Meets or exceeds all requirements of Grade 8 shackles.
- Working Load Limit permanently shown on every shackle.
- Hot-dip galvanized.
- Shackles can be RFID equipped.
- Meets or exceeds all requirements of ASME B30.26, including identification, ductility, design factor, proof load, and temperature requirements. Importantly, G-2130A meet other critical performance requirements, including impact properties, and material traceability not addressed by ASME B30.26.
- Shackles can be furnished proof tested with certificates to designated standards, such as ABS, DNV, Lloyds, or other certification when requested at time of order.
- Type Approval and certification in accordance with DNV 2.7-1 offshore containers.
- Shackles are Quenched & Tempered and meet DNV impact requirements of 42 Joules (31 ft-lb) at -40°C (-40°F).
- G-2130A Bolt Type Anchor shackles with thin head bolt – nut with cotter pin. Meets the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade B, Class 3, except for those provisions required of the contractor.



## G-2130A Alloy Bolt Type Anchor Shackles Grade 8

Nominal Size (in)	Working Load Limit (t)*	Stock No.	Weight Each (lb)	Dimensions (in)										Tolerance (+/- in)	
				A	B	C	D	E	F	H	L	M	N	C	A
1/2	2	1219472	.79	.81	.63	1.88	0.50	1.31	1.19	3.29	2.30	2.80	0.50	0.13	0.06
5/8	3.25	1219491	1.37	1.06	.75	2.38	0.63	1.69	1.50	4.18	2.94	3.56	0.69	0.25	0.06
3/4	4.75	1219516	2.71	1.25	.88	2.82	0.75	2.01	1.81	4.96	3.51	4.15	0.81	0.25	0.06
7/8	6.5	1219534	3.95	1.44	1.00	3.31	0.88	2.29	2.09	5.83	4.02	4.82	0.97	0.25	0.06
1	8.5	1219552	5.03	1.69	1.10	3.76	1.00	2.70	2.38	6.58	4.69	5.39	1.06	0.25	0.06
1-1/8	9.5	1219578	8.27	1.81	1.25	4.26	1.13	2.92	2.70	7.49	5.16	5.90	1.25	0.25	0.06
1-1/4	12	1219598	11.7	2.03	1.38	4.69	1.25	3.25	2.99	8.27	5.75	6.69	1.38	0.25	0.06
1-3/8	13.5	1219614	15.8	2.25	1.50	5.24	1.38	3.62	3.31	9.18	6.38	7.21	1.50	0.25	0.13
1-1/2	17	1219632	19.0	2.38	1.63	5.75	1.50	3.88	3.62	10.0	6.90	7.73	1.62	0.25	0.13

\*:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications..

Load Rated

Fatigue Rated

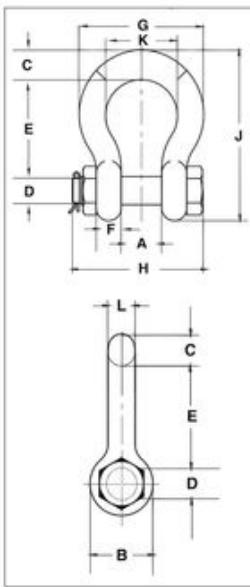


MAXTOUGH®



APPLICATION AND WARNING INFORMATION SECTION 17

## G-2140 / S-2140



- Quenched & Tempered.
- Alloy bows, alloy bolts.
- Forged alloy steel 2 through 250 metric tons. Cast alloy steel 400 metric tons.
- Meets performance requirements of Grade 8 shackles.
- Working Load Limit is permanently shown on every shackle.
- 30, 40, 55, and 85 metric ton shackle bows are available galvanized (G) or self colored (S) with bolts that are galvanized and painted red.
- Size 3/8 inch is mechanically galvanized.
- 120, 150, 175 metric ton shackle bows are hot-dip galvanized; bolts are Dimetcoted and painted red.
- 200, 250, 300, 400 metric ton shackle bows are Dimetcoted; bolts are Dimetcoted and painted red.
- Sizes 1-1/2 and larger are RFID equipped.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- Shackles are Quenched & Tempered and can meet DNV impact requirements of 42 Joules (31 ft-lb) at -20° C (-4° F).
- Crosby COLD TUFF® shackles that meet the additional requirements of DNV rules for certification of lifting applications - loose gear are available.
- Shackles 200 metric tons and larger are provided as follows:
  - Serialized bolt and bow
  - Material certification (chemical)
  - Magnetic particle inspected.
  - Certification must be requested at time of order.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. 2140 shackles meet other critical performance requirements including impact properties and material traceability, not addressed by ASME B30.26.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and 2016 ABS Guide for Certification of Lifting Appliances. Certificates are available when requested at time of order and may include additional charges.
- G-2140 meets the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade B, Class 3, except for those provisions required of the contractor. For additional information, see Warnings & Applications.
- Look for the Red Pin®... the mark of genuine Crosby quality.

## G-2140 / S-2140 Alloy Bolt Type Anchor Shackles

Nominal Shackle Size (in)	Working Load Limit (t)	Stock No.			Weight Each (lb)	Dimensions (in)												Tolerance (+/- in)			
		G-2140	S-2140	G-2140 OC		A	B	C	D	E	F	G	H	J	K	L	M	N	A	D	E
3/8	2	1021015	-	-	0.33	0.66	0.91	0.38	0.44	1.44	0.38	1.78	2.17	2.49	1.03	0.38	-	-	0.06	0.01	0.13
7/16	2.67	1021020	-	-	0.49	0.75	1.06	0.44	0.50	1.69	0.41	2.03	2.51	2.91	1.16	0.44	-	-	0.06	0.01	0.13
1/2	3.33	1021029	-	-	0.79	0.81	1.19	0.50	0.64	1.88	0.46	2.31	2.80	3.28	1.31	0.50	-	-	0.06	0.02	0.13
5/8	5	1021038	-	-	1.68	1.06	1.50	0.69	0.77	2.38	0.58	2.94	3.56	4.19	1.69	0.63	-	-	0.06	0.02	0.13
3/4	7	1021047	-	-	2.72	1.25	1.81	0.81	0.89	2.81	0.69	3.50	4.15	4.97	2.00	0.75	-	-	0.06	0.02	0.25
7/8	9.5	1021056	-	-	3.95	1.44	2.09	0.97	1.02	3.31	0.81	4.03	4.82	5.83	2.28	0.88	-	-	0.06	0.02	0.25
1	12.5	1021065	-	-	5.66	1.69	2.38	1.06	1.15	3.75	0.92	4.69	5.39	6.56	2.69	1.00	-	-	0.06	0.02	0.25
1-1/8	15	1021074	-	-	8.27	1.81	2.69	1.25	1.25	4.25	1.04	5.16	5.90	7.47	2.91	1.13	-	-	0.06	0.02	0.25
1-1/4	18	1021083	-	-	11.7	2.03	3.00	1.38	1.40	4.69	1.16	5.75	6.69	8.25	3.25	1.29	-	-	0.06	0.03	0.25
1-3/8	21	1021092	-	-	15.8	2.25	3.31	1.50	1.53	5.25	1.28	6.38	7.21	9.16	3.63	1.42	-	-	0.13	0.03	0.25
1-1/2	30	1021110	1021129	1262407	18.8	2.38	3.62	1.62	1.63	5.75	1.39	6.88	7.73	10.00	3.88	1.53	-	-	0.13	0.03	0.25
1-3/4	40	1021138	1021147	1262416	33.8	2.88	4.19	2.25	2.00	7.00	1.75	8.81	9.33	12.34	5.00	1.84	-	-	0.13	0.03	0.25
2	55	1021156	1021165	1262425	49.9	3.25	4.81	2.40	2.25	7.75	2.00	10.16	10.41	13.68	5.75	2.08	-	-	0.13	0.03	0.25
2-1/2	85	1021174	1021183	1262434	103	4.12	5.81	3.12	2.75	10.50	2.62	12.75	13.58	17.90	7.25	2.71	-	-	0.25	0.03	0.25
3	120	1021192	-	1262443	162	5.00	6.50	3.63	3.25	13.00	3.00	14.62	15.13	21.50	7.88	3.12	-	-	0.25	0.04	0.25
3-1/2	† 150	1021218	-	1262452	268	5.25	8.00	4.38	3.75	14.63	3.75	17.02	20.33	24.88	9.00	3.62	4.00	1.80	0.25	0.01	0.25
4	† 175	1021236	-	1262461	318	5.50	9.00	4.56	4.25	14.50	4.00	18.00	21.20	25.68	10.00	4.00	4.00	1.80	0.25	0.01	0.25
4-3/4	† 200	1021234	-	-	461	7.25	10.50	5.00	4.75	15.19	4.58	20.84	24.04	27.81	11.00	4.75	4.00	1.80	0.25	0.01	0.25
5	† 250	1021243	-	-	608	8.50	12.00	5.62	5.00	18.50	4.85	23.62	24.87	32.61	13.00	5.00	4.00	1.80	0.25	0.01	0.25
6	† 300	1021252	-	-	797	8.38	13.00	6.06	6.00	18.72	4.89	24.76	26.22	34.28	13.00	5.88	4.00	1.80	0.25	0.01	0.25
7*	† 400	1021478	-	-	1289	8.25	14.00	7.25	7.00	22.50	6.50	26.00	29.66	40.25	13.00	6.00	4.00	1.80	0.25	0.01	0.25

4.5:1 Design Factor for sizes 2 through 21 metric tons, 5.4:1 Design Factor for sizes 30 through 175 metric tons. 4:1 Design Factor for 200 through 400 metric tons. Maximum Proof Load is 2 times the Working Load Limit. \*Cast alloy steel. †Furnished with round head bolts with a handle. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

Load Rated

TA  
TYPE APPROVED

QUIC-CHECK®

QT  
QUALITY TESTED

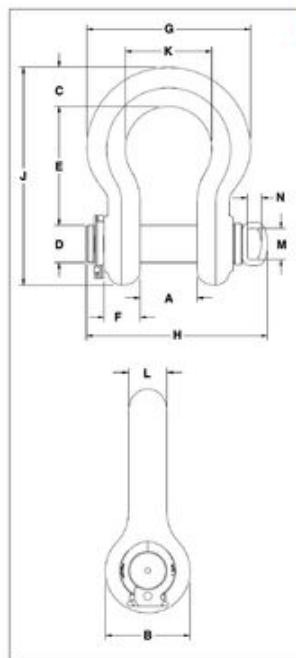
CE

APPLICATION AND WARNING INFORMATION SECTION 17

G-2140E



- Quenched & Tempered.
- Alloy bows, alloy bolts.
- Meets performance requirements of Grade 8 shackles.
- Working Load Limit is permanently shown on every shackle.
- 200, 250, and 300 metric ton shackle bows are Dimetcoted®; Pins are Dimetcoted and painted red.
- Approved for use at -40° F (-40° C) to 400° F (204° C).
- Shackles are Quenched & Tempered and can meet DNV impact requirements of 31 ft-lb (42 Joules) at -4° F (-20° C).
- All sizes are individually proof tested to 2.0 times the Working Load Limit.
- Shackles are provided as follows:
  - Serialized bolt and bow
  - Material certification (chemical)
  - Magnetic particle inspected
  - Certification must be requested at time of order
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these shackles meet other critical performance requirements including impact properties and material traceability, not addressed by ASME B30.26.
- Type Approval certification in accordance with ABS 2016 Steel Vessel Rules and 2016 ABS Guide for Certification of Lifting Appliances. Certificates available when requested at time of order and may include additional charges.
- G-2140E meets the performance requirements of Federal Specification RR-C-271G, Type IVA, Grade B, Class 3, except for those provisions required of the contractor.
- Look for the Red Pin®... the mark of genuine Crosby quality.



### G-2140E Alloy Easy-Loc Shackles

Nominal Shackle Size (in)	Working Load Limit (t)	Stock No.	Weight Each (lb)	Dimensions (in)												Tolerance (+/- in)		
				A	B	C	D +/- .02	E	F	G	H	J	K	L	M	N	A	E
4-3/4	200	1021475	458	7.25	10.50	5.00	4.75	15.19	4.58	20.84	23.01	27.81	11.00	4.75	4.00	1.80	0.25	0.25
5	250	1021484	597	8.50	12.00	5.63	5.00	18.50	4.48	23.63	23.84	32.63	13.00	5.00	4.00	1.80	0.25	0.25
6	300	1021493	791	8.38	13.00	6.06	6.00	18.72	4.89	24.76	25.01	34.28	13.00	5.88	4.00	1.80	0.25	0.25

4:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

Load Tested

TA  
TYPE APPROVED

QUIC-CHECK®

QT

CE

APPLICATION AND WARNING INFORMATION SECTION 17

# Shackle Bolt Securement MADE EASY

The patented Easy-Loc V2™ shackle bolt securement system will change the way you make your critical lifts.



1

Open collar



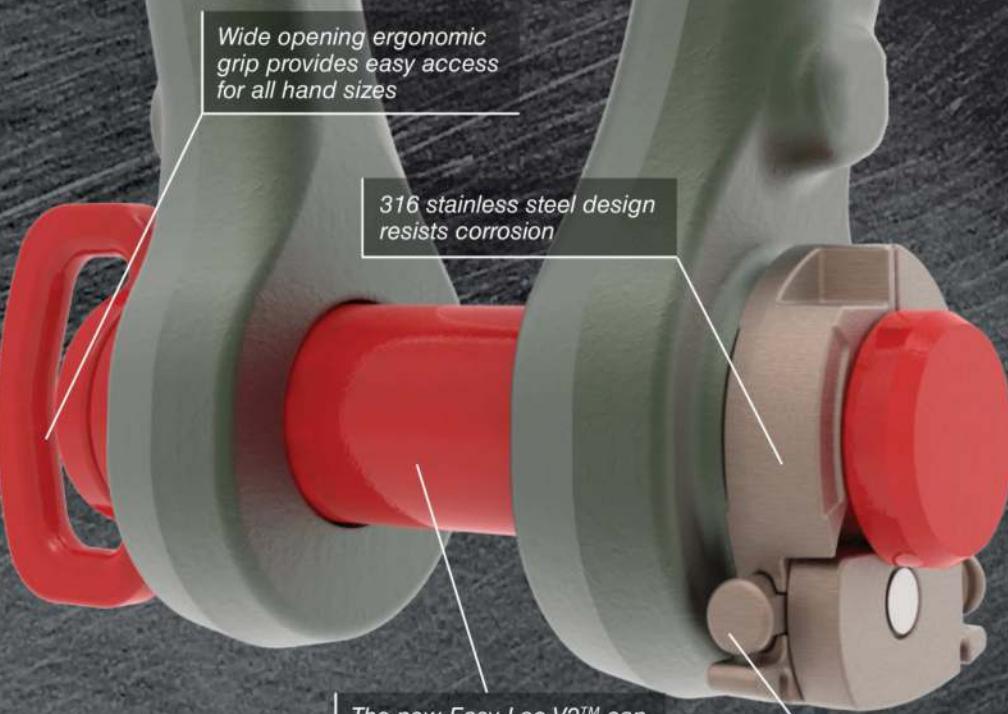
2

Push collar onto bolt



3

Close collar



- No cotter pins or tools required, reducing install/release time up to 90%.
- Meets all industry standards.
- Up to 60% lighter than conventional nut and cotter pin design.

# Crosby

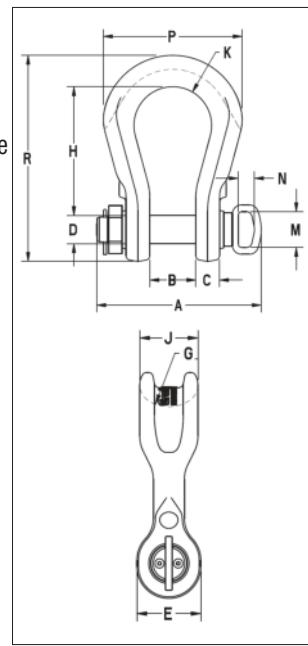


Watch video:

G-2160 / S-2160



- Increase in shackle bow radius provides minimum 58% gain in sling bearing surface and eliminates need for a thimble.
- Increases usable sling strength a minimum of 15% and greatly improves life of wire rope slings.
- Can be used to connect synthetic web slings, synthetic round slings or wire rope slings.
- All sizes Quenched & Tempered for maximum strength.
- Forged alloy steel from 7 through 300 metric tons.
- Cast alloy steel from 400 through 1550 metric tons.
- Proof tested as follows:
  - 7 through 75 metric tons and 200 through 300 metric tons: 2 x WLL
  - 125 metric tons: 1.6 x WLL
  - 400 metric tons and higher: 1.33 x WLL
- All ratings are in metric tons, embossed on side of bow.
- G-2160, (7 through 55t), are hot-dip galvanized and pins are painted red.
- G-2160 (75t and larger), bows are furnished Dimetcoted; Pins are Dimetcoted, then painted red.
- S-2160 bows and pins are painted red.
- Shackles 30t and larger are RFID equipped.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- Bow and bolt are certified to meet Charpy impact testing of 42 Joules (31 ft-lb) min. avg. at -20° C (-4° F).
- All 2160 shackles are individually proof tested and magnetic particle inspected. Crosby certification available at time of order.
- Shackles requiring ABS, Lloyds and other certifications are available upon special request and must be specified at time of order.
- Type approved and certification to DNV Rules for Certification of Lifting Appliances, and are produced in accordance with DNV MSA requirements. Databook is provided that includes required documents.
  - Serialization / Identification
  - Material Testing (physical / chemical / Charpy)
  - Proof Testing
- Look for the Red Pin®... the mark of genuine Crosby quality.



### G-2160 / S-2160 Wide Body Shackles

Working Load Limit (t)*	Stock No.		Weight Each (lb)	Dimensions (in)													Effective Body Diameter
	G-2160	S-2160		A	B +/- .25	C	D +/- .02	E	G	H	J	K	M	N	P	R	
7	1021256	1021548	4.0	4.14	1.25	.69	.88	1.82	1.25	3.56	1.60	1.25	-	-	4.10	5.87	2.1
12.5	1021265	1021557	8.8	5.38	1.69	.92	1.13	2.38	1.37	4.63	2.13	1.63	-	-	5.51	7.63	2.4
18	1021274	1021566	14.9	6.69	2.03	1.16	1.38	2.69	1.50	5.81	2.50	2.00	-	-	6.76	9.38	2.8
30	1021283	1021575	26.5	7.69	2.37	1.38	1.63	3.50	2.50	6.94	3.13	2.50	-	-	8.50	11.38	4.1
40	1021285	1021584	46.0	9.28	2.88	1.69	2.00	4.00	1.75	8.06	3.75	3.00	-	-	10.62	13.62	3.6
55	1021287	1021593	68.0	10.36	3.25	2.00	2.25	4.63	2.00	9.36	4.50	3.50	-	-	12.26	15.63	4.3
75	1022101	-	112	15.04	4.13	2.39	2.75	5.34	3.75	11.53	5.00	3.64	4.00	1.80	12.64	18.66	6.3
125	1022110	-	193	18.32	5.12	3.10	3.15	6.50	3.75	14.37	5.91	4.33	4.00	1.80	15.47	23.00	6.8
200	1022118	-	420	19.35	5.91	3.39	4.12	8.41	5.25	18.91	8.56	5.42	4.00	1.80	20.27	30.44	9.5
300	1022127	-	805	22.61	7.38	4.30	5.25	10.50	6.13	23.63	10.38	6.31	4.00	1.80	23.93	37.66	11.4
400	1021334	-	1143	30.27	8.66	5.16	6.30	12.56	7.99	22.64	12.60	7.28	4.00	1.80	27.17	38.78	14.3
500	1021343	-	1439	33.35	9.84	5.73	7.09	13.39	8.09	24.81	13.39	8.86	4.00	1.80	31.10	42.72	14.8
600	1021352	-	2132	36.02	10.83	6.23	7.87	15.50	13.00	27.56	14.57	9.74	5.75	2.25	34.05	47.24	20.3
700	1021361	-	2579	38.91	11.81	6.59	8.46	17.03	8.87	28.94	15.75	10.63	5.75	2.25	37.01	50.18	16.6
800	1021254	-	3025	41.66	12.80	7.30	9.06	17.69	9.76	29.53	16.54	10.92	5.75	2.25	38.39	52.09	18.0
900	1021389	-	3678	43.73	13.78	7.78	9.84	18.81	13.00	29.82	18.81	11.52	5.75	2.25	40.35	54.59	22.4
1000	1021370	-	4079	45.98	14.96	8.33	10.63	20.00	10.26	29.92	18.11	12.11	5.75	2.25	42.32	55.31	19.3
1250	1021272	-	5320	49.86	16.99	9.16	11.81	22.56	13.92	36.61	20.87	12.70	-	-	46.26	65.35	24.4
1550	1021281	-	8302	54.89	18.31	11.10	12.60	24.25	12.52	42.32	22.82	13.29	-	-	51.81	74.63	23.9

5:1 Design Factor on 75 through 300 metric tons. Maximum Proof Load is 2 times the Working Load Limit on 75 through 300 metric tons (except for 125 metric tons which is proof tested to 1.6 times the Working Load Limit). 4.5:1 Design Factor on 400 through 1550 metric tons. Maximum Proof Load is 1.33 times the Working Load Limit on 400 through 1550 metric tons.

Load Rated

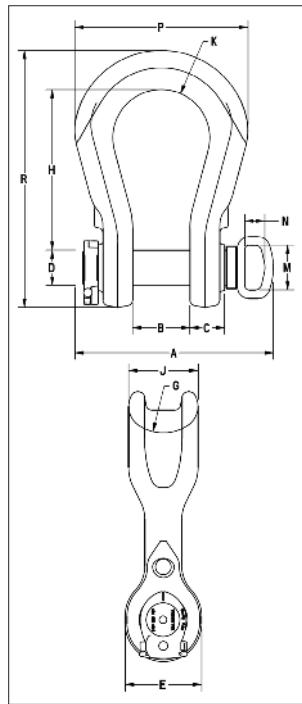
TA  
TYPE APPROVED

QUIC-CHECK®

Q&T  
QUICK & TESTEDAPPLICATION AND WARNING INFORMATION  
SECTION 17



- Increase in shackle bow radius provides minimum 58% gain in sling bearing surface and eliminates need for a thimble.
- Increases usable sling strength a minimum of 15% and greatly improves life of wire rope slings.
- Can be used to connect synthetic web slings, synthetic round slings or wire rope slings.
- All sizes Quenched & Tempered for maximum strength.
- Forged alloy steel from 75 through 300 metric tons.
- Proof tested as follows:
  - 75 metric tons and 200-300 metric tons: 2 x WLL.
  - 125 metric tons: 1.6 x WLL.
- All ratings are in metric tons, embossed on side of bow.
- G-2160E, (75t and larger), bows are furnished Dimetcoted, and pins are Dimetcoted, then painted red.
- Shackles are RFID equipped.
- Approved for use at -40° C (-40° F) to 204 degrees C (400° F).
- Bow and bolt are certified to meet Charpy impact testing of 42 Joules (31 ft-lb) min. avg. at -20° C (-4 degrees F).
- All 2160E shackles are individually proof tested and magnetic particle inspected. Crosby certification available at time of order.
- Shackles requiring ABS, Lloyds and other certifications are available upon special request and must be specified at time of order.
- Shackles have DNV Type Approval to Rules for Certification of Lifting Appliances, and are produced in accordance with DNV MSA requirements. Databook is provided that includes required documents.
  - Serialization / Identification
  - Material Testing (physical / chemical / Charpy)
  - Proof Testing
- Look for the Red Pin®... the mark of genuine Crosby quality.



### G-2160E Easy-Loc Wide Body Shackles

Working Load Limit (t)	Stock No.	Weight Each (lb)	Dimensions (in)														
			A	B +/- .25	C	D +/- .02	E	G	H	J	K	M	N	P	R	Effective Body Diameter	
75	1021500	110	15.04	4.13	2.39	2.75	5.34	3.75	11.54	5.00	3.64	4.00	1.80	12.64	18.66	6.3	
125	1021509	190	17.70	5.12	3.10	3.15	6.50	3.75	14.37	5.91	4.33	4.00	1.80	15.47	23.00	6.8	
200	1021518	408	19.35	5.91	3.39	4.12	8.41	5.25	18.91	8.56	5.42	4.00	1.80	20.27	30.44	9.5	
300	1021527	787	22.61	7.38	4.30	5.25	10.50	6.13	23.63	10.38	6.31	4.00	1.80	23.93	37.51	11.4	

5:1 Design Factor on 75 through 300 metric tons. Maximum Proof Load is 2 times the Working Load Limit on 75 through 300 metric tons (except for 125 metric tons which is proof tested to 1.6 times the Working Load Limit).

Load Rated

TA  
TYPE APPROVED

QUIC-CHECK®  
Q

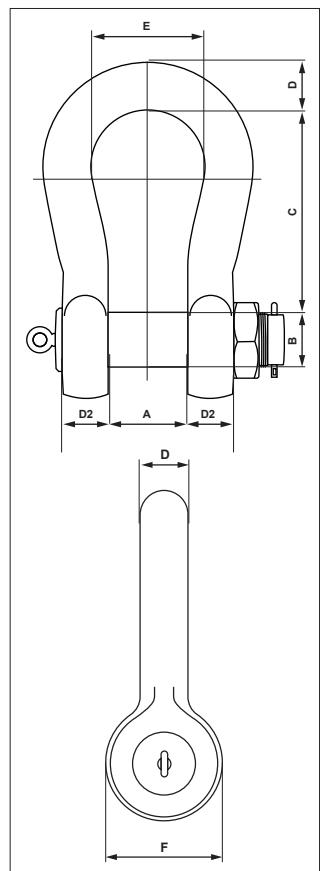
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QUENCHED & TEMPERED

APPLICATION AND WARNING INFORMATION  
SECTION 17

## S-2135 / S-2145



- Trusted Crosby quality.
- Embossed Angle Indicators included.
- Meets performance requirements of Grade 8 shackles.
- 5:1 Design Factor.
- Individually proof loaded to 2 times the Working Load Limit.
- S-2135 and S-2145 shackles are available with aluminum paint and are not galvanized.
- Operating temperature range -20° C (-4° F) to 200° C (392° F) for S-2135 and S-2145.
- Material inspection certificate Type 3.1 according to EN 10204.
- DNV type approved: DNVGL-ST-0377 and DNVGL-ST-0378.
- Meets performance requirements of federal specification RR-C-271F, except for those provisions required of the contractor.
- Meets or exceeds all requirements of ASME B30.26.
- S-2135CT COLD TUFF® available from 85t to 400t with an operating temperature range of -60°C (-76°F) up to +200°C (392°F).
- DNV witness proof testing available on request for all sizes and models.
- Magnetic Particle Inspection available on request for all sizes and models.
- Look for the Red Pin® ... the mark of genuine Crosby quality.



## S-2135 / S-2145 Bolt Type Anchor Shackles

Frame Size (in)	Working Load Limit (t)	Stock No	Weight (lb)	Dimensions (in)							
				A	+/- 0	B	C	D	D2	E	F
<b>S-2135</b>											
3	85	1205009	172	5.00	+0.25 / -0	3.3	13.0	3.3	3.1	7.5	6.4
3 1/2	120	1205018	254	5.67	+0.25 / -0	3.7	15.0	3.7	3.5	9.4	7.9
4	150	1205027	357	6.50	+0.33 / -0	4.3	15.2	4.1	3.9	10.8	9.1
4 3/4	200	1205036	529	7.09	+0.33 / -0	4.9	17.7	4.7	4.3	11.0	10.6
5	250	1205045	675	8.07	+0.40 / -0	5.5	20.5	5.1	4.5	12.0	11.4
6	300	1205054	811	8.07	+0.40 / -0	5.9	20.9	5.5	4.7	12.0	12.4
7	400	1205063	1327	9.06	+0.40 / -0	6.9	22.6	6.3	6.3	12.8	14.4
7 1/4	500	1205234	1620	9.84	+0.47 / -0	7.3	25.6	7.1	6.3	13.8	15.2
8	600	1205243	2136	10.83	+0.50 / -0	8.1	25.6	7.9	7.3	14.8	16.9
8 1/4	700	1205252	2405	11.81	+0.60 / -0	8.5	25.6	8.3	7.9	15.7	17.3
8 1/2	800	1205261	2438	11.81	+0.60 / -0	8.7	25.6	8.3	7.9	15.7	17.7
9 1/2	1000	1205270	3254	13.39	+0.66 / -0	9.4	27.6	9.4	9.4	16.5	19.7
10	1250	1205279	4310	14.17	+0.75 / -0	10.6	29.5	10.2	8.9	17.7	22.4
11	1500	1205288	5130	14.17	+0.75 / -0	11.4	31.5	11.0	8.9	17.7	24.0
<b>S-2145</b>											
3	120	1205072	172	5.00	+0.25 / -0	3.3	13.0	3.3	3.1	7.5	6.4
3 1/2	150	1205081	254	5.67	+0.25 / -0	3.7	15.0	3.7	3.5	9.4	7.9
4	175	1205090	357	6.50	+0.33 / -0	4.3	15.2	4.1	3.9	10.8	9.1

Maximum Proof Load is 2.0 times the Working Load Limit.

Load Rated

Fatigue Rated

TA  
TYPE APPROVEDQUIC-CHECK®  
Q✓  
SHACKLED & TEMPEREDQT  
QUICK-TEMP

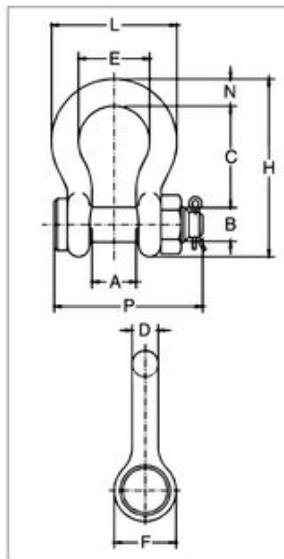
MAXTOUGH®

APPLICATION AND WARNING INFORMATION SECTION 17

### G-2130CT / G-2140CT



- Forged, Quenched & Tempered, with alloy bolt.
  - G-2130CT - carbon steel
  - G-2140CT - alloy steel
- Working Load Limit permanently shown on every shackle.
- Individually serialized with certification.
- Fatigue Rated (G-2130CT only).
- Shackles 25t and larger are RFID equipped.
- All sizes are individually proof tested to 2.0 times the Working Load Limit.
- Finish is inorganic zinc primer.
- Bow and bolt are certified to meet Charpy impact testing of 42 Joules (31 ft-lb) min. avg. at -20° C (-4° F).
- Individually magnetic particle inspected with certification.
- Type Approval and certification in accordance with DNV 2.7-1 Offshore Containers, and Rules for Certification of Lifting Appliances, DNV-OS-E101 and are produced in accordance with DNV MSA requirements, including required documents.
- DNV certified minimum design temperature -4° F. May be used at -50° F (-45° C) in non DNV applications.
- Meets the performance requirements of Federal Specification RR-C-271G Type IVA:
  - G-2130CT - Grade A, Class 3, except for those provisions required of the contractor.
  - G-2140CT - Grade B, Class 3, except for those provisions required of the contractor.



### G-2130CT COLD TUFF® Bolt Type Anchor Shackles

Nominal Shackle Size (in)	Working Load Limit (t)	Stock No.	Weight Each (lb)	Dimensions (in)												Tolerance (+/- in)	
				A	B	C	D	E	F	H	L	N	P	A	C		
3/4	4.75	1260568	2.72	1.25	.88	2.81	.75	2.00	1.81	4.97	3.50	.81	4.25	.06	.25		
7/8	6.5	1260577	3.87	1.44	1.00	3.31	.88	2.28	2.09	5.83	4.03	.97	4.71	.06	.25		
1	8.5	1260586	5.66	1.69	1.13	3.75	1.03	2.69	2.38	6.56	4.69	1.06	5.38	.06	.25		
1-1/8	9.5	1260595	8.26	1.81	1.25	4.25	1.13	2.91	2.69	7.47	5.16	1.25	5.90	.06	.25		
1-1/4	12	1260604	11.71	2.03	1.38	4.69	1.29	3.25	3.00	8.25	5.75	1.38	6.63	.06	.25		
1-3/8	13.5	1260613	15.1	2.25	1.50	5.25	1.38	3.63	3.31	9.16	6.38	1.50	7.21	.13	.25		
1-1/2	17	1260622	20.8	2.38	1.63	5.75	1.54	3.88	3.63	10.00	6.88	1.62	7.66	.13	.25		
1-3/4	25	1260633	33.9	2.88	2.00	7.00	1.84	5.00	4.19	12.34	8.86	2.25	9.19	.13	.25		

5.4:1 Design Factor. Maximum Proof Load is 2 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see Warnings & Applications.

### G-2140CT COLD TUFF® Alloy Bolt Type Anchor Shackles

Nominal Shackle Size (in)	Working Load Limit (t)	Stock No.	Weight Each (lb)	Dimensions (in)												Tolerance (+/- in)	
				A	B	C	D	E	F	H	L	N	P	A	C		
1-1/2	30	1260801	20.8	2.38	1.63	5.75	1.54	3.88	3.62	10.00	6.88	1.62	7.73	.13	.25		
1-3/4	40	1260812	33.9	2.88	2.00	7.00	1.84	5.00	4.19	12.34	8.81	2.25	9.33	.13	.25		
2	55	1260823	52.0	3.25	2.25	7.75	2.08	5.75	4.81	13.68	10.16	2.40	10.41	.13	.25		
2-1/2	85	1260834	96.0	4.12	2.75	10.50	2.72	7.25	5.69	17.84	12.87	3.12	13.58	.25	.25		
3	120	1260843	178.0	5.00	3.25	13.00	3.11	7.88	6.50	21.50	14.36	3.63	15.13	.25	.25		
3-1/2	† 150	1260852	265.0	5.25	3.75	14.63	3.62	9.00	8.00	24.62	16.50	4.12	17.62	.25	.25		
4	† 175	1260861	338.0	5.50	4.25	14.5	4.10	10.00	9.00	25.69	18.42	4.56	20.37	.25	.25		
4-3/4	† 200	1260870	450.0	7.25	4.75	15.63	4.50	11.00	10.50	29.25	21.00	6.00	21.21	.25	.25		
5	† 250	1260889	600.0	8.50	5.00	20.00	4.50	13.00	12.00	35.00	24.50	6.50	22.68	.25	.25		

5.4:1 Design Factor on 30t through 175 metric tons. 4:1 Design Factor on 200 metric tons and larger. Maximum Proof Load is 2 times the Working Load Limit for all sizes.

Load Rated

Fatigue Rated

TA

QUIC-CHECK®

QT

MAXTOUGH®

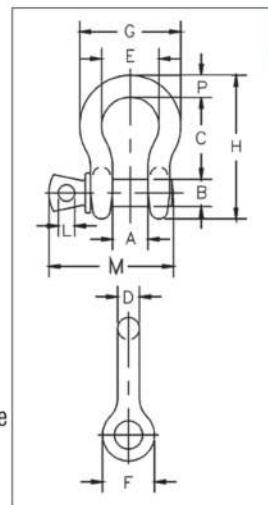
CE

APPLICATION AND WARNING INFORMATION SECTION 17

S-209T



- Flat black baked on powder coat finish.
- Forged, Quenched & Tempered, with alloy pins.
- Working Load Limit and Grade 6 permanently shown on every shackle.
- Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit.
- Industry leading 6 to 1 Design Factor.
- Screw pin anchor shackles meet the performance requirement of Federal Specification RR-C-271G, Type IVA, Grade A, Class 2, except for those provisions required of the contractor.
- Meets the performance requirements of EN 13889.
- Meets or exceeds all requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, these shackles meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B30.26.



### S-209T Theatrical Shackles

Nominal Size (in)	Working Load Limit (t)	Stock No.	Weight Each (lb)	Dimensions (in)												Tolerance (+/- in)	
				A	B	C	D	E	F	G	H	L	M	P	C	A	
3/8	1	1018706	.31	.66	.44	1.44	.38	1.03	.91	1.78	2.49	.25	2.02	.38	.13	.06	
7/16	1.5	1018724	.38	.75	.50	1.69	.40	1.16	1.06	2.03	2.91	.31	2.37	.44	.13	.06	
1/2	2	1018742	.72	.81	.63	.188	.50	1.31	1.19	2.31	3.28	.38	2.69	.50	.13	.06	
5/8	3.25	1018760	1.37	1.06	.75	2.38	.63	1.69	1.50	2.94	4.19	.44	3.34	.69	.13	.06	
3/4	4.75	1018778	2.35	1.25	.88	2.81	.75	2.00	1.81	3.50	4.97	.50	3.97	.81	.25	.06	

Maximum Proof Load is 2.0 times the Working Load Limit.

Load Rated

Fatigue Rated

QUIC-CHECK®



MAXTOUGH®

APPLICATION AND WARNING INFORMATION SECTION 17

Ep. 46 Shackles designed for theatrical applications

## VIDEO PODCAST SERIES

Our experts answer some of your most common safe rigging, lifting, and securement questions in our video podcast series, *Ask the Expert*.

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Ep. 5 Hooks: Why the tips must point outward on multiple bridles

**Ask the Expert**  
VIDEO PODCAST



**QUIC-TAG™**

**Crosby®**

## **THE NEWEST ADDITION TO CROSBY'S RFID TAG FAMILY**

Industry standards require periodic performance inspections to make sure lifting equipment is performing to specified levels.

The Crosby QUIC-TAG™ makes the inspection process more efficient, and its unique design can be retrofitted on numerous products.

- Easy, fast, and secure attachment
- Engineered for extreme durability and strength with a low profile design
- Resistant to harsh environmental conditions including exposure to UV rays, water chemical exposure and temperatures up to 185°F (85°C)
- Compatible with the Crosby QUIC-CHECK® Inspection and Identification System
- 13.5 MHz operating frequency
- The most cost effective RFID tag offered by Crosby

**QUIC-CHECK®**



Shown actual size:



# Feel confident in every situation

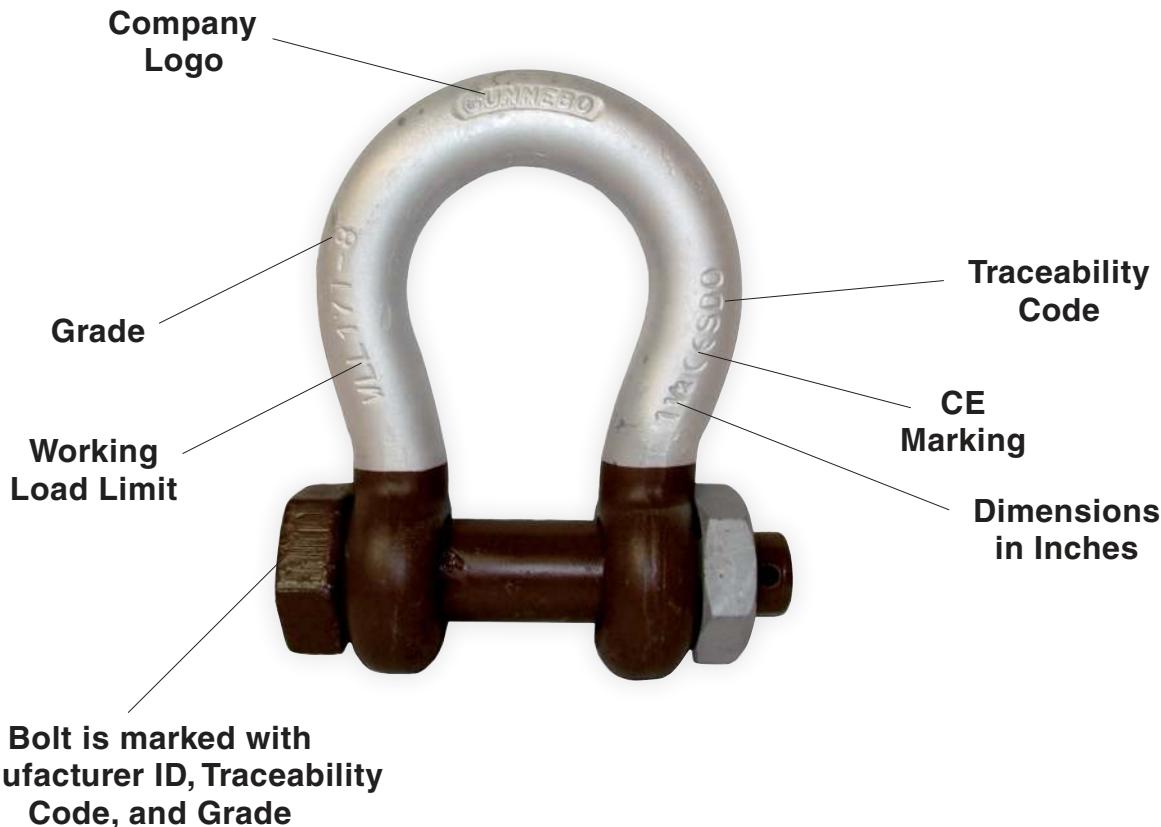
Gunnebo Industries shackles are made from a range of steel qualities, including acid proof stainless steel and high-grade alloy steel to comply with the most stringent specifications. Our factories comprise all facilities and systems for the manufacturing and control of a top-quality product. This includes tool design, an advanced tool shop, forging, heat treatment, machining, hot-dip galvanizing and quality control.

We offer a range of DNV 2.7-1 Type Approved lifting shackles for offshore containers, developed for the tough conditions of the offshore industry, where safety must be of the highest priority at all times. The heat treatment of these products ensures the proper ductility and strength to sustain shock loads which may be imposed when the container is lifted from the deck of a vessel.

## Make sure you have the original

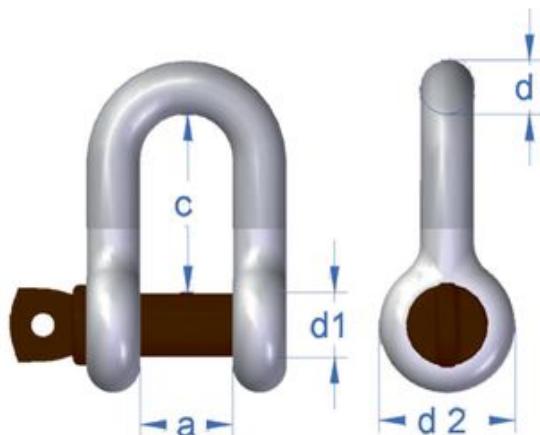
- High quality shackles acc. EN 13889 and US Fed. Spec RR-C. 271 (Grade A and Grade B)
- Consistent product quality
- Long experience of shackle production using modern manufacturing methods
- Local availability of expertise

To ensure you have a genuine Gunnebo Industries shackle, it should be marked as below:

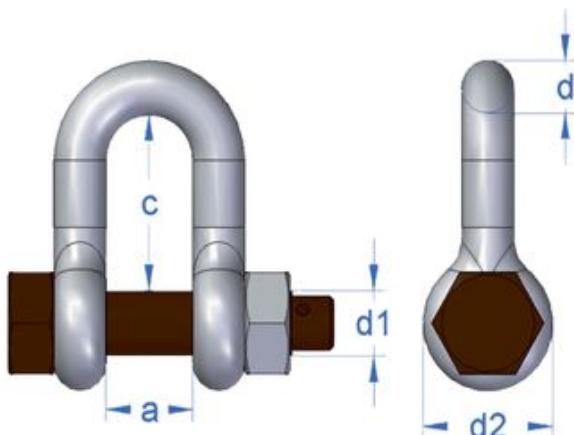


## Dee Shackle No 834 and No 835

- Standard:** DNV 2.7-1 Type Approved, EN 13889 and US Federal Spec. RR-C-271
- Material:** High tensile carbon steel, Quenched & Tempered, Grade 6
- Finish:** All parts hot-dip galvanized, pin brown painted on top of galvanized.
- Design Factor:** 6:1
- Documentation:** Test certificate and traceable raw material / inspection certificate acc. EN 10204 - 3.1.  
DNVGL-ST-E271-2.7-1 and E273-2.7-3 Type Approval Certification.
- Temperature:** - 40°C to 200°C



Shackle No 834 with screw pin



Shackle No 835 with safety bolt

CE

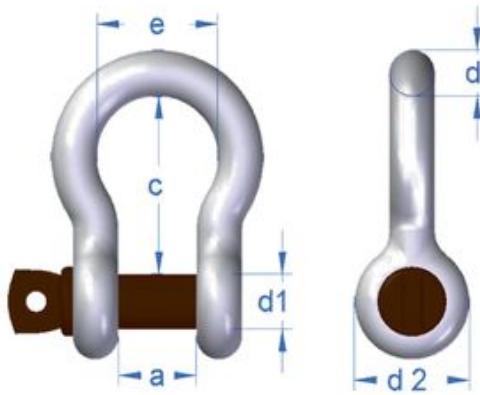
834 Screw Pin Stock No.	835 Safety Bolt Stock No.	WLL (t) 6:1	Pin d1 (in)	Nominal Size d		Inner Width a* (in)	Inner Length c* (in)	Eye Outer d2 (in)	834 Screw Pin Weight (lb)	835 Safety Bolt Weight (lb)
				(mm)	(in)					
A083416	A083516	3.25	0.74	16	5/8"	1.06	2.00	1.57	1.21	1.32
A083419	A083519	4.75	0.86	19	3/4"	1.22	2.36	1.88	2.20	2.42
A083422	A083522	6.5	0.98	22	7/8"	1.45	2.79	2.04	2.86	3.30
A083425	A083525	8.5	1.10	25	1"	1.69	3.18	2.36	4.18	4.85
A083428	A083528	9.5	1.25	28	1 1/8"	1.81	3.54	2.51	6.17	6.83
A083432	A083532	12.0	1.37	32	1 1/4"	2.04	3.93	2.83	7.93	9.25
A083435	A083535	13.5	1.49	35	1 3/8"	2.24	4.37	2.99	10.1	12.3
A083438	A083538	17.0	1.65	38	1 1/2"	2.36	4.80	3.30	14.3	16.5
A083445	A083545	25.0	1.96	45	1 3/4"	2.91	5.86	4.13	25.3	28.6

\* Forging tolerance: +/- 5% on inside width/length.

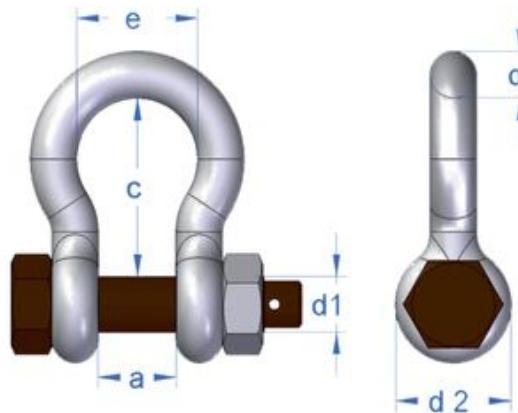
Split pin included

## Bow Shackle No 854 and No 855

- Standard:** DNV 2.7-1 Type Approved, EN 13889 and US Federal Spec. RR-C-271
- Material:** High tensile carbon steel, Quenched & Tempered, Grade 6
- Finish:** All parts hot-dip galvanized, brown painted bolts on top of galvanized.
- Design Factor:** 6:1
- Documentation:** Test certificate and traceable raw material / inspection certificate acc. EN 10204 - 3.1. DNVGL-ST-E271-2.7-1 and E273-2.7-3 Type Approval Certification.
- Temperature:** - 40°C to 200°C



Shackle No 854 with screw pin



Shackle No 855 with safety bolt



854 Screw Pin Stock No.	855 Safety Bolt Stock No.	WLL (t) 6:1	Pin d1 (in)	Nominal Size d		Inner Width a* (mm)	Inner Length c* (in)	Bow Width e (in)	Eye Outer d2 (in)	854 Screw Pin Weight (lb)	855 Safety Bolt Weight (lb)
				(mm)	(in)						
A085413	A085513	2.0	0.62	13	1/2"	0.82	1.85	1.29	1.29	0.81	0.92
A085416	A085516	3.25	0.74	16	5/8"	1.06	2.36	1.65	1.57	1.43	1.54
A085419	A085519	4.75	0.86	19	3/4"	1.22	2.79	1.92	1.88	2.42	2.64
A085422	A085522	6.5	0.98	22	7/8"	1.45	3.30	2.36	2.04	3.30	3.74
A085425	A085525	8.5	1.10	25	1"	1.69	3.74	2.67	2.36	4.87	5.68
A085428	A085528	9.5	1.25	28	1 1/8"	1.81	4.25	2.91	2.51	6.83	7.49
A085432	A085532	12.0	1.37	32	1 1/4"	2.04	4.68	3.26	2.83	9.25	10.5
A085435	A085535	13.5	1.49	35	1 3/8"	2.24	5.19	3.50	2.99	13.2	15.4
A085438	A085538	17.0	1.65	38	1 1/2"	2.36	5.74	3.85	3.30	17.6	19.8
A085445	A085545	25.0	1.96	45	1 3/4"	2.91	7.00	5.00	4.13	29.7	33.0
A085452	A085552	35.0	2.24	50	2"	3.26	7.75	5.43	4.40	41.8	46.2
A085464	A085564	55.0	2.75	65	2 1/2"	4.13	10.2	7.08	5.70	83.7	85.9

\* Forging tolerance: +/- 5% on inside width/length.

Split pin included

## Arctic Shackle No 856

Bow shackle with safety bolt

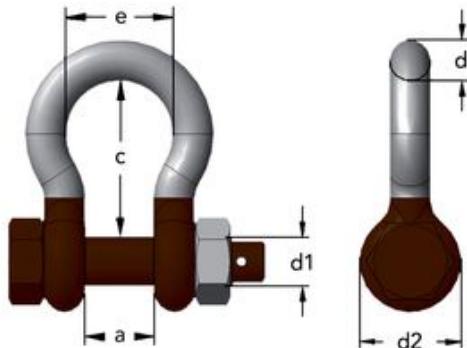


### Unique benefits with the Arctic Shackle

Adverse weather and rough sea conditions in combination with extremely low temperatures, as often encountered for instance in the North Sea, places tough requirements on the products used. 856 Arctic shackles are specially designed for these conditions. The Arctic Shackle is type approved to DNV 2.7-1 Offshore containers and meets the impact requirements of 42 J at -40 degrees °C.

The Arctic Shackle is a grade 8 shackle with all parts hot-dip galvanized, including the safety bolt, and has the characteristic brown color marking.

<b>Standard:</b>	DNV 2.7-1, US Federal Spec. RR.C-271 and EN-13889
<b>Material:</b>	Special alloy steel, Quenched & Tempered, Grade 8
<b>Finish:</b>	All parts hot-dip galvanized + brown color marking
<b>Design Factor:</b>	As specified in the table below
<b>Documentation:</b>	Test certificate and traceable raw material / inspection certificate acc. EN 10204 - 3.1. DNVGL-ST-E271-2.7-1 and E273-2.7-3 Type Approval Certification.
<b>Temperature:</b>	-40°C to 200°C



Stock No.	WLL (t)	Design Factor	Pin d1 (in)	Nominal Size d		Inner Width a (in)	Inner Length c (in)	Eye Outer e (in)	Bow Width d2 (in)	Weight (lb)
				(mm)	(in)					
A085613	2.0	8.00	0.62	13	1/2"	0.82	1.85	1.29	1.29	0.92
A085616	3.25	8.00	0.74	16	5/8"	1.06	2.36	1.65	1.57	1.54
A085619	4.75	8.00	0.86	19	3/4"	1.22	2.79	1.92	1.88	2.64
A085622	6.5	7.85	0.98	22	7/8"	1.45	3.30	2.36	2.04	3.74
A085625	8.5	7.25	1.10	25	1"	1.69	3.74	2.67	2.36	5.51
A085628	9.5	6.94	1.25	28	1 1/8"	1.81	4.25	2.91	2.51	7.49
A085632	12.0	6.40	1.37	32	1 1/4"	2.04	4.68	3.26	2.83	10.5
A085635	13.5	6.10	1.49	35	1 3/8"	2.24	5.19	3.50	2.99	15.4
A085638	17.0	6.00	1.65	38	1 1/2"	2.36	5.74	3.85	3.30	19.8
A085645	25.0	6.00	1.96	45	1 3/4"	2.91	7.00	5.00	4.13	33.0
A085652	35.0	6.00	2.24	50	2"	3.26	7.75	5.43	4.56	46.2
A085664	55.0	6.00	2.75	65	2 1/2"	4.13	10.2	7.08	5.70	85.9

Split pin included

## Super Shackle No 858

Bow shackle with safety bolt

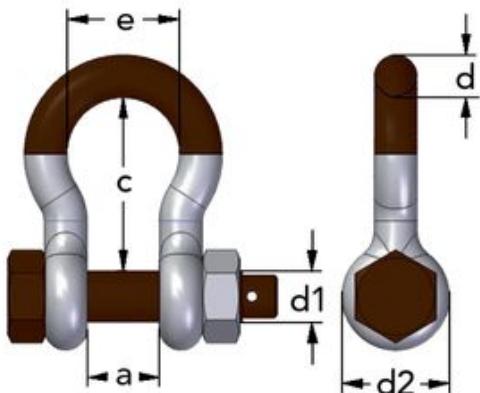


### Unique Benefits with The Super Shackle

In certain situations a demand for extra Working Load Limit occurs in others the lifting environment has limited space for the lifting application. The 858 Super Shackle enables a higher working load limit for the same nominal size.

The Super shackle meets the US Federal Specification RR.C-271. It is a grade 8 shackle and has all parts hot dipped galvanized, including the safety bolt.

<b>Standard:</b>	US Federal Spec. RR.C-271 Type IVA Class 3, Grade B
<b>Material:</b>	High tensile steel. Quenched & Tempered, Grade 8
<b>Finish:</b>	All parts hot-dip galvanized + brown color marking
<b>Design Factor:</b>	5:1
<b>Documentation:</b>	Test certificate and traceable 3.1 certificate
<b>Temperature:</b>	-40°C to 200°C

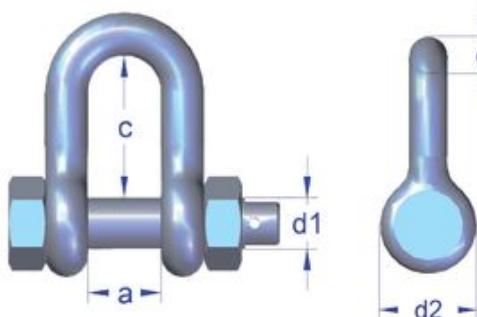

**CE**

Stock No.	WLL (t) 5:1	Pin d1 (in)	Nominal Size d		Inner Width a (in)	Inner Length c (in)	Bow Width e (in)	Eye Outer d2 (in)	Weight (lb)
			(mm)	(in)					
A085813	3.3	0.62	13	1/2"	0.82	2.00	1.29	1.29	0.88
A085816	5.0	0.74	16	5/8"	1.06	2.36	1.65	1.57	1.54
A085819	7.0	0.86	19	3/4"	1.22	2.79	1.92	1.88	2.64
A085822	9.5	0.98	22	7/8"	1.45	3.30	2.36	2.04	3.74
A085825	12.5	1.10	25	1"	1.69	3.74	2.67	2.36	5.51
A085828	15.0	1.25	28	1 1/8"	1.81	4.25	2.91	2.51	7.49
A085832	18.0	1.37	32	1 1/4"	2.04	4.68	3.26	2.83	10.5
A085835	21.0	1.49	35	1 3/8"	2.24	5.19	3.50	2.99	15.4
A085838	30.0	1.65	38	1 1/2"	2.36	5.74	3.85	3.30	19.4
A085845	40.0	1.96	45	1 3/4"	2.91	7.00	5.00	4.13	33.0

Split pin included

## **Stainless Steel Shackle No 735** Dee shackle with safety bolt

**Material:** AISI 316  
**Finish:** Highly polished  
**Design Factor:** 6:1  
**Documentation:** Test certificate and traceable 3.1 certificate supplied upon request.

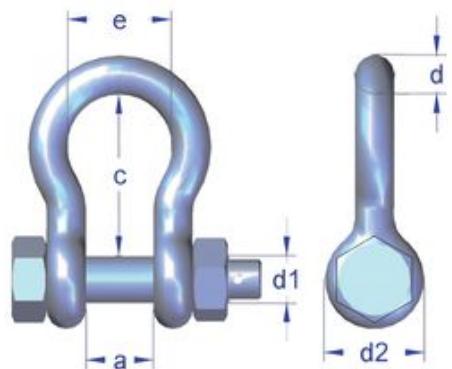


Stock No.	WLL (t) 6:1	Pin d1 (in)	Nominal Size d (in)	Inner Width a (in)	Inner Length c (in)	Eye Outer d2 (in)	Weight (lb)
A073510	0.6	0.39	0.39	0.78	1.49	0.78	0.44
A073512	0.9	0.47	0.47	1.02	1.96	0.94	0.66
A073516	1.5	0.62	0.51	0.94	2.04	1.29	0.88
A073520	2.5	0.74	0.62	1.10	2.55	1.57	1.54
A073522	3.0	0.86	0.74	1.22	2.36	1.88	3.30
A073524	4.5	0.98	0.86	1.45	2.79	2.04	2.86
A073533	7.5	1.25	1.10	1.81	3.54	2.51	6.61
A073536	10.0	1.37	1.25	2.04	3.93	2.83	9.03

Split pin included

## **Stainless Steel Shackle No 755** Bow shackle with safety bolt

**Material:** AISI 316  
**Finish:** Highly polished  
**Design Factor:** 6:1  
**Documentation:** Test certificate and traceable 3.1 certificate supplied upon request.

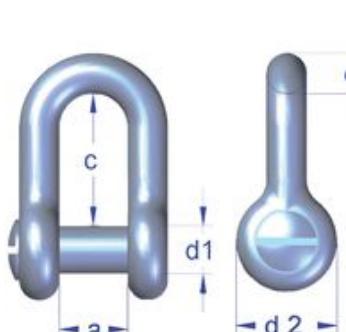


Stock No.	WLL (t) 6:1	Pin d1 (in)	Nominal Size d (in)	Inner Width a (in)	Inner Length c (in)	Bow Width e (in)	Eye Outer d2 (in)	Weight (lb)
A075510	0.6	0.39	0.39	0.78	1.41	1.06	0.78	0.44
A075512	0.9	0.47	0.47	0.98	1.85	1.45	1.02	0.66
A075516	1.5	0.62	0.51	0.98	1.85	1.29	1.33	0.88
A075520	2.5	0.78	0.62	1.10	2.36	1.65	1.57	1.76
A075522	3.0	0.86	0.74	1.22	2.79	2.00	1.88	2.86
A075524	4.5	0.98	0.86	1.45	3.30	2.28	2.04	3.74
A075533	7.5	1.25	1.10	1.81	4.25	2.91	2.51	7.49
A075536	10.0	1.37	1.25	2.04	4.68	3.26	2.83	11.4

Split pin included

## **Stainless Steel Shackle No 732** Dee shackle with countersunk pin

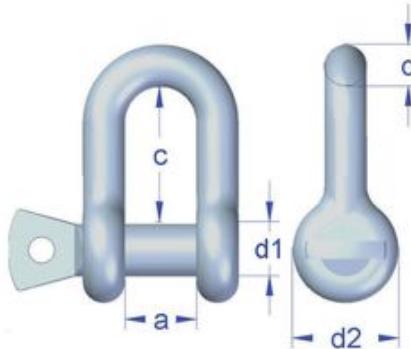
**Material:** AISI 316  
**Finish:** Highly polished  
**Design Factor:** 6:1  
**Documentation:** Test certificate supplied upon request.



Stock No.	WLL (t) 6:1	Pin d1 (in)	Nominal Size d (in)	Inner Width a (in)	Inner Length c (in)	Eye Outer d2 (in)	Weight (lb)
A073216	2.0	0.63	0.51	0.94	2.04	1.33	0.66
A073220	3.0	0.79	0.62	1.10	2.55	1.57	1.32
A073222	3.0	0.87	0.74	1.22	2.36	1.88	3.08

## **Stainless Steel Shackle No 730** Dee shackle with screw pin

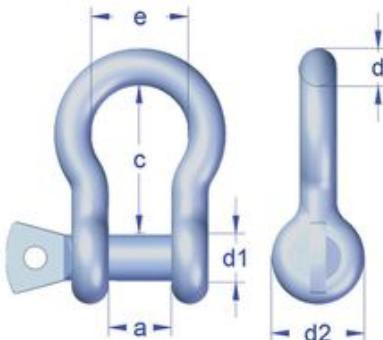
**Material:** AISI 316  
**Finish:** Highly polished  
**Design Factor:** 6:1  
**Documentation:** Test certificate supplied upon request.


**CE**

Stock No.	WLL (t) 6:1	Pin d1 (in)	Nominal Size d (in)	Inner Width a (in)	Inner Length c (in)	Eye Outer d2 (in)	Weight (lb)
A073008S	0.4	0.31	0.31	0.62	1.18	0.62	0.13
A073010S	0.6	0.39	0.39	0.78	1.49	0.78	0.22
A073012S	0.9	0.47	0.47	1.02	1.96	0.94	0.44
A073016S	1.5	0.63	0.51	0.94	2.04	1.33	0.66
A073020S	2.5	0.79	0.62	1.10	2.55	1.57	1.32
A073022S	3.0	0.87	0.74	1.18	2.83	1.88	1.98

## **Stainless Steel Shackle No 750** Bow shackle with screw pin

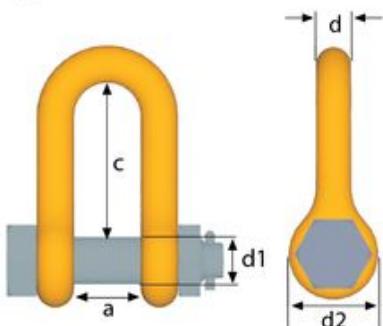
**Material:** AISI 316  
**Finish:** Highly polished  
**Design Factor:** 6:1  
**Documentation:** Test certificate supplied upon request.


**CE**

Stock No.	WLL (t) 6:1	Pin d1 (in)	Nominal Size d (in)	Inner Width a (in)	Inner Length c (in)	Bow Width e (in)	Eye Outer d2 (in)	Weight (lb)
A075008S	0.4	0.31	0.31	0.62	1.18	0.90	0.62	0.15
A075010S	0.6	0.39	0.39	0.78	1.41	1.06	0.78	0.24
A075012S	0.9	0.47	0.47	0.98	1.85	1.45	1.02	0.55
A075016S	1.5	0.63	0.51	0.98	1.85	1.33	1.29	0.72
A075020S	2.5	0.79	0.62	1.10	2.36	1.65	1.57	2.11
A075022S	3.0	0.87	0.74	1.22	2.79	2.00	1.88	2.20

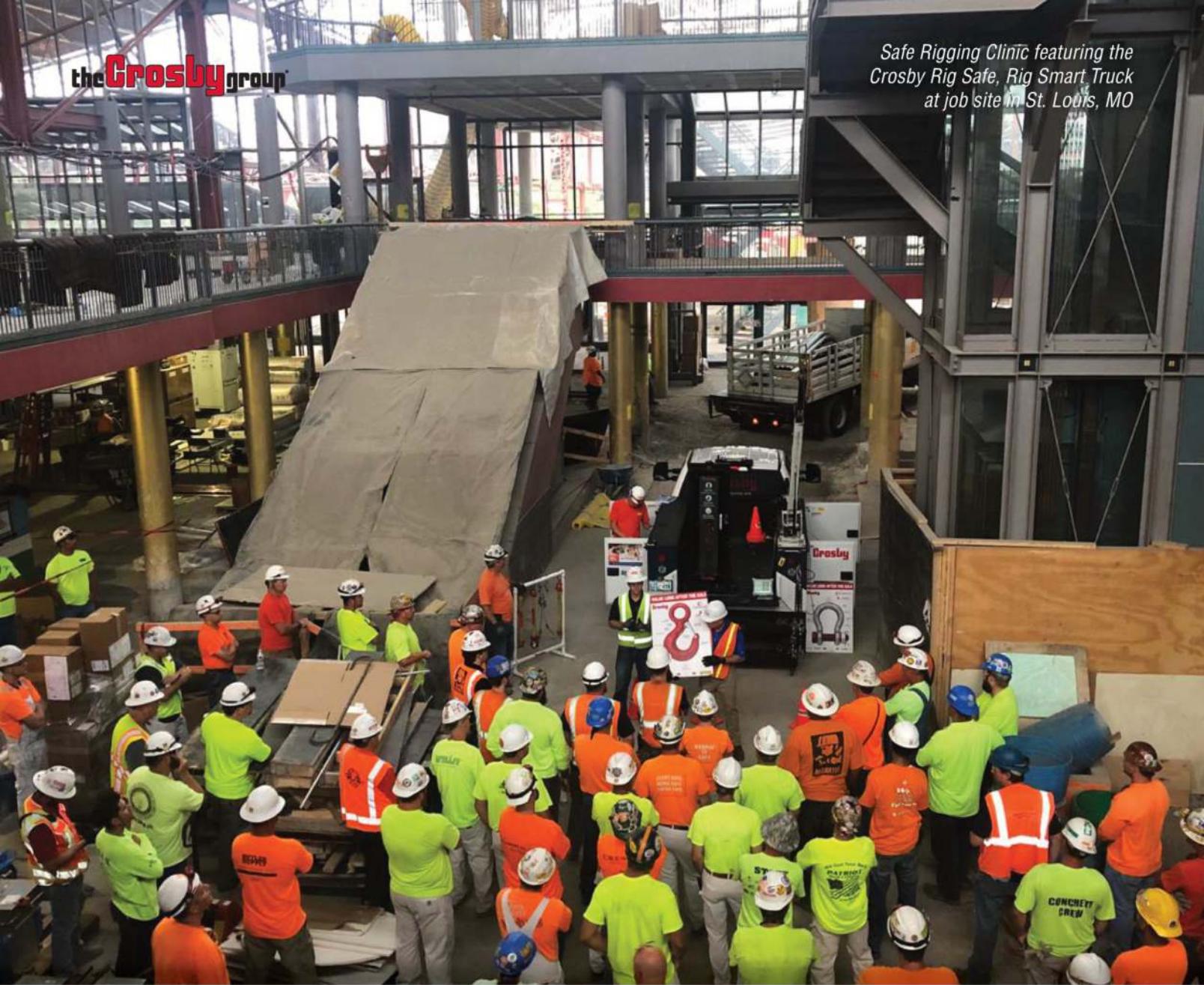
## **Shackle SA** Grade 8 EN 1677-1

**Material:** Alloy steel  
**Finish:** Painted yellow  
**Design Factor:** 4:1

**CE**


Stock No.	Code	WLL (t) 4:1	For Chain Size	Pin d1 (in)	Nominal Size d (in)	Inner Width a (in)	Inner Length c (in)	Eye Outer d2 (in)	Weight (lb)
Z100706	SA-7/8-8	2.0	9/32", 5/16"	0.39	0.31	0.59	1.18	0.78	0.22
Z298728	SA-10-8	3.2	3/8"	0.63	0.51	0.94	2.04	1.33	0.88
Z292528	SA-13-8	5.4	1/2"	0.79	0.62	1.10	2.55	1.57	1.54
Z293024	SA-16-8	8.2	5/8"	0.87	0.70	1.18	2.83	1.81	2.20
Z299622	SA-19-8	11.5	3/4"	1.06	0.86	1.41	3.38	2.04	3.74
Z294122	SA-22-8	15.5	7/8"	1.18	0.98	1.57	3.70	2.36	5.51
Z304328	SA-26-8	21.7	1"	1.54	1.25	1.88	4.56	2.99	11.40

Split pin included



# ENSURE YOUR TEAM IS KNOWLEDGEABLE & SAFE

The Crosby Group offers the most comprehensive on-site and online training on the installation, use, inspection and maintenance of rigging hardware.

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- ASME/OSHA for general industry and construction
- Land Based Energy (Oil & Gas)
- Offshore Energy (Oil & Gas)
- Certificate upon successful completion

## ON-SITE SAFE RIGGING CLINICS (TRUCK/TRAILER)

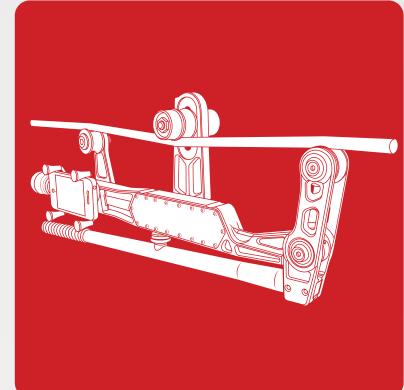
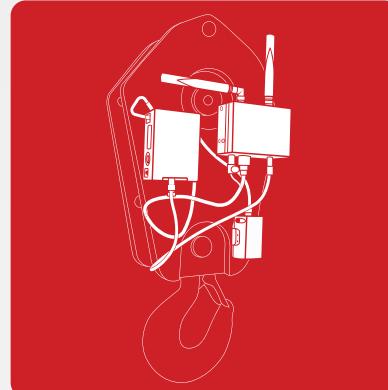
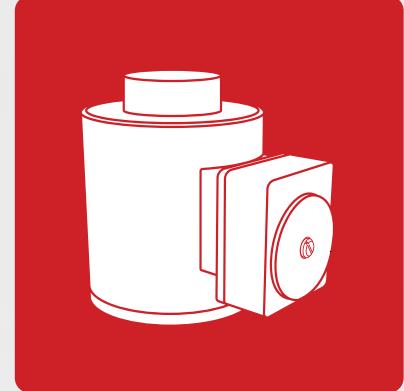
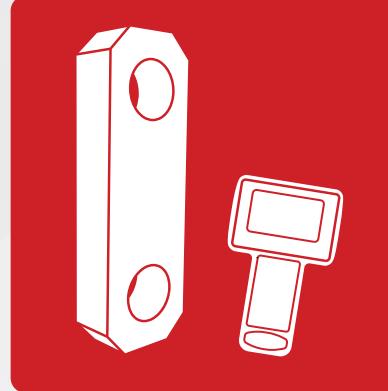
- Insights into key safe, effective and efficient rigging best practices
- 30–45 minute toolbox talk
- Product proof testing
- Product application and live load demonstrations

## ONLINE SAFE RIGGING COURSE (SELF-PACED)

- Rigging fundamentals based on topics covered in the *User's Guide for Lifting* rigging card
- Video explanations and quizzes
- Certificate upon successful completion

# LOAD MONITORING

Advanced technology products and software solutions that improve communication and overall safety awareness.



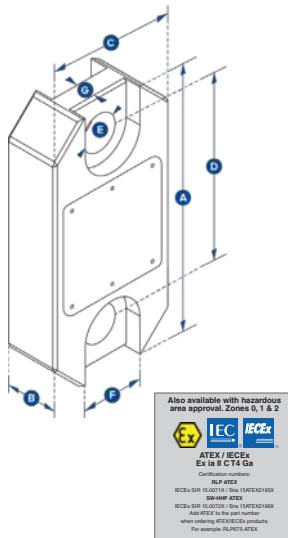
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# **Radiolink Plus**



- Capable of weighing and dynamic load monitoring in capacities from 1t to 500t.
  - Constructed of lightweight, aerospace grade aluminum.
  - Environmentally sealed to IP67 or NEMA6.
  - Proprietary 2.4 GHz wireless.
  - Update rate of 3Hz and can be easily configured to run at industry-leading speeds of up to 200Hz.
  - Remote on/off from handheld display or software.
  - ATEX Zones 0, 1 & 2 available.
  - Design validated by FEA.
  - 2-year warranty.
  - DNV-GL Type Approval.
  - Complies with ASME B30.26.
  - Bluetooth option is available and is supplied with a free HHP app for iOS and Android.

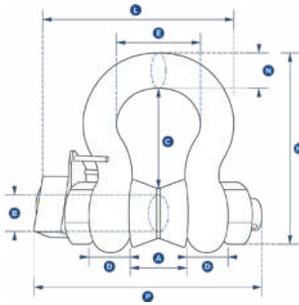


Part Number SP		RLP1T	RLP2T5	RLP6T5	RLP12T	RLP25T	RLP35T	RLP55T	RLP75T	RLP100T	RLP150T	RLP200T	RLP250T	RLP300T	RLP500T
Crosby		2789084	2789089	2789094	2789082	2789088	2789091	2789093	2789095	2789081	2789083	2789085	2789087	2789090	2789092
Capacity	(te)	1,000 kg	2.5	6.5	12	25	35	55	75	100	150	200	250	300	500
	(lb)	2,200	5,500	14,300	26,000	55,000	77,000	120,000	165,000	220,000	330,000	440,000	550,000	660,000	1,100,000
Resolution	(te)	0.5 kg	0.001	0.001	0.002	0.005	0.005	0.01	0.01	0.05	0.05	0.1	0.1	0.1	0.1
	(lb)	1	2	2	5	10	10	20	20	100	100	200	200	200	200
Units	(metric)	kg													
	(imperial)	pounds													
Weight	(kg)	1.5	1.5	2.4	3.7	5	8.6	13	16	34	46	82	82	118	193
	(lb)	3.3	3.3	5.3	8.2	11	19	28.7	35.3	75	101.4	180.8	180.8	260	425.5
Design Factor		12:1	7:1	7:1	7:1	5:1	5:1	5:1	5:1	5:1	4:1	5:1	4:1	5:1	5:1
Battery Type		Handheld 2 x AA / Loadcell 4 x AA													
Battery Life		Handheld - 40 hours / Loadcell 1200 hours continuous (Loadcell 500 hours if Bluetooth)													
Display Type		240 x 128 pixel Multi-line dot matrix with backlight													
Operating Temp.		-10°C to +50°C / 14°F to 122°F													
Accuracy		±0.1% of full scale													
Frequency		2.4 GHz													
System Range (max)		1000 meters / 3280 feet (100 meters / 328 feet if Bluetooth) (500 meters / 1640 feet if ATEX/IECEx)													
Data Rate		3 Hz - up to 200 Hz can be ordered for dynamic load monitoring applications													
Protection		IP67 / NEMA6													
Dimension A (mm)	204	204	249	305	340	393	424	470	608	670	700	700	806	930	
	(in)	8.03	8.03	9.80	12.01	13.39	15.47	16.69	18.50	23.94	26.38	27.56	27.56	31.73	36.61
Dimension B (mm)	43	43	43	47	60	75	75	75	99	99	144	144	150	150	
	(in)	1.69	1.69	1.69	1.85	2.36	2.95	2.95	2.95	3.90	3.90	5.67	5.67	5.91	5.91
Dimension C (mm)	104	104	113	113	115	126	180	202	255	303	350	350	426	570	
	(in)	4.09	4.09	4.45	4.45	4.53	4.96	7.09	7.95	10.04	11.93	13.78	13.78	16.77	22.44
Dimension D (mm)	146	146	165	193	215	225	230	260	320	360	350	350	350	450	
	(in)	5.75	5.75	6.50	7.60	8.46	8.86	9.06	10.24	12.60	14.17	13.78	13.78	13.78	17.72
Dimension ØE (mm)	24.5	24.5	38	47.5	55	60	76	76	109	109	145	145	160	200	
	(in)	0.96	0.96	1.50	1.87	2.17	2.36	2.99	2.99	4.29	4.29	5.71	5.71	6.30	7.87
Dimension F (mm)	48	48	65												
	(in)	1.89	1.89	2.60											
Dimension G (mm)	19	19	32												
	(in)	0.75	0.75	1.26											
Crosby Shackle	G2130														G2160
Loading Pin Ø (mm)	19	19	25	35	51	57	57	70	83	95	121	127	152	180	
	(in)	3/4	3/4	1	1 3/8	2	2 1/4	2 1/4	2 3/4	3 1/4	3 3/4	4 3/4	5	6	7 1/8

# Wireless Loadshackle



- Capacities of 3.25t to 500t, as well as being obtainable up to 3000t.
- Wireless range of 1000m or 3280ft.
- Every Loadshackle is proof tested.
- Electronics housed in hard anodized enclosure.
- Environmentally sealed to IP67 or NEMA6.
- Battery life of 1200 hrs from 4 x AA batteries.
- Internal antenna.
- Remote on/off from handheld display or software.
- Supplied with a load-centering bobbin.
- 2-year warranty.
- Complies with ASME B30.26.
- Design validated by FEA.
- ATEX Zones 0, 1 & 2 available.
- Bluetooth option is available and is supplied with a free HHP App for iOS and Android.



2

Also available with hazardous area approval, Zones 0, 1 & 2  
  
 IECEx SRI 15.0039 IECEx SRI 14ATEX SW-HHP-ATEX  
 IECEx SRI 15.0039 IECEx SRI 14ATEX SW-HHP-ATEX  
Add suffix to part number when ordering ATEX/IECEx products  
For example: WLS3.25T-ATEX

Part Numbers	WLS3.25T	WLS6.5T	WLS12T	WLS25T	WLS55T	WLS85T	WLS120T	WLS200T	WLS300T	WLS400T
Crosby	2789186	2789200	2789183	2789185	2789199	2789201	2789172	2789184	2789188	2789189
Capacity (te)	3.25	6.5	12	25	55	85	120	200	300	400
(lb)	7,150	14,300	26,400	55,000	120,000	185,000	260,000	440,000	660,000	880,000
Resolution (te)	0.005	0.005	0.01	0.02	0.05	0.05	0.1	0.2	0.5	0.5
(lb)	10	10	20	50	100	100	200	200	1000	1000
Units (metric)							metric tons			
	(imperial)						pounds			
Weight (kg)	2.8	3.2	8	18	25	85	125	260	405	662
(lb)	6.16	7	17.6	40	55	187	276	573	893	1459
Design Factor					5:1 when used with load bobbin					
Battery Type					Loadcell 4 x AA Alkaline					
Battery Life					Loadcell 1200 hours continuous (500 hours if Bluetooth)					
Operating Temp.					-10°C to +50°C / 14°F to 122°F					
Accuracy					±1% full scale					
Frequency					2.4 GHz					
System Range (max)					1000 meters / 3280 feet (100 meters / 328 feet if Bluetooth) (500 meters / 1640 feet if ATEX/IECEx)					
Data Rate					3 updates per second					
Protection					IP67 / NEMA6					
Dimension A (mm)	26.9	36.6	51.5	73	82.5	127	144	180	205	230
(in)	1.06	1.44	2.03	2.87	3.25	5.00	5.66	7.09	8.07	9.06
Dimension ØB (mm)	19.1	25.4	35.1	51	57	83	95	125	150	175
(in)	0.75	1.00	1.38	2.01	2.24	3.26	3.74	4.92	5.91	6.89
Dimension C (mm)	56.9	79.7	113	170	189.5	317	364	432.2	505	547.7
(in)	2.24	3.14	4.45	6.69	7.46	12.48	14.33	17.02	19.88	21.56
Dimension D (mm)	14.46	20.6	29.5	44.5	51	80	89	110	120	160
(in)	0.57	0.81	1.16	1.75	2.01	3.14	3.50	4.33	4.72	6.30
Dimension E (mm)	42.9	58	82.5	127	146	190	238	280	305	325
(in)	1.69	2.28	3.25	5.00	5.75	7.48	9.37	11.02	12.01	12.80
Dimension H (mm)	106	148	210	313	348	539	624	769	904	1006.5
(in)	4.17	5.83	8.27	12.32	13.70	21.22	24.56	30.28	35.59	39.63
Dimension L (mm)	135	156.5	201	275	306	393	445	529.7	586.7	667.2
(in)	5.31	6.16	7.91	10.83	12.05	15.47	17.51	20.85	23.10	26.27
Dimension N (mm)	17.5	24.6	35.1	57	61	85	95	120	140	160
(in)	0.69	0.97	1.38	2.24	2.40	3.34	3.74	4.72	5.51	6.30
Dimension P (mm)	150	173	222	290	317	448	488	600	657	765
(in)	5.91	6.81	8.74	11.42	12.48	17.63	19.21	23.62	25.87	30.12
Crosby Shackle			G2130		G2140			S2135		

# BlueLink



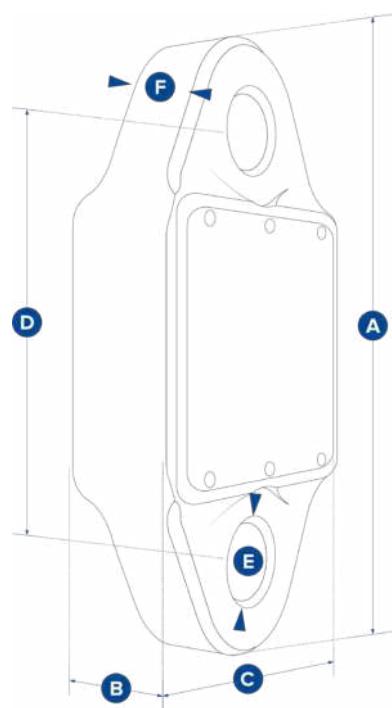
**Designed to replace outdated mechanical products still in the field, this 14,300lb (6500kg) dynamometer, the BlueLink, is the latest Crosby Straightpoint product to feature proprietary Bluetooth wireless technology.**

The Bluetooth signal effortlessly connects to any iOS or Android smartphone that has our free HHP app installed, providing the operator with a wireless range of up to 328ft or 100m. This allows them to stand in a safe position from the load with no requirement to read a load on the loadcell itself. The app also allows the operator to log data versus time, or on events such as over- or under-load. An adjustable alarm will alert the operator on their smartphone if any overload is occurring.

Rigged using industry standard Crosby G2130 Shackles, the BlueLink has been designed to minimize headroom (6.14 in or 156mm from eye to eye). With a design factor of over 500%, its compact lightweight design does not sacrifice on strength.

Constructed from high-quality aerospace grade aluminum, which is then hard-anodized, BlueLink features an advanced internal design structure. This design provides the product with an unrivaled strength to weight ratio. The use of a separate internal sealed enclosure administers the loadcell's electronic components with IP67 or NEMA6 environmental protection, even with the battery cover plate missing. All these features makes it an industry-leading compact dynamometer, even more suitable for use in the harshest industrial or leisure environments.

The BlueLink is powered by four standard AA alkaline batteries that provide in excess of 500 hours transmission time. Its internal antenna ensures safe transmissions of loads to an accuracy of  $\pm 0.2\%$  FS.

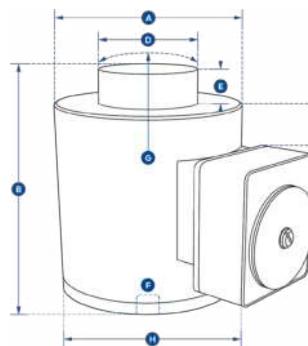


Part Numbers	BLD6T5
SP	
Crosby	2789218
Capacity	6.5 t
	14,300 lb
Resolution	0.001 t
	2 lb
Weight	1.5 kg
	3.3 lb
Design Factor	5:1
Battery Type	4 x AA alkaline batteries
Battery Life	500 hours
Operating Temperature	-10°C to +50°C / 14°F to 122°F
Accuracy	$\pm 0.2\%$ of full scale
Range	100 meters / 328 feet
Data Rate	3 Hz
Protection	IP67 / NEMA6
Dimension A	224 mm
	8.82 in
Dimension B	44 mm
	1.73 in
Dimension C	113.6 mm
	4.47 in
Dimension D	156 mm
	6.14 in
Dimension ØE	27.5 mm
	1.08 in
Dimension F	33 mm
	1.3 in

# LoadSafe

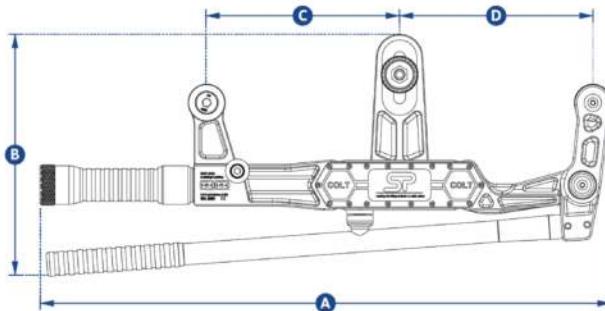


- Wireless range of 1000m or 3280ft.
- High grade 17-4PH stainless steel, providing excellent strength and corrosion resistance.
- Proprietary 2.4 GHz wireless.
- Accuracy of  $\pm 0.1\%$  FS.
- Environmentally sealed to IP67 or NEMA6.
- Stocked capacities up to 1000t.
- Industry leading wireless range up to 1000m or 3280ft.
- Internal antenna.
- ATEX & IECEx version for hazardous area zones 0, 1 & 2 available.
- Battery life of 1200 hrs.
- Compact size.
- Remote on/off from handheld display or software.
- Design validated by FEA.
- Bluetooth option is available and is supplied with a free HHP App for iOS and Android.

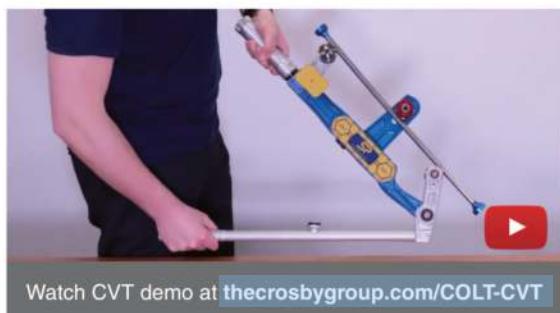
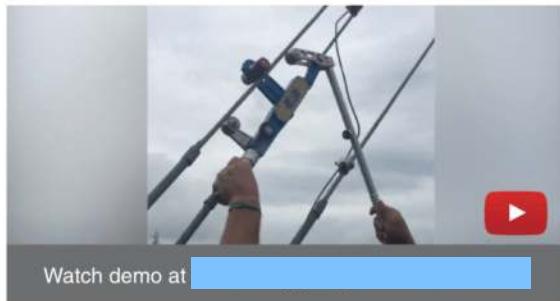

**2**


Part Numbers SP	WNI5TC	WNI10TC	WNI25TC	WNI50TC	WNI100TC	WNI150TC	WNI300TC	WNI500TC	WNI1000TC	
Crosby	2789197	2789191	2789193	2789196	2789190	2789192	2789194	2789195	2789138	
Capacity (te)	5	10	25	50	100	150	300	500	1000	
	(lb)	11,000	22,000	55,000	110,000	220,000	330,000	660,000	1,100,000	2,200,000
Resolution (te)	0.001	0.002	0.005	0.01	0.05	0.05	0.1	0.2	0.5	
	(lb)	2	5	10	20	100	100	200	500	1000
Units (metric)							metric tons			
	(imperial)						pounds			
Weight (kg)	6.2	6.2	6.2	6.2	15.5	15.5	65	65	172	
	(lb)	13.64	13.64	13.64	13.64	34	34	143	143	379
Design Factor					3:1					
Battery Type					Loadcell 4 x AA Alkaline					
Battery Life					Loadcell 1200 hours continuous (500 hours if Bluetooth)					
Operating Temp.					-10°C to +50°C / 14°F to 122°F					
Accuracy					$\pm 0.1\%$ of full scale					
Frequency					2.4 GHz					
System Range (max)					1000 meters / 3280 feet (100 meters / 328 feet if Bluetooth) (500 meters / 1640 feet if ATEX/IECEx)					
Data Rate					3 Hz (configurable to 200Hz)					
Protection					IP67 / NEMA6					
Dimension ØA (mm)	100	100	100	100	152	152	185	185	362	
	(in)	3.94	3.94	3.94	3.94	5.98	5.98	7.28	7.28	14.25
Dimension B (mm)	127	127	127	127	184	184	300	300	310	
	(in)	5.00	5.00	5.00	5.00	7.24	7.24	11.81	11.81	12.20
Dimension ØD (mm)	59	59	59	59	80	80	155	155	270	
	(in)	2.32	2.32	2.32	2.32	3.15	3.15	6.10	6.10	10.63
Dimension E (mm)	16	16	16	16	26	26	27.5	27.5	40	
	(in)	0.63	0.63	0.63	0.51	1.02	1.02	1.08	1.08	1.57
Dimension F (mm)	M18 x 2.5	M18 x 2.5	M18 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M30 x 3.5	
	(mm)	M18 x 2.5	M18 x 2.5	M18 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M30 x 3.5	
Dimension G (mm)	152	152	152	152	432	432	432	432	950	
	(in)	5.98	5.98	5.98	5.98	17.01	17.01	17.01	17.01	37.40
Dimension H (mm)	158	158	158	158	208	208	241	241	422	
	(in)	6.22	6.22	6.22	6.22	8.19	8.19	9.49	9.49	16.61
Dimension I (mm)	6	6	6	6	7	7	21.5	21.5	102	
Loadcell top to SA700 top (in)	0.23	0.23	0.23	0.23	0.27	0.27	0.27	0.54	4.02	

# Clamp On Line Tensionmeter (COLT)



- Lightweight wire rope tension meter for fast and accurate measurement of tensions up to 11,000lb or 5000 kg and up to 1 in or 25mm diameter.
- Constructed from aerospace grade aluminum.
- Unlimited wire rope calibration database via Android or iOS app.
- Built-in magnetic smart device holder for on board display.
- Main swivel joints fitted with high-quality bearings.
- Lever ratio of 5.3:1 allows effortless, safe, clamping onto pre-tensioned wire ropes.
- Wireless Bluetooth 4.2 enabling operator to stand a safe distance away, up to 100 m or 328 ft.
- Quick intuitive adjustable center sheave makes changing wire rope sizes fast and easy.
- No easily broken external antenna.
- High waterproof resistant design IP67 or NEMA6 for all weather use.
- Long battery life of 1000 hrs operational time.
- As the library of wire rope diameters and constructions is increased each app user will benefit when they update free of charge.



<b>Part Numbers</b>	<b>COLT5T</b>
<b>SP</b>	<b>2789000</b>
<b>Crosby</b>	<b>2789000</b>
<b>Max Load</b>	<b>5,000 kg</b>
	<b>11,000 lb</b>
<b>Resolution</b>	<b>10 kg</b>
	<b>20 lb</b>
<b>Units</b>	<b>kilograms, pounds, metric tons and kilonewtons</b>
<b>Min Wire Rope Ø</b>	<b>Ø5 mm</b>
	<b>Ø3/16"</b>
<b>Max Wire Rope Ø</b>	<b>Ø25 mm</b>
	<b>Ø1"</b>
<b>Max Line Reduction</b>	<b>5 mm with a Ø10 mm wire rope</b>
	<b>7/32" with a Ø3/8" wire rope</b>
<b>Wire Rope Database</b>	<b>Infinite via Android or iOS app</b>
<b>Weight</b>	<b>3.5 kg</b>
	<b>7.7 lb</b>
<b>Battery Type</b>	<b>2 x 'C' cell batteries</b>
<b>Battery Life</b>	<b>1000 hours Bluetooth transmission time</b>
<b>Operating Temp.</b>	<b>-25°C to +70°C / -13°F to +158°F</b>
<b>Protection</b>	<b>IP67 / NEMA6</b>
<b>Accuracy</b>	<b>±3% of full scale if wire rope Ø and construction known</b>
<b>Communication</b>	<b>Bluetooth 4.2</b>
<b>Dimension A</b>	<b>589 mm</b>
	<b>23.2"</b>
<b>Dimension B</b>	<b>254 mm</b>
	<b>10"</b>
<b>Dimension C</b>	<b>200 mm</b>
	<b>7.9"</b>
<b>Dimension D</b>	<b>200 mm</b>
	<b>7.9"</b>

Specifications assume COLT used on a wire rope with a fixed and flexible end.

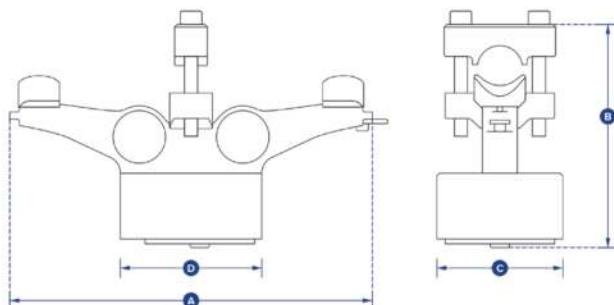
#### Optional for purchase:

Calibration verification tool (CVT)

SP - SA507 Crosby 2789225

In order to ensure the measurements of the COLT are as accurate as possible, Crosby SP supplies a calibration verification rod.

## Bolt On Line Tensionmeter (BOLT)



2

- Constructed from aerospace-grade aluminum.
- Designed to be mounted in a permanent position on wire rope or cable to accurately monitor measurements of tension up to 20,000lb or 10.000 kg and up to 1.25 in or 32mm diameter.
- Proprietary 2.4 GHz wireless.
- Leading wireless range of 1000m/3280ft when connected to SW-HHP, enabling you to read up to four loadcells simultaneously.
- Unlimited range when connected to BaseStation to monitor remotely.
- Will provide reduced site visits, improve decision making and safely monitor line tensions from any distance from anywhere in the world.
- Unrivaled battery life of 1200 hrs.
- Multiple drop tested from 3 meters or 10 feet.
- Internal antenna.
- Remote on/off from handheld display or software.

Part Numbers	<b>BOLT10T</b>
SP	
Crosby	2789573
Max Load	10 t
	22000 lb
Resolution	0.01 t
	20 lb
Units	kilograms, pounds, metric tons and kilonewtons
Min Wire Rope Ø	16 mm
	5/8"
Max Wire Rope Ø	32 mm
	1 1/4"
Weight	2.1 kg
	4.6 lb
Battery Type	4 x 'AA' cell batteries
Battery Life	1200 hours
Operating Temp.	-10°C to +50°C / 14°F to +122°F
Protection	IP67 / NEMA6
Accuracy	Typically 3-5%
Communication	2.4 GHz
Dimension A	259 mm
	10.20"
Dimension B	159.1 mm
	6.26"
Dimension C	89 mm
	3.50"



## CROSBY STRAIGHTPOINT TRAINING VIDEOS

- How to pair a loadcell (and multiple loadcells) to a handheld
- How to know the correct number of compression cells required
- How to use the backlight function on a handheld
- How to get accurate loadcell readings at various distances
- Snatch block & loadcell demonstration
- COLT calibration verification tool installation demo
- Plus many more...

Watch now at [\[redacted\]](#)

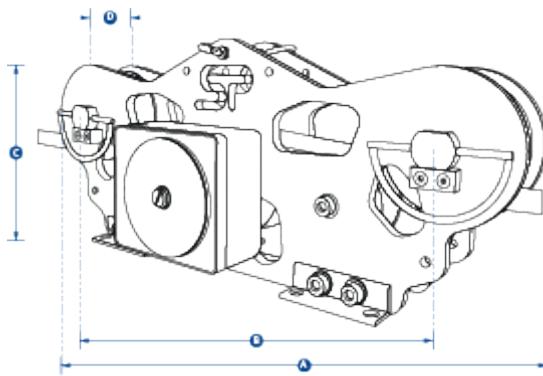
# CableSafe



- Simple to use and set up.
- Remote monitoring using smart phone via Bluetooth.
- Rapid tension force measurement - Up to 600m or 1968ft per minute.
- Able to be used in all weather and air quality conditions.
- Providing up to 500 hours battery life.
- Easy to install and replace batteries (4 x AA standard alkaline).
- Fully constructed from aerospace-grade aluminum with anodized finish.
- Five-wheel design, improving accuracy.
- Blue anodized side plates.
- Linchpins are fitted to the top sheave pins, making wire rope installation quick and simple.
- Maintenance free heavy duty bearings.
- Compatible with a wide range of synthetic rope/electrical cable diameters – 4-30mm or 5/32 in – 1 3/16 in.
- IP67 ingress protection or NEMA6 – heavy protection against dust and rain.
- Design validated by FEA.

In addition to the TIMH range, the CableSafe® is the continued evolution of Crosby Straightpoint's running line tensiometers. When used in the field, it will allow the user to monitor tension with exceedingly high levels of accuracy, which ensures rope/cables do not become overstretched or break.

When using a capstan winch to unwind electrical cable from a reel/spool, you will be able to integrate the CableSafe within this set-up to ensure that it is being pulled at a safe tension level. This helps the line maintain its transmissions capability, prevent it becoming a fire hazard risk, and it also stops the need of furthering work in order to remove and replace it. The contractor is gifted with decreased liability, dramatically increasing peace of mind.



Part Numbers SP	CableSafe	CableSafe-WD
<b>Crosby</b>	2789219	2789399
<b>Capacity</b>	10 t	10 t
	22000 lb	22000 lb
<b>Resolution</b>	0.01 t	0.01 t
	20 lb	20 lb
<b>Synthetic Rope / Electrical Cable Ø</b>	4-19 mm 5/32"- 3/4"	9.5-30 mm 3/8"- 1 3/16"
<b>Weight</b>	4.5 kg 10 lb	8 kg 17.6 lb
<b>Battery Type</b>	4 x AA Alkaline	
<b>Battery Life</b>	500 hours	
<b>Operating Temp.</b>	-10°C to +50°C / 14°F to 122°F	
<b>Accuracy</b>	±2% of full scale	
<b>Range</b>	Bluetooth 100 meters / 328 feet	
<b>Protection</b>	IP67 / NEMA6	
<b>Maximum Speed</b>	600 m per minute 1,968 ft per minute	
<b>Dimension A</b>	422 mm 16.61"	422 mm 16.61"
<b>Dimension B</b>	328 mm 12.91"	328 mm 12.91"
<b>Dimension C</b>	152 mm 5.98"	152 mm 5.98"
<b>Dimension D</b>	36.5 mm 1.43"	50.5 mm 2"

Using CableSafe on cable pulls reduces liabilities on cable installations, making it ideal for the following applications:

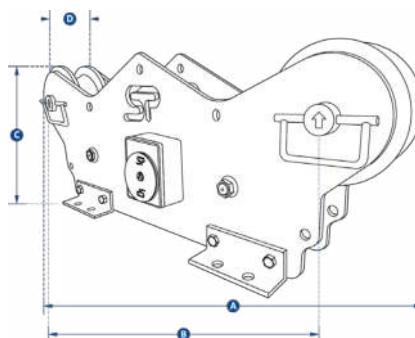
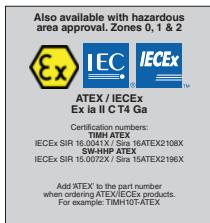
- Measure tension when pulling electrical cables – protect against fractures or elongation
- Measuring tension on synthetic rope when erecting delicate structures using gin poles and capstan winch

Another example of best use is during the installation of cell phone towers or similar delicate structures. The product helps ensure structure-to-ground ropes which are connected to a gin pole and pulley system. Avoid the unknown through accurate monitoring, especially when risks are high.

# Running Line Dynamometer



The TIMH range is a wireless running line tensiometer or RLTM built with dockside, marine, offshore, towage, and salvage applications in mind.



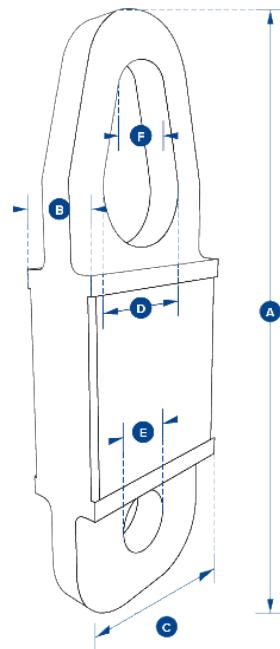
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- Fully constructed from corrosion-resistant stainless steel.
- Large range of capacities to 150t and wire rope diameters up to 89mm or 3½ in.
- Measures tension force at speeds up to 20m/min or 65ft/min.
- Five-wheel design, improving accuracy.
- Industry leading battery life of 1200 hrs (wireless).
- Maintenance-free heavy duty bushes.
- Options for lineout and speed available.
- Software available to data log and monitor or analog outputs.
- Cabled system or wireless bluetooth option are available and is supplied with a free HHP app for iOS and Android.
- IP67 or NEMA6 Loadpin.
- Design validated by FEA.

Part Numbers SP	MTIMH10TRD	TIMH10TRD	TIMH25TRD	TIMH56TRD	TIMH80TRD	TIMH150TRD
<b>Crosby</b>	2789054	2789136	2789139	2789144	2789146	2789270
<b>Capacity</b>	(te)	10	10	25	56	80
	(lb)	22,000	22,000	55,000	123,200	176,000
<b>Resolution</b>	(te)	0.01	0.01	0.02	0.05	0.1
	(lb)	20	20	50	100	200
<b>Wire Rope Ø</b>	(mm)	4-19	13-19	16-26	28-38	40-52
	(in)	5/32" - 3/4"	1/2" - 3/4"	5/8" - 1"	1 1/8" - 1 1/2"	1 5/8" - 2"
<b>Weight</b>	(kg)	9	90	86	81	76
	(lb)	20	198	190	179	168
<b>Battery Type</b>				4 x AA Alkaline		
<b>Battery Life</b>				Wireless version 1200 hours continuous		
<b>Operating Temp.</b>				-10°C to +50°C / 14°F to 122°F		
<b>Accuracy</b>				±2% of full scale		
<b>Frequency</b>				2.4 GHz		
<b>System Range (max)</b>				700 meters / 2,300 feet		
<b>Data Rate</b>				3 updates per second		
<b>Protection</b>				IP67 / NEMA6		
<b>Maximum Speed</b>	50 m per minute			20 m per minute		
	164 ft per minute			65 ft per minute		
<b>Line out and speed</b>				via SW-MWLC software		
<b>Dimension A</b>	(mm)	422	865	865	865	1250
	(in)	16.62	34.05	34.05	34.05	49.21
<b>Dimension B</b>	(mm)	328	674	674	674	1050
	(in)	12.9	26.53	26.53	26.53	41.33
<b>Dimension C</b>	(mm)	152	324	324	324	416
	(in)	5.98	12.75	12.75	12.75	16.37
<b>Dimension D</b>	(mm)	36	111	111	111	153
	(in)	1.4	4.37	4.37	4.37	6.02

Towcell® 

- Unique design fits any standard 2 inch tow hitch.
- Unmatched battery life of 500 hrs.
- Waterproof IP67 or NEMA6.
- Internal antenna.
- Compact size and lightweight.
- Proprietary 2.4 GHz wireless communication.
- Design validated by FEA.
- Bluetooth enabled and is supplied with a free HHP app for iOS and Android.



The Crosby Straightpoint Towcell® is a 25kN wireless loadcell, specifically engineered for the emergency services, salvage, and 4x4 industries. The Towcell allows for increased safety and the avoidance of costly overloads by providing real-time monitoring of tensile towing forces during recovery, clearance and salvage efforts.

**The Towcell is rugged, lightweight, compact, and can be installed, with ease, onto any tow bar, whether it's a standard 52mm or 2 in ball or pin assembly and is ready to use in seconds.**

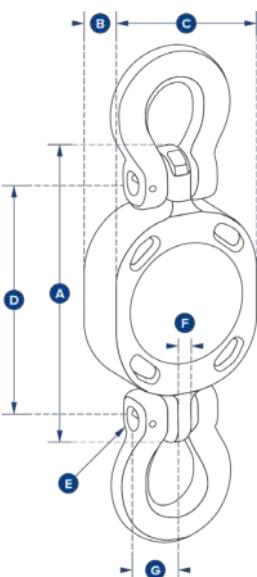
Modeled after Crosby SP's bestselling Radiolink Plus, the Towcell is constructed of high-quality aircraft grade aluminum. It features an advanced internal design structure, providing the product with an unrivaled strength to weight ratio. This optimal balance allows for the use of a separate internally sealed enclosure. This administers the internal electronic components with an IP67 or NEMA6 waterproof environmental protection, even with the battery cover plate missing.

Towcell utilizes an unbreakable internal antenna and boasts an unmatched battery life.

Part Numbers	Towcell - Bluetooth
SP	2789271
Crosby	
Capacity	25 kN
Resolution	0.01 kN
Weight	1.4 kg
	3 lb
Design Factor	5:1
Battery Type	4 x AA Alkaline
Battery Life	500 hours continuous
Operating Temp.	-10°C to +50°C / 14°F to 122°F
Accuracy	±0.1% of full scale
Frequency	2.4 GHz
System Range (max)	100 meters / 328 feet
Data Rate	50 Hz
Protection	IP67 / NEMA6
Dimension A	300 mm 11.81"
Dimension B	43 mm 1.70"
Dimension C	104 mm 4.09"
Dimension ØD	51 mm 2.00"
Dimension ØE	27 mm 1.06"
Dimension ØF	31 mm 1.22"

Only sold in Europe. Does not meet US towing requirements.

# ChainSafe



- Designed to work with 10mm chain.
- Unmatched weight-to-strength ratio.
- Update rate of 1Hz and the Bluetooth signal effortlessly connects to any iOS or Android smartphone that has our free HHP App that will alert the operator on their smartphone if any overload is occurring.
- Bluetooth wireless range of 100m/328ft.
- No battery change required.
- Battery life 5 yrs based on 3 hrs use per day.
- Environmentally sealed to IP67/NEMA6.
- Internal antenna.
- Conforms to EN1677:2008.
- Fatigue tested to 30,000 cycles to 1.5x WLL.

Part Numbers SP	ChainSafe
Crosby	2789536
Capacity	4 t
	88000 lb
Resolution	0.002 t
	4 lb
Weight	2.5 kg
	5.5 lb
Design Factor	4:1
Battery Type	Lithium Thionyl Chloride (non replaceable)
Battery Life	5 years based on 3 hours use per day
Operating Temp.	-10°C to +50°C / 14°F to 122°F
Accuracy	+/- 0.2% of full scale
Range	100 meters / 328 feet
Data Range	1 Hz
Protection	IP67 / NEMA6
Dimension A	164 mm
	6.46"
Dimension B	35 mm
	1.38"
Dimension C	85 mm
	3.35"
Dimension D	132 mm
	5.20"
Dimension E	13.2 mm
	0.52"
Dimension F	11 mm
	0.43"
Dimension G	28 mm
	1.10"
Recommended Fittings	3/8" (10mm) G100 Chain fittings

ChainSafe is designed to be fitted with an array of The Crosby Group's chain fittings, and is an approved wireless tension loadcell capable of load monitoring of capacities up to 4t.

#### Grab Hooks:



A-1358 A-1338 L-1358 L-1338



S-1311 GG LP

#### Chain shortener:



GG

#### Links:



A-1361 S-1370 MG

#### Lashing:



GT tensioner

#### Links:



S-1359 A-1339 S-1317 EGKN EGK GBK BKG

#### Connectors:



S-1325 CG CL

chain fittings are not included

# INSIGHT Software

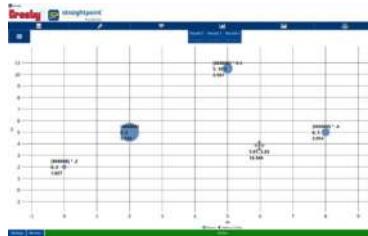


INSIGHT software, supplied with an SW-D USB wireless dongle, allows connection of up to 126 Crosby Straightpoint wireless loadcells simultaneously onto any Windows tablet or laptop.

Insight has four main features:

- **Multi-channel display and data logging mode**  
View and log load data from connected loadcells plus totals loads live on screen and directly into a .csv file for later analysis at speeds of up to 200Hz.
- **Visualization mode**  
For complicated lifts import a photo of the lift and drag and drop loadcell displays – make the screen look like the lift.
- **Center of gravity mode**  
Connect to Crosby SP's range of wireless compression loadcells and use this feature to weigh and calculate the center of gravity of large items and structures.
- **Proof load testing**  
Real time graphing of load test and auto generated test certificates.

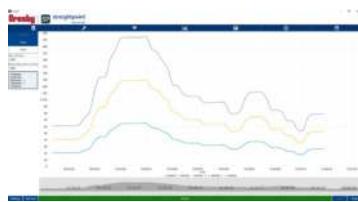
## INSIGHT Center of Gravity



## INSIGHT Display



## INSIGHT Chart



- Logging at timed intervals, manual or on overload/underload.
- Log data at speeds up to 200Hz.
- Visual and audible alarms indicate overload, underload, low battery, and communications error.
- 100% wireless, no easily damaged cables.
- 700m or 2300ft range allows operator to stand at safe distance from test.
- Connects to any Crosby SP wireless loadcell.
- Automatically creates digitally signed pass or fail certificate.
- Real-time load v time graph display.
- Three weighings per C of G report with averages and statistical analysis to ISO19901.
- Plot loadcell positioning using measurements or GPS coordinates.
- Free extra entry fields for operator, client, wind speed, sea states, and temperature available for reporting.

## INSIGHT Software

Numerous proof load testing applications worldwide require a loadcell to verify the load applied. From crane testing, using water bags to pad eye testing, using hydraulic tools, the need to document test procedure and results has never been greater, especially as users of lifting equipment call for more traceability and audit trails.

A proof test is a form of stress test to demonstrate the fitness of a load-bearing structure, and is nominally a non-destructive test. Such a structure is often subjected to loads above that expected in normal use, demonstrating safety and design margin.

This demand has increased so much, Crosby Straightpoint offers a software package designed to connect to any of their wireless loadcells – Proof Test plus.

This impressive package allows the test engineer to wirelessly, at a safe distance, monitor a proof load test and automatically create a pass or fail certificate when testing is complete.

The report is formatted as a PDF, which may then be printed, emailed, or uploaded to the cloud, resulting in a traceable document for both test engineer and end customer.

Typical load tests using Crosby SP loadcells include:

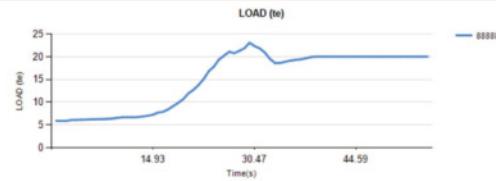
- Bollard pull tests
- Tug tests
- Crane test (water bags, block weights)
- Pad eye or fly point testing
- Crash barrier testing
  - Lifting equipment testing
  - Slings, chains, wire rope, hooks
- Construction equipment testing
  - Shoring columns, acrow props, lintels
- Lifting and spreader beam testing
- Hydraulic cylinder load test
- Supplied with SW-D transmitter



### Certificate of Load Test - 10 August 2021 11:59:16

Date of Test:	10 August 2021 11:59:16	Product Description:	Pad Eye
Certification Number:	AL-10001	Serial or Tag No:	112255
Company	Rob Friend	WLL	20te
Address	Unit 19, Express Way, 90012	Test Method	Pull
Tel:	+006 2543467	Load Test To:	20te
Contact	testcustomer@company.com	Duration of Test:	54.83 seconds
Reference Loadcell:	sim	Calibrated On:	Wednesday, 08 February 2019
Serial Number:	888888	WLL:	20
Calibrated Unit:	te	Measuring Unit:	te

Peak Load: 23.098 te



This is to certify that this product described herein has been subjected to the load test.  
Caution: Never exceed the rated capacities.

Notes: Test accepted

Signed: Bob Friend

Appointed Person: Bob Friend ID: 1234 Eng

This proof test was carried out using a reference load cell that had exceeded the recommended recalibration interval (12 months).



Part Numbers SP	INSIGHT med SW-D
Crosby	2789318
IP rating	IP67 / NEMA6
USB Dongle Operating Temp.	-20°C to +70°C / -4°F to 158°F
Licence	Licence free
Frequency	2.4 GHz
Range	700 meters / 2,300 feet
Loadcell Inputs	Up to 126
PC Requirements	Intel i3 processor with 2GB RAM
Operating System	Windows 7 and 10

# LoadConnect Software

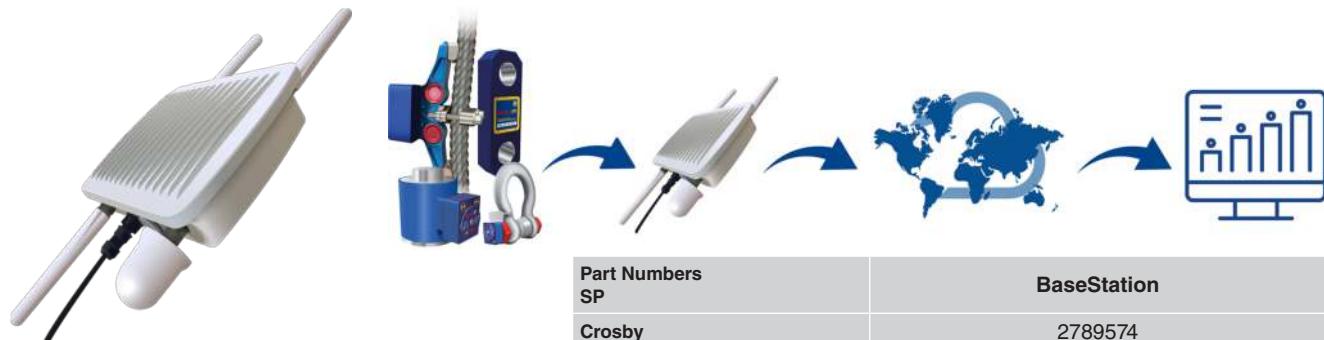


Crosby Straightpoint LoadConnect, connected to BaseStation, is a cloud-based solution to monitor loads and line tensions from any distance and from anywhere in the world. Stay connected, protect assets, reduce site visits, and improve safety.

- Dashboard overview.
- Live load data.
- Error reporting.
- Productivity and utilization graphs.
- Regular email reporting.
- SMS alerts.
- Connect to BOLT to monitor tension on cables.
- Connect to SP loadcells to monitor loads.

## BaseStation

How it works:



Part Numbers SP	BaseStation
Crosby	2789574
Required Power Supply	9 to 28 V DC
Radio Frequency	2.4 GHz (License Free)
Maximum Number of Loadcells	16
Range	Up to 500 meters / 1,640 feet
Operating Temperature Range	-10°C to 50°C / 14°F to 122°F
Backup Battery Life	16 hours
Input Option	1x 4-20mA (2 wire) OR 1x mV/V & Wireless
Weight	2.75 kg / 6.06 lb
Network Supported	4G / 3G
Frequency Band	LTE-TDD B34/B38/B39/B40/B41 LTE-FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/ B18/B19/B20/B25/B26/B28/B66 UMTS/HSPA+
SIM Type	Micro SIM (NOT INCLUDED)
Alert Functionality	via SMS (up to 3 pre defined numbers) Optional subscription to online dashboard
IP Rating	IP67 / NEMA6
Dimension	560 x 260 x 90 mm - Antennas included

Data option to be enabled on the SIM card used for full functionality.  
User configuration required via free software supplied.

# Accessories

Crosby Straightpoint's range of wireless accessories may be used with any Crosby SP wireless loadcells

2



## Wireless Overload Alarm Module

Part N°s SP SW-OAM Crosby 2789129

This wireless relay module features audio and visual warning indicators. The set point of the unit can be triggered from a single or summed group of up to four Crosby SP wireless loadcells. It contains two relays (NO and NC). NO is for audio and visual indications, while NC is a spare and can be used to control 230V AC / 30VDC 5A systems.



## Wireless Scoreboard Display

Part N°s SP SW-SD Crosby 2789132

This 100mm or 4" scoreboard LED display is wireless and operates between 100-240V AC. The numerals are viewable for up to 45m or 150ft, making it perfect for installation on a crane gantry. The SW-SD displays an individual load in metric tons or summed load of up to four Crosby Straightpoint wireless devices.



## Wireless Base Station with Analog Output

Part N°s SP SW-BS Crosby 2789314

The SW-BS provides a configurable analog output for any single or summed group of up to 4 loadcells Crosby Straightpoint wireless loadcell and is ideal for integration to a PC, PLC and other data acquisition. Housed in a IP65 enclosure, the output can be selected from current 4-20mA, 2 relay outputs, RS485 ASCII (Configurable) plus an optional CANbus 2.0A or 2.0B output.



## Loadcell Transmitter

Part N°s SP SA700C Crosby 2789097

The SA700C transmitter connects to strain gauge transducers such as loadcells, torque sensors and pressure transducers allowing them to form part of a Crosby Straightpoint wireless system. Load data from the SA700C can be received by multiple receivers that include SW-HHP handheld, INSIGHT software or Crosby SP's range of wireless accessories.



## Wall or Cab Mount Bracket

Part N°s SP SU3282 Crosby 2789228

Constructed from stainless steel and fitted with a viewing angle adjusting mechanism, the SU3282 bracket fits either the HHP or SW-HHP handheld displays. Ideal for wall or cab mounting, leaving the operators to work safely and hands-free.



## External Amplifier

Part N°s SP SA-3420 Crosby 2789096

The SA-3420 external amplifier allows the operator to convert the output of any of the SP cabled loadcell products into a three wire 4-20mA analog output. The weatherproof enclosure is fitted with stainless steel glands and is suitable for connection to a PLC, data logger, or other instrumentation.



## Handheld Rubber Boot

Part N°s SP SU4045 Crosby 2789232

Drop tested to one meter at -30°C, this 70SHA rubber boot is purpose molded to fit and protect the HHP and SW-HHP handheld display against impact, especially when it is used in the harshest industrial environments.

## HHP 2



Up to four Crosby Straightpoint, Bluetooth load cells can be connected and monitored by up to eight smartphones, with the HHP2 app installed. It will enable more than one lifting professional to monitor the loads progress and safety, spotting potential dangers or issues from different vantage points.

The HHP2 app's simple and easy-to-use interface will enable the operator to use the app with the utmost efficiency. There are five different measurement units to choose from - tonnes, lbs, kN, kg and a custom unit.

The app records total loads, weights and lifts. This feature is useful when a particular measurement(s) is required for later referral. Added to this is the option to set the threshold and measure productivity for each load cell and the device it's rigged to, a crane, for instance, for analysis to see shortfalls and improve performance.

A peak facility can be activated to display the highest force measured alongside the live load reading of four load cells simultaneously plus a total load.

Once measurements are recorded to the app using the load monitoring project record and data log feature, the operator can export the details. The report will include load, time and date, GPS coordinates and project information to either a mobile device or send it to a particular email address in csv format.

- Connect up to four loadcells simultaneously.
- Set lift threshold and measure productivity per shift.
- View in eight different languages.
- Overload screen flash.
- Alarm latching.
- Set and record overload incidents
- Up to 100m or 328ft remote monitoring distance.
- Multiple weight unit measurement options (kN, metric tons, kg, lbs, custom unit).
- Peak hold and display value alongside live readings.
- Data-log report.
- Export data-log report.
- Zero and gross monitoring options.
- User defined resolution setup.

## Handheld Plus



2

- Displays up to 4 loadcells simultaneously.
- Wireless range 1000m or 3280ft (ATEX 500m or 1640ft).
- Low battery warning.
- Signal strength warning.
- Overload counter.
- User settable 90db audible overload alarm.
- Multiple display units (metric tons, lbs, kg, kN).
- 200Hz peak hold.

The Handheld Plus is a rugged and versatile digital handheld display. It has an extensive range of features and is suitable for all Crosby Straightpoint loadcell products.

At the heart of the ergonomically designed Handheld Plus is a powerful PCB, providing industry-leading features such as user selectable units of measure (metric tons, lbs, kg, and kN), programmable audible overload alarm (HHP & SW-HHP), peak hold, pre-set tare, and a user resettable (HHP & SW-HHP) overload counter.

This crucial overload alarm counter is a requirement for many safety and quality control departments because it keeps track of overload events, allowing the loadcell in question to be removed from service immediately, following the calibration voiding overload event. The loadcell in question can then be sent out for proper testing and, if necessary, recalibration before re-entering service.

The HHP is suitable for connection via cable to any Crosby SP cabled loadcell product and easily adapted to any other manufacturers' loadcell product with a mv/v output.

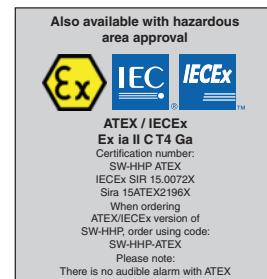
In addition to the standard HHP the SW-HHP is suitable for connection to any Crosby SP wireless loadcell, has a range of up to 1000m/3280ft (ATEX 500m/1640ft) and is supplied as standard with the Radiolink Plus loadcell.

Part Numbers SP	HHP	SW-HHP	SW-HHP ATEX
Crosby	2789030	2789126	2789442
Battery Type	2 x AA	2 x AA	4 x AA Energizer L91
Battery Life	100 hours continuous	40 hours continuous	40 hours continuous
Display Type	240 x 128 pixel Multi-line dot matrix with backlight		
Operating Temp.	-10°C to +50°C / 14°F to 122°F	-10°C to +50°C / 14°F to 122°F	-10°C to +50°C / 14°F to 122°F
Protection	IP65 / NEMA4X		
Excitation	3.3V	N/A	N/A
Max Sensitivity	3mV/V	N/A	N/A
Range	N/A	1000 m / 3,280 ft	500 m / 1,640 ft
Connectivity	6-way female binder 723 socket		
	Wireless 2.4GHz		

### Accessories available for the handheld:

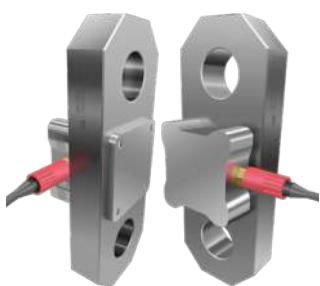
Wall or cab mount bracket  
Crosby SP part numbers  
SU3282 2789228

Rugged rubber boot  
Crosby SP part numbers  
SU4045 2789232

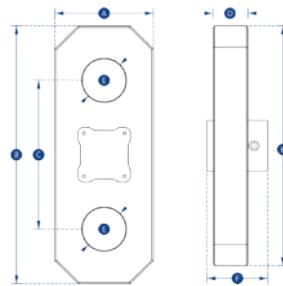


Please note:  
There is no audible alarm with ATEX

# SubseaLink



- Manufactured for use in subsea or submersible projects.
- On board data-logging option.
- Pressure tested to depth of 2000m/6562ft.
- SubConn connector.
- Environmental protection IP68/NEMA6P.
- Output options include mV/V to the Crosby SP Handheld Plus, 4-20mA or 0-10v analog to a PLC, data-logger or The Multi Operation Survey System (MOSS), RS485 or an integral data-logger storing up to one million readings and powered by an internal battery.
- Constructed from 17-4PH stainless steel.
- Designed to fit with The Crosby Group ROV shackles.
- Option for ROV mounting on the SL body itself.



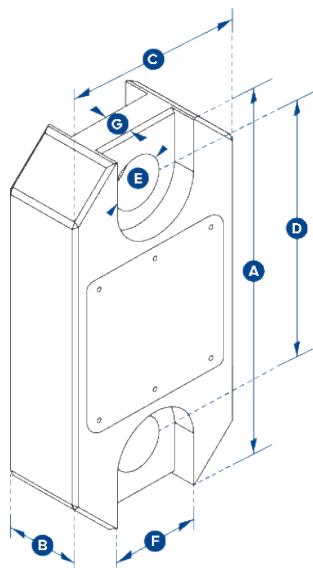
Part Numbers SP	SL6T5	SL12T	SL25T	SL35T	SL55T	SL85T	SL120T	
Crosby	2789352	2789353	2789354	2789355	2789356	2789357	2789358	
WLL (te)	6.5	12	25	35	55	85	120	
	(lb)	14,300	26,000	55,000	77,000	120,000	185,000	260,000
Weight (kg)	7	10	16	22	34	46	67	
	(lb)	15	23	34	49	75	101	148
Design Factor				5:1				
Output				Options for: mV/V / 4-20mA / 0-10v / RS485 or internal data logger				
Operating Temp.				-10°C to +50°C / 14°F to 122°F				
Accuracy				±0.1% of full scale				
Max depth of use				2,000 meters / 6,562 feet				
Material				17-4 PH Stainless steel				
MTBF to WLL				Typically 50 million cycles				
Elongation				Typically <0.4mm / at WLL				
Dimension A (mm)	95	100	130	150	168	190	220	
	(in)	3.74	3.94	5.12	5.91	6.69	8.66	
Dimension B (mm)	240	300	350	400	450	490	550	
	(in)	9.45	11.81	13.78	15.75	17.72	21.65	
Dimension C (mm)	180	200	230	250	260	290	335	
	(in)	7.09	7.87	9.06	9.84	10.24	13.19	
Dimesnion D (mm)	25	40	45	50	65	75	86	
	(in)	0.98	1.57	1.77	1.97	2.56	3.39	
Dimension ØE (mm)	30	40	55	60	75	88	100	
	(in)	1.18	1.57	2.17	2.36	2.95	3.94	
Dimension F (mm)	73	88	93	98	113	123	134	
	(in)	2.87	3.46	3.66	3.86	4.45	5.28	
Crosby Shackle				G2140 or G2100 or G2110 ROV shackles				
Data-logger Measurement Rate			Days					
1 per second			10					
1 per 30 seconds			57					
1 per minute			729					
1 per 2 minutes			1445					
1 per 30 minutes			3423					
1 per hour			3600					
1 per 2 hours			3694					
1 per 8 hours			3769					

# Loadlink Plus



Optional connection to Crosby SP's Handheld Plus part no. HHP 2789030

- Capacity from 1t to 300t.
- Unmatched weight-to-strength ratio.
- 30% lighter than competing dynamometers with the same safety rating.
- Large high resolution 25mm or 1 in LCD display.
- Features full function push button controls for tare, choice of units (lbs, kg, kN, and metric tons), peak hold, preset tare, audible set-point alarm, and an overload counter.
- The highest standard resolution of any digital dynamometer on the market today (5000+ divisions).
- 100Hz peak hold.
- RS-485 serial output.
- 2-year warranty.
- DNV-GL Type Approval.
- Design validated by FEA.
- Complies with ASME B30.26.



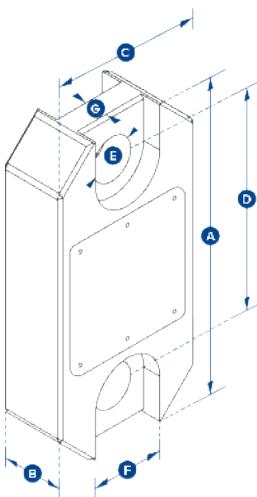
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Part Numbers SP	LLP1T	LLP2T5	LLP6T5	LLP12T	LLP25T	LLP35T	LLP55T	LLP75T	LLP100T	LLP150T	LLP200T	LLP250T	LLP300T	
Crosby	2789042	2789046	2789050	2789040	2789045	2789048	2789049	2789051	2789039	2789041	2789043	2789044	2789047	
Capacity (te)	1000 kg	2.5	6.5	12	25	35	55	75	100	150	200	250	300	
	(lb)	2,200	5,500	14,300	26,000	55,000	77,000	120,000	165,000	220,000	330,000	440,000	550,000	660,000
Resolution (te)	0.5kg	0.001	0.001	0.002	0.005	0.005	0.01	0.01	0.05	0.05	0.1	0.1	0.1	
	(lb)	1	2	2	5	10	10	20	20	100	100	200	200	200
Units (metric)	kg													
	(imperial)	pounds												
Weight (kg)	1.5	1.5	2.4	3.7	5	8.6	13	16	34	46	82	82	118	
	(lb)	3.3	3.3	5.3	8.2	11	19	28.7	35.3	75	101.4	180.8	180.8	260
Design Factor	12:1	7:1	7:1	7:1	5:1	5:1	5:1	5:1	5:1	4:1	5:1	4:1	5:1	
Battery Type							9v PP3							
Battery Life							80 hours continuous							
Display Type							6 digit 25mm or 1" LCD							
Operating Temp.							-10°C to +50°C / 14°F to 122°F							
Accuracy							±0.1% of full scale							
Protection							IP65 / NEMA4X							
Dimension A (mm)	204	204	249	305	340	393	424	470	608	670	700	700	806	
	(in)	8.03	8.03	9.80	12.01	13.39	15.47	16.69	23.94	26.38	27.56	27.56	31.73	
Dimension B (mm)	43	43	43	47	60	75	75	75	99	99	144	144	150	
	(in)	1.69	1.69	1.69	1.85	2.36	2.95	2.95	3.90	3.90	5.67	5.67	5.91	
Dimension C (mm)	104	104	113	113	115	126	180	202	255	303	350	350	426	
	(in)	4.09	4.09	4.45	4.45	4.53	4.96	7.09	7.95	10.04	11.93	13.78	13.78	16.77
Dimension D (mm)	146	146	165	193	215	225	230	260	320	360	350	350	350	
	(in)	5.75	5.75	6.50	7.60	8.46	8.86	9.06	10.24	12.60	14.17	13.78	13.78	13.78
Dimension ØE (mm)	24.5	24.5	38	47.5	55	60	76	76	109	109	145	145	160	
	(in)	0.96	0.96	1.50	1.87	2.17	2.36	2.99	2.99	4.29	4.29	5.71	5.71	6.30
Dimension F (mm)	48	48	66	66	66	66	66	66	66	66	66	66	66	
	(in)	1.89	1.89	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
Dimension G (mm)	19	19	32	32	32	32	32	32	32	32	32	32	32	
	(in)	0.75	0.75	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26	1.26
Crosby Shackle			G2130								G2140			
Loading Pin Ø (mm)	19	19	25	35	51	57	57	70	83	95	121	127	152	
	(in)	3/4	3/4	1	1 3/8	2	2 1/4	2 1/4	2 3/4	3 1/4	3 3/4	4 3/4	5	6

# Wirelink Plus



- Available in capacities ranging from 1 to 300 metric tons.
- The non-indicating version of Crosby SP's popular Radiolink Plus and Loadlink Plus digital dynamometer tension loadcells.
- Multiple output options to include mV/V, analog out, ASCII, MODBUS RTU, and CAN-BUS.
- Constructed of lightweight, aerospace grade aluminum.
- Available with IP68 environmental protection.
- supplied with a 10-meter cable as standard, however, usable cable length varies greatly with lengths available to 1,500 meters depending on output format.
- Options for subsea use available.
- 2-year warranty.
- DNV-GL Type Approval.
- Complies with ASME B30.26.



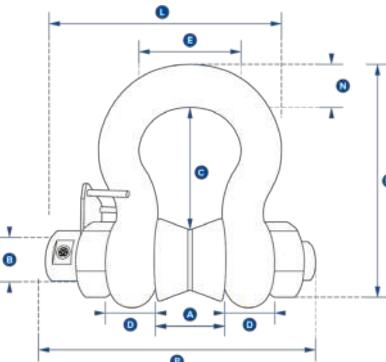
Part Numbers SP	WLP1T	WLP2T5	WLP6T5	WLP12T	WLP25T	WLP35T	WLP55T	WLP75T	WLP100T	WLP150T	WLP200T	WLP250T	WLP300T
Crosby	2789154	2789158	2789273	2789152	2789157	2789160	2789269	2789161	2789151	2789153	2789155	2789156	2789159
Capacity (te)	1000 kg	2.5	6.5	12	25	35	55	75	100	150	200	250	300
	(lb)	2,200	5,500	14,300	26,000	55,000	77,000	120,000	165,000	220,000	330,000	440,000	550,000
Resolution (te)	0.5 kg	0.001	0.001	0.002	0.005	0.005	0.01	0.01	0.05	0.05	0.1	0.1	0.1
	(lb)	1	2	2	5	10	10	20	20	100	100	200	200
Units (metric)	kg												
	(imperial)	pounds											
Weight (kg)	1.5	1.5	2.4	3.7	5	8.6	13	16	34	46	82	82	118
	(lb)	3.3	3.3	5.3	8.2	11	19	28.7	35.3	75	101.4	180.8	180.8
Design Factor	12:1	7:1	7:1	7:1	5:1	5:1	5:1	5:1	5:1	4:1	5:1	4:1	5:1
Operating Temp.							-10°C to +50°C / 14°F to 122°F						
Accuracy							±0.1% of full scale						
Protection							IP67 / NEMA6						
Dimension A (mm)	204	204	249	305	340	393	424	470	608	670	700	700	806
	(in)	8.03	8.03	9.80	12.01	13.39	15.47	16.69	18.50	23.94	26.38	27.56	31.73
Dimension B (mm)	43	43	43	47	60	75	75	75	99	99	144	144	150
	(in)	1.69	1.69	1.69	1.85	2.36	2.95	2.95	3.90	3.90	5.67	5.67	5.91
Dimension C (mm)	104	104	113	113	115	126	180	202	255	303	350	350	426
	(in)	4.09	4.09	4.45	4.45	4.53	4.96	7.09	7.95	10.04	11.93	13.78	13.78
Dimension D (mm)	146	146	165	193	215	225	230	260	320	360	350	350	350
	(in)	5.75	5.75	6.50	7.60	8.46	8.86	9.06	10.24	12.60	14.17	13.78	13.78
Dimension ØE (mm)	24.5	24.5	38	47.5	55	60	76	76	109	109	145	145	160
	(in)	0.96	0.96	1.50	1.87	2.17	2.36	2.99	2.99	4.29	4.29	5.71	5.71
Dimension F (mm)	48	48	65										
	(in)	1.89	1.89	2.60									
Dimension G (mm)	19	19	32										
	(in)	0.75	0.75	1.26									
Crosby Shackle				G2130						G2140			
Loading Pin Ø (mm)	19	19	25	35	51	57	57	70	83	95	121	127	152
	(in)	3/4	3/4	1	1 3/8	2	2 1/4	2 1/4	2 3/4	3 1/4	3 3/4	4 3/4	5
Part Number	Description												
ICA1	3 wire 0-10v analogue output												
ICA2	3 wire 0-5v analogue output												
ICA3	4 wire +/- 10v analogue output												
ICA4	3 wire 4-20mA analogue output												
ICA5	2 wire 4-20mA analogue output												

# Loadshackle



Requires connection to Crosby Straightpoint's Handheld Plus (HHP) or External Amplifier range (SA-3420) that can be configured to provide 4-20mA output for PLC or data logger integration.

- Capacities of 3.25t to 400t, as well as being obtainable up to 3000t.
- Compact size, low headroom, lightweight.
- Every Loadshackle is proof tested.
- Utilizes the same advanced microprocessor based electronics as Crosby SP products.
- Unrivaled resolution.
- Environmentally sealed to IP67 or NEMA6.
- Advanced options available for subsea applications.
- Manufactured using Crosby 2130 Carbon and 2140 Alloy Bolt Type Anchor industry leading shackles.
- Configured with output formats to include mV/V, RS-422, RS-485, utilizing the ASCII, MODBUS RTU, and CAN-BUS protocols or supplied with integral amplifier allowing analog outputs such as 4-20mA, 0-10v, 0-5v etc.
- mv/v or analog signal options.
- Design validated by FEA.



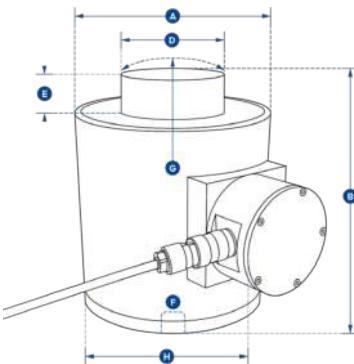
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Part Numbers SP	SLB 3.25T	SLB6.5T	SLB12T	SLB25T	SLB55T	SLB85T	SLB120T	SLB200T	SLB300T	SLB400T	
Crosby	2789106	2789111	2789103	2789105	2789110	2789112	2789102	2789104	2789107	2789108	
Capacity (te)	3.25	6.5	12	25	55	85	120	200	300	400	
	(lb)	7,150	14,300	26,400	55,000	120,000	185,000	260,000	440,000	660,000	880,000
Resolution (te)	0.005	0.005	0.01	0.02	0.05	0.05	0.1	0.2	0.5	0.5	
	(lb)	10	10	20	50	100	100	200	200	1000	1000
Units	(metric)										
	(imperial)										
Weight (kg)	2.8	3.2	8	18	25	85	125	260	405	662	
	(lb)	6.16	7	17.6	40	55	187	276	573	893	1459
Design Factor											
Operating Temp.											
Accuracy											
Protection											
Dimension A (mm)	26.9	36.6	51.5	73	82.5	127	144	180	205	230	
	(in)	1.06	1.44	2.03	2.87	3.25	5.00	5.66	7.09	9.06	
Dimension ØB (mm)	19.1	25.4	35.1	51	57	83	95	125	150	175	
	(in)	0.75	1.00	1.38	2.01	2.24	3.26	3.74	4.92	5.91	6.89
Dimension C (mm)	56.9	79.7	113	170	189.5	317	364	432.2	505	547.7	
	(in)	2.24	3.14	4.45	6.69	7.46	12.48	14.33	17.02	19.88	21.56
Dimension D (mm)	14.46	20.6	29.5	44.5	51	80	89	110	120	160	
	(in)	0.57	0.81	1.16	1.75	2.01	3.14	3.50	4.33	4.72	6.30
Dimension E (mm)	42.9	58	82.5	127	146	190	238	280	305	325	
	(in)	1.69	2.28	3.25	5.00	5.75	7.48	9.37	11.02	12.01	12.80
Dimension H (mm)	106	148	210	313	348	539	624	769	904	1006.5	
	(in)	4.17	5.83	8.27	12.32	13.70	21.22	24.56	30.28	35.59	39.63
Dimension L (mm)	125	146.5	191	265	296	384	434	519.7	576.7	657.2	
	(in)	4.92	5.77	7.52	10.43	11.65	15.11	17.12	20.46	22.7	25.87
Dimension N (mm)	17.5	24.6	35.1	57	61	85	95	120	140	160	
	(in)	0.69	0.97	1.38	2.24	2.40	3.34	3.74	4.72	5.51	6.30
Dimension P (mm)	140	163	212	280	307	438	478	590	647	755	
	(in)	5.51	6.42	8.35	11.02	12.09	17.24	18.81	23.23	25.47	29.72
Crosby Shackle			G2130		G2140			S2135			

# Compression Loadcell



- Ranges from 5te to 1000te.
- High grade stainless steel, offering excellent strength and anti-corrosion properties.
- Can be supplied with optional loadcaps.
- Environmentally sealed to IP67 or NEMA6.
- Optional analog outputs.
- Lightweight, compact size.
- 10m or 30ft cable supplied as standard (other lengths available).
- Custom versions available.
- Design validated by FEA.



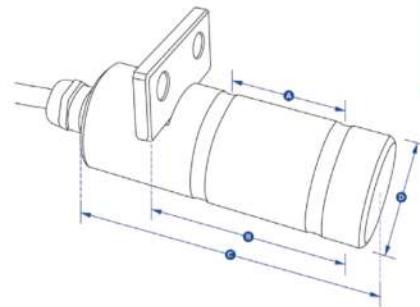
Requires connection to Crosby Straightpoint's Handheld Plus (HHP) or External Amplifier range (SA-3420) that can be configured to provide 4-20mA output for PLC or data logger integration.

Part Numbers SP	NI5TC	NI10TC	NI25TC	NI50TC	NI100TC	NI150TC	NI300TC	NI500TC	NI1000TC	
<b>Crosby</b>	2789068	2789062	2789065	2789067	2789061	2789063	2789064	2789066	2789275	
<b>Capacity</b>	(te)	5	10	25	50	100	150	300	500	1000
	(lb)	11,000	22,000	55,000	110,000	220,000	330,000	660,000	1,100,000	2,200,000
<b>Resolution</b>	(te)	0.001	0.002	0.005	0.01	0.05	0.05	0.1	0.2	0.5
	(lb)	2	5	10	20	100	100	200	500	1000
<b>Units</b>	(metric)						metric tons			
	(imperial)						pounds			
<b>Weight</b>	(kg)	6.2	6.2	6.2	6.2	15.5	15.5	65	65	172
	(lb)	13.64	13.64	13.64	13.64	34	34	143	143	379
<b>Design Factor</b>					3:1					
<b>Operating Temp.</b>					-10°C to +50°C / 14°F to 122°F					
<b>Accuracy</b>					±0.1% of full scale					
<b>Protection</b>					IP67 / NEMA6					
<b>Dimension ØA (mm)</b>	100	100	100	100	152	152	185	185	362	
	(in)	3.94	3.94	3.94	3.94	5.98	5.98	7.28	7.28	14.25
<b>Dimension B (mm)</b>	127	127	127	127	184	184	300	300	310	
	(in)	5.00	5.00	5.00	5.00	7.24	7.24	11.81	11.81	12.20
<b>Dimension ØD (mm)</b>	59	59	59	59	80	80	155	155	270	
	(in)	2.32	2.32	2.32	2.32	3.15	3.15	6.10	6.10	10.63
<b>Dimension E (mm)</b>	16	16	16	16	26	26	27.5	27.5	40	
	(in)	0.63	0.63	0.63	0.51	1.02	1.02	1.08	1.08	1.57
<b>Dimension F (mm)</b>	M18 x 2.5	M18 x 2.5	M18 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M30 x 3.5	
	(mm)	M18 x 2.5	M18 x 2.5	M18 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M20 x 2.5	M30 x 3.5	
<b>Dimension G (mm)</b>	152	152	152	152	432	432	432	432	950	
	(in)	5.98	5.98	5.98	5.98	17.01	17.01	17.01	17.01	37.40
<b>Dimension H (mm)</b>	158	158	158	158	204	204	237	237	416	
	(in)	6.22	6.22	6.22	6.22	8.03	8.03	9.33	9.33	16.38

# Loadpin



- Designed for use in applications where an end of line loadcell cannot be used, meaning an integrated solution is required.
- High tensile stainless steel.
- Supplied complete with an anti-rotation plate as a cabled or wireless solution.
- Built to withstand the harshest environments in industries such as marine and offshore oil and gas.
- Suitable for use in exposed situations and can also be supplied to withstand immersion in seawater at extreme depths.
- Supplied with a 10 meter or 32ft cable as standard, however, usable cable length varies greatly with lengths available to 1500 meters or 4900ft, depending on output format.
- Include mV/V, RS-485, utilizing the ASCII, MODBUS RTU and CAN-BUS protocols or an analog output such as 4-20mA for PLC integration.
- Design validated by FEA.



Note: Please advise cable configuration on order – Radial or axial pin exit. If you require a Loadpin to a particular size and design, download Crosby Straightpoint's Loadpin questionnaire and return, POA.



Requires connection to Crosby Straightpoint's Handheld Plus (HHP) or External Amplifier range (SA-3420) that can be configured to provide 4-20mA output for PLC or data logger integration.

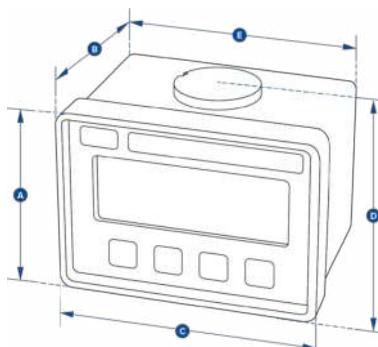
Part Numbers SP	LP500kg	LP1T	LP2.5T	LP3.5T	LP6.5T	LP15T	LP25T	LP50T	LP100T	LP250T	LP500T	LP750T	LP1000T	LP1500T	
Crosby	2789276	2789277	2789278	2789279	2789280	2789281	2789282	2789283	2789284	2789285	2789286	2789287	2789288	2789289	
Capacity (te)	500 kg	1000 kg	2.5	3.5	6.5	15	25	50	100	250	500	750	1000	1500	
	(lb)	1,100	2,200	5,500	7,700	14,000	33,000	55,000	110,000	220,000	550,000	1,100,000	1,650,000	2,200,000	3,300,000
Resolution (te)	0.2 kg	0.5 kg	0.001	0.001	0.002	0.002	0.005	0.01	0.05	0.1	0.2	0.2	0.5	0.5	
	(lb)	0.5	1	2	2	5	5	10	20	100	200	500	500	1000	1000
Units (metric)	kilograms, metric tons														
(imperial)	pounds														
Weight (kg)	0.9	1	1.2	1.4	2	3.1	5.6	8.6	11.8	29.8	79.2	146	275	389	
	(lb)	0.4	0.5	0.9	1.3	2.6	5	10.3	18	24	64	172	319	603	854
Design Factor	3:1														
Operating Temp.	-10°C to +50°C / 14°F to 122°F														
Accuracy	±1% of full scale														
Protection	IP67 [IP68 available as an option]														

Dim. A (mm)	24	35	45	50	63	75	89	102	110	130	225	295	360	430
	(in)	0.94	1.38	1.77	1.97	2.48	2.95	3.50	4.02	4.33	5.12	8.86	11.61	14.17
Dim. B (mm)	36	49	70	75	95	114	152	178	190	220	370	500	612	731
	(in)	1.42	1.93	2.76	2.95	3.74	4.49	5.98	7.01	7.48	8.66	14.57	19.69	24.09
Dim. C (mm)	70	80	100	105	125	150	195	225	230	300	440	590	712	832
	(in)	2.76	3.15	3.94	4.13	4.92	5.91	7.68	8.86	9.06	11.81	17.32	23.23	28.03
Dim. ØD (mm)	20	20	25	30	40	50	63	75	88	125	170	200	250	275
	(in)	0.79	0.79	0.98	1.18	1.57	1.97	2.48	2.95	3.46	4.92	6.69	7.87	9.84

# Loadblock Plus



- The highest standard resolution of any self-indicating compression loadcell on the market today (5000+ divisions).
- Low capacity, self-indicating compression loadcell.
- Large 25mm or 1 in LCD display.
- 100Hz peak hold.
- Compact size.
- Push button tare.
- Preset tare.
- Peak hold.
- RS485 port for connection to data-logging system allowing remote viewing.
- Audible set-point alarm and an overload counter.
- Selectable units te, lbs, kN, kg.



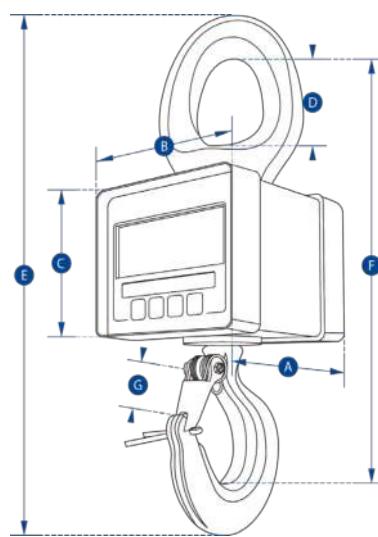
Part Numbers SP	LBP250KG	LBP500KG	LBP1T	LBP2T	LBP5T
Crosby	2789035	2789037	2789034	2789036	2789038
Capacity (te)	250 kg	500 kg	1	2	5
(lb)	550	1100	2200	4400	11000
Resolution (te)	0.1 kg	0.2 kg	0.0005	0.001	0.001
(lb)	0.2	0.5	1	2	2
Units (metric)	metric tons, kilograms, kilonewtons and pounds				
(imperial)	pounds, metric tons, kilonewtons and kilograms				
Weight (kg)	0.9	0.9	0.9	1.5	3.1
(lb)	2	2	2	3.3	6.8
Design Factor	4:1	5:1	5:1	5:1	5:1
Battery Type	9v PP3				
Battery Life	80 hours continuous				
Display Type	6 digit 25mm LCD or 6 digit 1" LCD				
Operating Temp.	-10°C to 50°C / 14°F to 122°F				
Accuracy	±0.1% of full scale				
Protection	IP65 / NEMA4X				
Dimension A (mm)	81	81	81	92	92
(in)	3.19	3.19	3.19	3.62	3.62
Dimension B (mm)	81	81	81	117	136
(in)	3.19	3.19	3.19	4.61	5.35
Dimension C (mm)	113	113	113	112	112
(in)	4.45	4.45	4.45	4.41	4.41
Dimension D (mm)	90	90	90	104	115
(in)	3.54	3.54	3.54	4.09	4.53
Dimension E (mm)	104	104	104	Not available in this capacity	
(in)	4.09	4.09	4.09		

# Miniweigher Plus



- Compact size and lightweight.
- Capacities from 100kg to 5t.
- Large 25mm or 1 in LCD display.
- High accuracy.
- Selectable Units te, lbs, kN, kg.
- Highest resolution of any compact digital crane scale on the market.
- Peak hold.
- Preset tare.
- Overload counter.
- 90dB audible set point alarm.
- RS-485 serial output.
- Corrosion-resistant finish.

Optional connection to Crosby SP's Handheld Plus – Crosby SP Part Nos. HHP 2789030


**2**

Part Numbers SP	MWP100KG	MWP250KG	MWP500KG	MWP1T	MWP2T	MWP5T
<b>Crosby</b>	2789055	2789057	2789059	2789056	2789058	2789060
<b>Capacity (kg)</b>	100	250	500	1000	2 t	5 t
(lb)	220	550	1100	2200	4400	11000
<b>Resolution (kg)</b>	0.05	0.1	0.2	0.5	0.001 t	0.001 t
(lb)	0.1	0.2	0.5	1	2	2
<b>Units (metric)</b>	metric tons, kilograms, kilonewtons and pounds					
<b>Weight (kg)</b>	1.5	1.5	1.5	1.5	3.1	8.7
(lb)	3.3	3.3	3.3	3.3	6.8	19.2
<b>Design Factor</b>	10:1	5:1	5:1	5:1	5:1	5:1
<b>Battery Type</b>	9v PP3					
<b>Battery Life</b>	80 hours continuous					
<b>Display Type</b>	6 digit 25mm LCD or 6 digit 1in LCD					
<b>Operating Temp.</b>	-10°C to +50°C / 14°F to 122°F					
<b>Accuracy</b>	±0.1% of full scale					
<b>Protection</b>	IP65 / NEMA4X					
<b>Dimension A (mm)</b>	81	81	81	81	117	136
(in)	3.19	3.19	3.19	3.19	4.61	5.35
<b>Dimension B (mm)</b>	112	112	112	112	112	112
(in)	4.41	4.41	4.41	4.41	4.41	4.41
<b>Dimension C (mm)</b>	81	81	81	81	92	92
(in)	3.19	3.19	3.19	3.19	3.62	3.62
<b>Dimension D (mm)</b>	33	33	33	33	43	62
(in)	1.30	1.30	1.30	1.30	1.69	2.44
<b>Dimension E (mm)</b>	222	222	222	222	283	349
(in)	8.74	8.74	8.74	8.74	11.14	13.74
<b>Dimension F (mm)</b>	183	183	183	183	238	286
(in)	7.20	7.20	7.20	7.20	9.37	11.26
<b>Dimension G (mm)</b>	22	22	22	22	28	42
	0.87	0.87	0.87	0.87	1.10	1.65



**Crosby** | **BLOKCAM**

**BLOKCAM**  
Improving safety, communication & productivity

## WHAT IS BLOKCAM?

BlokCam is a wireless system that can be quickly and easily deployed to the hook block or boom tip of a crane.

The sound and view from below the camera is then transmitted and received wirelessly via the antenna systems to a screen in the cab. This allows the operator to see and hear the load and surroundings, giving an unobstructed, live, audio-visual feed of the critical areas that working in the blind would never allow.



## HOW BLOKCAM WORKS

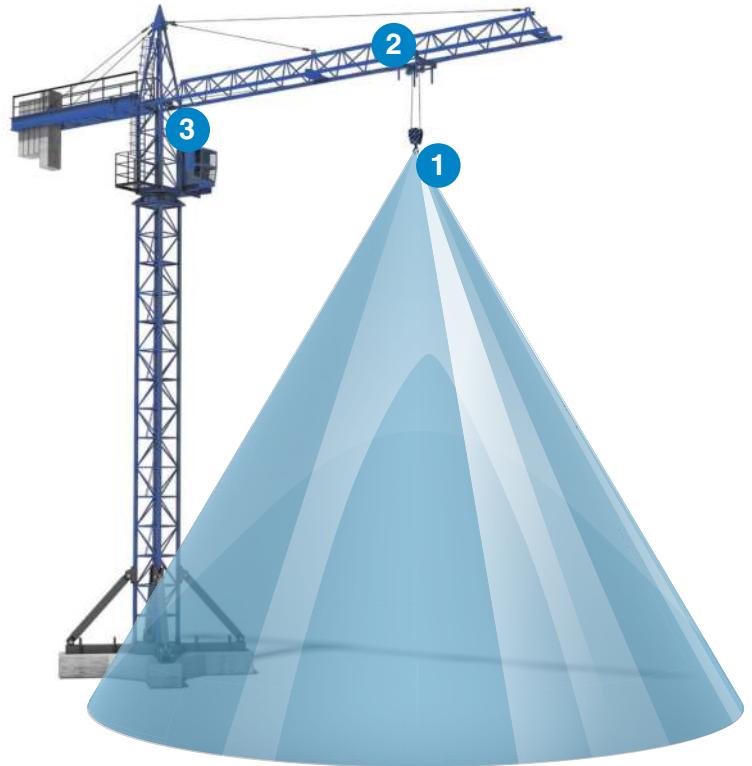
### 1. On the hook block and/or boom tip

The sensor captures the audio-visual feed and sends it to the transmitter. The signal is then transmitted to a repeater on the jib, boom or cab.

The battery powers both the transmitter and the sensor. Each component attaches magnetically and can be mounted on the block, including between the cheek plates and on the boom tip.

### 2. Repeater on the jib/boom and/or cab

The repeater receives the wireless signal from the transmitter and is relayed back to a monitor in the cab. The repeater position and configuration is dependent on the type of crane, type of jib/boom and length of jib/boom.



### 3. In the operator's cab

The live audio-visual feed is then processed and displayed on the screen positioned inside the cab, allowing the operator to see and hear live footage of everything below the camera.

## TESTIMONIALS

"Baker I DC and our crane operators have been using BlokCam cameras for more than 3 years. Our crane operators now are requesting BlokCams on cranes whenever their new projects start-up. On our Wharf project in Washington DC we had 5 tower cranes, each equipped with a BlokCam and Office Link. While the cameras allow our operators to safely and confidently make picks when in the blind, the Office Link and its ability to record the camera footage has proven to be invaluable at improving job-site efficiency and providing historical information for safety training and job-site documentation."

**BAKER**  
CONCRETE CONSTRUCTION  
expect more

Jason Rhine  
Project Executive  
Baker I DC

"HTC started working with Crosby BlokCam in 2015 - on first impressions we were very impressed by the level of expertise and professionalism of this company. We are proud to work in partnership with Crosby BlokCam and are delighted with the service which we are able to provide to our customers. It is great to work with such a forward-thinking and proactive company. Crosby BlokCam's experience and knowledge of the crane industry has allowed them to develop and offer the highest quality system on the market. Therefore, we are looking forward to many more years of working together."

**HTC | WOLFFKRAN**  
**WOLFF Onsite**

Elliott Simpson  
Accessories Manager  
WOLFF Onsite

"BlokCam is one of the best investments London Tower Cranes has made. The quality, ability, and value of their camera system is second to none. We have found the BlokCam to be an invaluable asset for the crane operators, lifting teams and business as a whole."



**Martin Harvey**  
Managing Director  
London Tower Cranes

# X2 CAMERA SYSTEM (PART NO. 7380003)

## TOWER CRANES

### Design Overview

- Easy and quick to install; can be fitted within an hour
- Uses high powered neodymium magnets
- The lens is auto-focus and always gives clear views of the load and surrounding area below the hook
- HD 1080p resolution
- Audio from sensor to cab
- Optional single and split screen mode with additional cameras
- Long range transmission<sup>5</sup>
- Record on loop for up to 30 days
- Purpose built aluminum housing
- Multiple built in lanyard anchors
- Safety lanyard provides secondary security tethering
- Hands-free operation
- Multi positional sensor for variable views
- LED indicators
- Two batteries per system
- Non hazardous battery
- 12 hour battery life<sup>3</sup>
- Multi-voltage AC and DC inputs
- Durable all-weather design, manufactured to IP67<sup>4</sup> rating
- -4°F to 131°F (-20°C to 55°C) operating temperature
- Optional mobile app and 4G live streaming<sup>2</sup>
- CE and FCC approved
- High quality industrial connectors
- Color coded connectors



More information, hook mounted safety system and accessories available online at [\[redacted\]](#).

Modular design, compatible across a wide variety of cranes <sup>1</sup>



2

## WHAT'S INCLUDED

### Sensor (S4)

**Part No. 7370021**

The S4 is a 113° wide angle lens. The low profile design, tool free operation and rotatable lens allows for easy installation on any side of the hook block including in between the cheek plates.



### Transmitter (X2)

**Part No. 7370027**

X2 dramatically improves the most important aspects of the BlokCam. The combination of performance, specification, aesthetics and 2.8 in low profile design make this a must for all crane operations.



### Battery (B6)

**Part No. 7370032**

B5 is a non hazardous 14.54v battery pack. The clever tool-free design and easy grip finger slots makes it easy to install, remove and charge.



### Charging Station (CS1)

**Part No. 7370012**

Our Charging Station is designed to improve the efficiency of your BlokCam batteries and the performance of the camera system.



### Repeater (R4)

**Part No. 7370018**

Depending on the crane type and required installation, the Repeater is mounted on the jib, boom tip, or cab. The Repeater has been specifically designed for fast, wireless, telescopic deployment.



### Monitor (M2)

**Part No. 7360023**

Our HD Monitor is a 10.1in 16:9 LCD monitor with built in speakers and a HDMI input. It has a 1280 x 800 pixel panel with automatic brightness control.



### Processor (P2)

**Part No. 7370017**

Our purpose built Processor can project multiple high definition images and audio through a single HDMI lead with less than 0.2 seconds of latency. The design of the Processor accommodates multi-voltage AC and DC inputs making your BlokCam system compatible across all types of cranes. The Processor also provides power to the monitor, eliminating the need for a secondary socket or power supply.

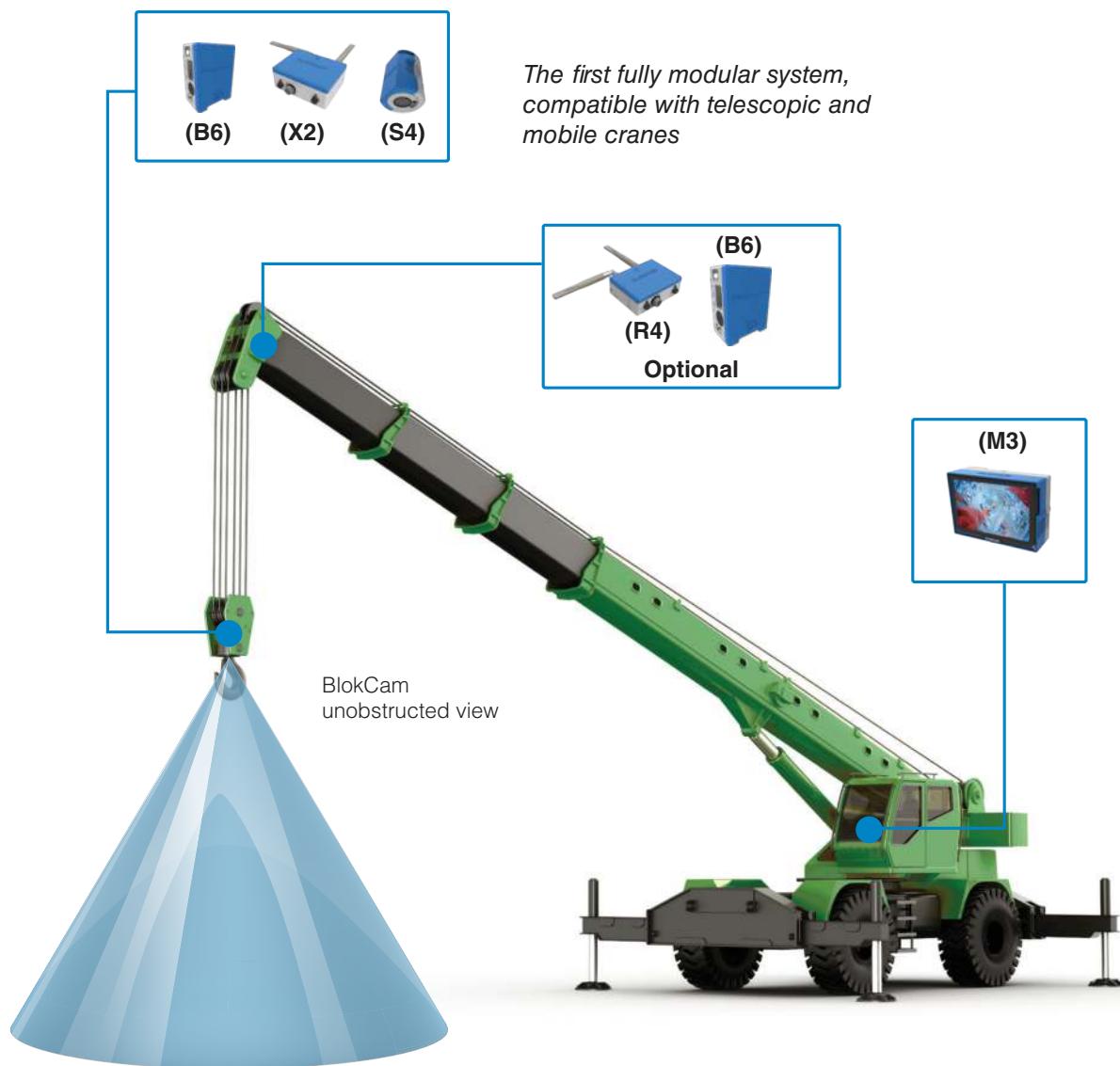


# M3 CAMERA SYSTEM (PART NO. 7380001)

## MOBILE & TELESCOPIC CRANES

### Design Overview

- Specifically designed for the mobile and crawler market
- Can be installed and removed within 5 minutes
- Uses high powered neodymium magnets
- The lens is auto-focus and always gives clear views of the load and surrounding area below the hook
- HD 1080p resolution
- Audio from sensor to cab
- Long range transmission<sup>5</sup>
- Record on loop for up to 30 days
- Purpose built aluminum housing
- Multiple built in lanyard anchors
- Safety lanyard provides secondary security tethering
- Hands-free operation
- Multi positional sensor for variable views
- LED indicators
- Two batteries per system
- Non hazardous battery
- 12-hr battery life<sup>3</sup>
- Multi-voltage AC and DC inputs
- Durable all-weather design, manufactured to IP67<sup>4</sup> rating
- -4°F to 131°F (-20°C to 55°C) operating temperature
- Optional mobile app and 4G live streaming <sup>2</sup>
- CE and FCC approved
- High quality industrial connectors
- Color coded connectors



Modular design, compatible across a wide variety of cranes <sup>1</sup>



2

## WHAT'S INCLUDED



### Monitor (M3)

**Part No. 7370014**

The M3 is an all in one display that combines a monitor, repeater and processor in to a purpose built fast fit system. The M3 has a HD display with built in speakers, automatic brightness control, less than 0.2 seconds of latency and multi-voltage AC and DC inputs.



### Sensor (S4)

**Part No. 7370021**

The S4 is a 113° wide angle lens. The low profile design, tool free operation and rotatable lens allows for easy installation on any side of the hook block including in between the cheek plates.



### Transmitter (X2)

**Part No. 7370027**

X2 dramatically improves the most important aspects of the BlokCam. The combination of performance, specification, aesthetics and 71mm low profile design make this a must for all crane operations.



### Battery (B6)

**Part No. 7370032**

B5 is a non hazardous 14.54v battery pack. The clever tool-free design and easy grip finger slots makes it easy to install, remove and charge.



### Charging Station (CS1)

**Part No. 7370012**

Our Charging Station is design to improve the efficiency of your BlokCam batteries and the performance of the camera system.

More information, hook mounted safety system and accessories available online at [\[redacted\]](#)

## BLOKCAM ACCESSORIES



### BlokCam Office Link (OL1)

**Part No. 7370015**

BlokCam Office Link allows the data from your BlokCam to be captured in a site office for site and crane monitoring and surveillance. Your host computer could monitor and download data from multiple systems.



### 4G Router (30184)

**Part No. 7350026**

With a 4G router connected to your BlokCam system you can live stream crane footage and extract recordings from anywhere in the world <sup>2</sup>.



### V-Cam (VC4)

**Part No. 7370025**

The Versatile-Cam is our hardwired option, which gives you the ability to expand your BlokCam system to include additional sensors. The build quality of the VC4, coupled with its non-intrusive size and mounting versatility, means it can be deployed in seconds and used in a multitude of scenarios. Ideal for visual monitoring and data logging of the hoist drum, luffing drum, slew ring, tail swing, and the operator's cab.



### V-Cam (VC4a)

**Part No. 7370026**

The VC4a is our hardwired camera with a built in microphone, which is most commonly used for audio-visual monitoring and data logging of the operator's cab.

More information, hook mounted safety system, and accessories available online at [thecrosbygroup.com/blokcam](http://thecrosbygroup.com/blokcam).

## REFERENCES

1. Subject to crane make/model
2. Subject to availability of a suitable mobile network (data charges apply)
3. Battery life varies by use and configuration
4. IP67 rating excludes IP65 audio sensor and sounder
5. Transmission distance may vary depending on the environment

\*Actual product may differ from rendered image

**Safer lifts with block camera & alert systems**



Peter Hird



Aaron Orsak



## ON-DEMAND WEBINAR

Get an in-depth look at the latest Crosby BlokCam audio-visual technologies designed to improve safety and efficiency through enhanced crane operation awareness and communication.

▶ Watch now at [\[REDACTED\]](#)



**BLOKALERT**  
Improving safety, communication & productivity

## WHAT IS BLOKALERT?

BlokAlert is a wireless, audio-visual warning system that can be quickly and easily deployed to the hook block of a crane.

When activated by the lifting crew, the BlokAlert receiver gives out a recognizable audio-visual signal that can be seen and heard by site personnel in proximity to the hook block or load.

This forewarns the workforce to the position and movements of the hook block, increases awareness and reduces the risk of being struck by the crane's hook block, lifting accessories or load.



## WHY BLOKALERT?



Traditionally, the distance between the horn, often located near the operator's cab, and the load is inconsistent and does not efficiently warn site personnel to the position of the hook block or load.

The same can be said for air horns or whistles when used by riggers. In both scenarios, the attention of the work force is diverted to where the sound is coming from, as opposed to the hazard.

**Solution:** Fit a warning system to the hook block. When activated, the consistent proximity between the hook block and the load enhances the efficiency of the warning system and draws attention to the hazard, not away from it.

## HOW BLOKALERT WORKS

### 1a The lifting crew/rigger

The handheld fob is activated by the riggers or lifting crew. When operated, the signal is transmitted to the receiver on the hook block of the crane.

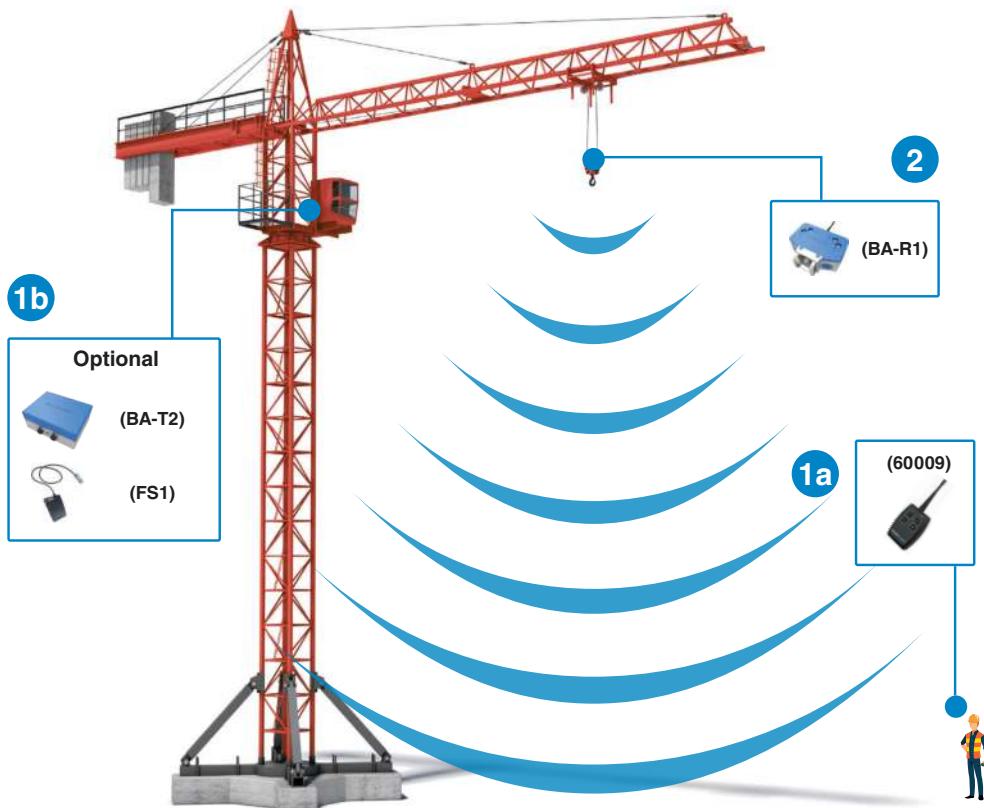
and/or

### 1b In the operator's cab

The transmitter is activated by a footswitch in the crane cab. When operated, the signal is transmitted to the receiver on the hook block of the crane.

### 2 On the hook block

On receipt of a signal from a transmitter, the Receiver is activated, alerting the workforce to the proximity of the hook block.



## BLOKALERT SYSTEM (PART NO. 7380000)

2

### Design Overview

- Uses high powered neodymium magnets
- Easy to install, remove, and charge
- Two handheld transmitters per system
- Easy to use, multifunction operation
- 2 x 78db – 107db electronic sounders
- 180° LED beacon
- Choice of four beacon colors ●●●●
- Pair transceivers with the push of a button
- Built in Lithium Ion battery with 124-hr battery life<sup>3</sup>
- Built in, fold away carry handles
- Long range transmitter and receiver<sup>5</sup>
- Purpose built aluminum housing
- Built in lanyard anchors
- Safety lanyard provides secondary security tethering
- LED power indicator
- 3.39 inch low profile design
- Durable all-weather design, manufactured to IP67<sup>4</sup> rating
- 14°F to 122°F (-10°C to 50°C) operating temperature
- Easy access fuse
- High quality industrial charge connector
- Optional cab transmitter
- CE and FCC approved

Modular design, compatible across a wide variety of cranes <sup>1</sup>



### WHAT'S INCLUDED



#### BlokAlert Receiver (BA-R1) Part No. 7370003

Along with the LED Beacon, the BlokAlert Receiver is capable of up to 528 different audible warnings. This audio-visual warning system, combined with great functionality, performance and design makes this a must for all lifting operations.

#### Size & Weight (excluding Antenna)

Height: 6.82 in (173mm)  
 Width: 8.27 in (210mm)  
 Depth: 3.39 in (86mm)  
 Weight: 7.5 lb (3,400g)



#### BlokAlert Fob – 4-Button (60009) Part No. 7360009

The BlokAlert Fob allows the riggers to operate multiple BlokAlert systems across your site.

- Two four-button fobs per system
- Rugged design complete with neck lanyard
- Eight- and 16-button fobs available on request

### BLOKALERT ACCESSORIES



#### BlokAlert Transmitter (BA-T2) Part No. 7370030

Through the use of a footswitch, the BlokAlert Transmitter gives the crane operator hand-free operation of the BlokAlert system.



#### BlokAlert Footswitch (FS1) Part No. 7360017

The Footswitch provides the hands-free operation of the BlokAlert Transmitter. It is quick and easy to install.

More information, hook mounted safety system, and accessories available online at [www.crosbygroup.com](#)

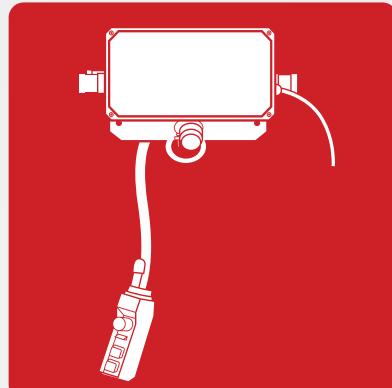
# **SETTING THE STANDARD IN CELL TOWER SECUREMENT**

The Crosby Group offers a wide range of solutions for the cell tower industry. Our products have been put through rigorous testing to ensure optimal functionality and safety ratings.

- Blocks & overhaul balls**
- Turnbuckles**
- Shackles**
- Wire rope clips**
- Tensionmeters**
- Load monitoring technologies**

# HOISTS

Engineered for any capacity load and configuration requirement, including for low headroom or hazardous environments.



theCrosbygroup<sup>®</sup>

[thecrosbygroup.com](http://thecrosbygroup.com)

## HAND CHAIN HOISTS



Accolift® portable, lightweight hand chain hoists are compact and provide a dependable working tool for industrial maintenance, construction sites, machine shops, and production situations where parts need to be positioned accurately but infrequently.

### Construction Features:

**Hooks:** All hooks are drop forged, heat treated steel with spring type latches. Both hooks rotate 360° for easy rigging.

**Mechanical Load Brake:** Weston type multiple disc brake controls load smoothly, holding full capacity loads in any position.

**Overload Clutch:** Clutch provided to prevent lifting overloads that could permanently damage hoist. Preset at the factory, the device is installed between the chain wheel and the load brake.

**Hand Chain:** Electric welded, close link galvanized coil chain, accurately and uniformly sized to seat properly in hand wheel pockets.

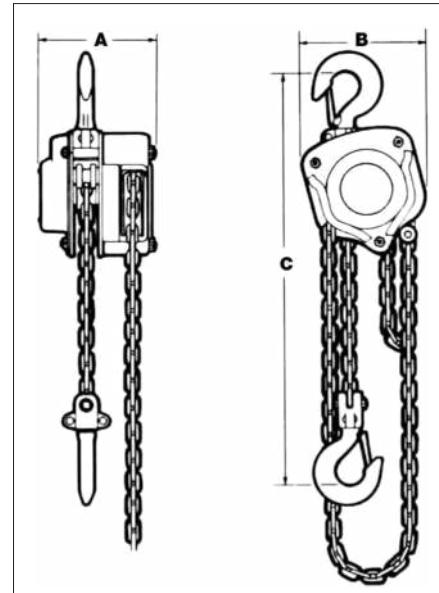
**Load Sheaves:** Deep cast pockets precisely fit the load chain. Load shafts are supported by pre-lubricated bearings for smooth operation.

**Load Chain:** Electric welded alloy steel chain is heat treated for wear resistance and strength. Accurately and uniformly sized to seat properly in load sheaves.

**Frame:** Fabricated rolled steel plate.

**Covers:** Protective steel covers can easily be removed for inspection and maintenance. Covers protect chain wheel, overload clutch, brake and gearing from debris.

**Specification:** meets ANSI and ASME requirements.



**Options:** Optional equipment available for this product includes chain container, weather cover, nickel plated load chain, stainless steel load chain, stainless steel hand chain, bronze hooks, stainless steel hooks, nickel plated hoist body and hoists lug mounted to a trolley. Please contact factory for more information.

Model Number	Capacity (Ton)	Std. Lift	Hand Chain Drop (ft)	Pull to Lift Full Load (lb)	Chain Overhaul Ratio	Dimensions (in)			Load Chain Diameter (in) X Chain Fall Lines	Weight for Add'l 1ft. of lift (lb)	Net Weight (lb)
						A	B	C			
1360210	1/2	10	8	53	40:1	5.8	5.7	12.2	.248 x (1)	0.6	25
1360220	1/2	20	18	53	40:1	5.8	5.7	12.2	.248 x (1)	0.6	31
1360230	1	10	8	73	40:1	5.8	5.7	13.0	.248 x (1)	0.6	26
1360240	1	20	18	73	40:1	5.8	5.7	13.0	.248 x (1)	0.6	32
1360250	2	10	8	75	78:1	7.2	7.4	15.0	.311 x (1)	1.0	48
1360260	2	20	18	75	78:1	7.2	7.4	15.0	.311 x (1)	1.0	58
1360270	3	10	8	77	120:1	5.8	8.1	18.9	.280 x (2)	1.5	51
1360280	3	20	18	77	120:1	5.8	8.1	18.9	.280 x (2)	1.5	66
1360290	5	10	8	86	186:1	7.3	10.1	24.4	.354 x (2)	2.4	90
1360300	5	20	18	86	186:1	7.3	10.1	24.4	.354 x (2)	2.4	114
1360310	7 1/2	10	8	88	248:1	7.3	14.4	28.3	.354 x (3)	3.6	116
1360320	7 1/2	20	18	88	248:1	7.3	14.4	28.3	.354 x (3)	3.6	152
1360330	10	10	8	90	372:1	7.3	14.4	32.3	.354 x (4)	4.8	202
1360340	10	20	18	90	372:1	7.3	14.4	32.3	.354 x (4)	4.8	250
1360350	15	10	8	90 X (2)	248:1 X (2)	8.3	29.3	33.5	.354 x (5)	7.2	320
1360360	15	20	18	90 X (2)	248:1 X (2)	8.3	29.3	33.5	.354 x (5)	7.2	392
1360370	20	10	8	90 X (2)	372:1 X (2)	8.3	34.4	38.2	.354 x (6)	9.6	427
1360380	20	20	18	90 X (2)	372:1 X (2)	8.3	34.4	38.2	.354 x (6)	9.6	523

## PLAIN TROLLEYS



Accolift® Plain Trolleys are light and easy to adapt to a wide range of beams. The trolley wheels include lifetime lubricated ball bearings for maintenance free operation. A perfect match to make the Accolift electric or hand chain hoist and its load horizontally mobile.

### Construction Features:

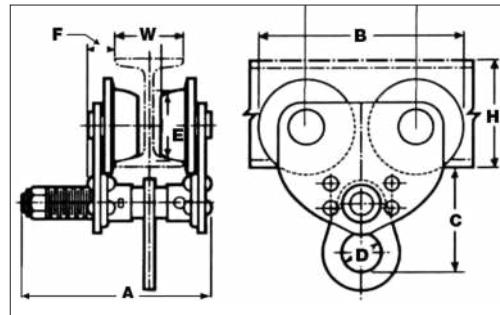
**Side Frame:** Side plates are rugged rolled steel

**Wheels:** Crown tread allows operation on tapered or flat flange beams

**Bearings:** Shielded, lifetime lubricated, single row ball bearings.

**Suspension Lug:** Pivot mounted suspension shaft designed to equally distribute the load to all wheels.

**Options:** Optional equipment available for this product includes bronze wheels and nickel plated body. Please contact the factory for more information.



Model Number	Capacity (Ton)	W Beam Width Min. - Max. (in)	Dimensions (in)							Min. Beam Size H	Min. Beam Radius	Net Weight (lb)
			A	B	C	D	E	F	G			
1650010	1/2	3" to 5"	8.1	6.9	5.1	1.8	2.2	1.1	3.5	4	24	14
1650020	1	3" to 5"	8.1	9.1	5.1	1.8	3.2	1.1	4.8	5	30	22
1650030	2	3" to 6"	9.3	10.6	6.1	2.4	3.9	1.4	5.6	6	36	41
1650040	3	3" to 6"	9.9	12.3	7.5	2.6	4.5	1.9	6.4	7	36	63
1650050	5	5" to 7"	11.1	13.9	9.1	3.0	4.9	2.1	7.2	10	48	97

## GEARED TROLLEYS



Accolift® Geared Trolleys are light and easy to adapt to a wide range of beams. The trolley wheels include lifetime lubricated ball bearings for maintenance free operation. A perfect match to make the Accolift electric or hand chain hoist and its load horizontally mobile for short distances and accurate load positioning.

### Construction Features:

**Side Frame:** Side plates are rugged rolled steel

**Wheels:** Crown tread allows operation on tapered or flat flange beams

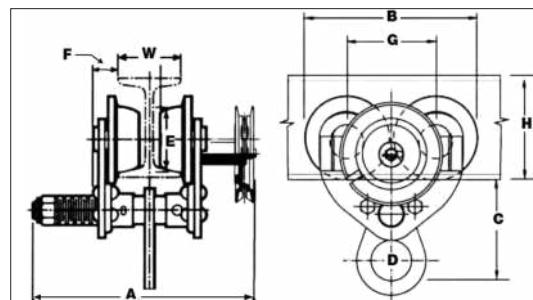
**Bearings:** Shielded, lifetime lubricated, single row ball bearings.

**Hand Chain:** Electric welded, close link galvanized coil chain, accurately and uniformly sized to seat properly in handwheel pockets.

**Chain Guide:** Steel chain guide.

**Suspension Lug:** Pivot mounted suspension shaft designed to equally distribute the load to all wheels.

**Options:** Optional equipment available for this product includes bronze wheels, stainless steel hand chain and nickel plated body. Please contact the factory for more information.



Model Number	Capacity (Ton)	W Beam Width Min. - Max. (in)	Hand Chain Drop (ft)	Dimensions (in)							Min. Beam Size H	Min. Beam Radius	Net Weight (lb)
				A	B	C	D	E	F	G			
1650110	1/2	3" to 5"	18	10.8	9.1	5.1	1.8	3.2	1.1	4.8	5	30	35
1650120	1	3" to 5"	18	10.8	9.1	5.1	1.8	3.2	1.1	4.8	5	30	35
1650130	2	3" to 6"	18	12.0	10.6	6.1	2.4	3.9	1.4	5.6	6	36	57
1650140	3	3" to 6"	18	13.0	12.3	7.5	2.6	4.5	1.9	6.4	7	36	79
1650150	5	5" to 7"	18	15.0	13.9	9.1	3.0	4.9	2.1	7.2	10	48	114
1650160	10	5" to 7.5"	18	17.0	13.9	11.0	3.2	4.9	2.1	7.2	10	48	227

**MOTORIZED TROLLEYS**

Accolift® Motorized Trolleys are rugged in design and built to be flexible right out of the box. Each trolley is adjustable for a beam flange range of 3.25" to 12" with no additional materials required. Side guide rollers are included to promote smooth trolley motion and to minimize wheel and beam flange wear.

Wheels are dual tread design for operation on tapered or flat flange beams. Trolleys include drop down lugs and rubber bumpers as standard equipment. Motor includes class F insulation and a disc type motor brake. Motor is rated for 30-minute duty and includes standard thermal protection. Three phase trolleys include a VFD control, 2-button pendant, control transformer and a 30' power cord. Single phase trolleys include a single speed contactor control, 2-button pendant and a 30' power cord.

**Construction Features:**

**Motor:** 30-min duty motor with class F insulation, thermal protection and motor brake (single phase motors are rated 20-min).

**Three Phase Control:** VFD control programmed for two speed operation.

**Single Phase Control:** Contactor control provided for single speed operation.

**Side Frame:** Side plates are rugged rolled steel.

**Wheels:** Dual tread design for operation on tapered or flat flange beams.

**Bearings:** Shielded, lifetime lubricated, single row ball bearings.

**Suspension Lug:** Pivot mounted suspension lug provides equally distributed load to all wheels.

Cap. (Ton)	Model Number	Trolley Speed (fpm)	Push Button Cord Length (ft)	Power Cord Length (ft)	Motor			Flange Width Adjustability (in)	Wheel Diameter	Min. Beam Radius (in)	Net Wt. (lb)			
					HP	Amp. Draw								
						115V	208/230V	460V						
1	2130510-VFD	75/25	6	30	0.54	-	3.3/3.0	1.5	3.25 to 12	3.7	32	86		
2	2130520-VFD	75/25	6	30	0.54	-	3.3/3.0	1.5	3.25 to 12	4.3	32	101		
3	2130530-VFD	65/22	6	30	1	-	4.8/4.4	2.2	3.25 to 12	5	40	165		
5	2130550-VFD	65/22	6	30	1	-	4.8/4.4	2.2	3.25 to 12	5.5	72	210		

**SINGLE PHASE TROLLEYS:**

1	2330510	36	6	30	0.27	7.8	4.3/3.9	-	3.25 to 12	3.7	32	86
2	2330520	36	6	30	0.27	7.8	4.3/3.9	-	3.25 to 12	4.3	32	101

Figure A

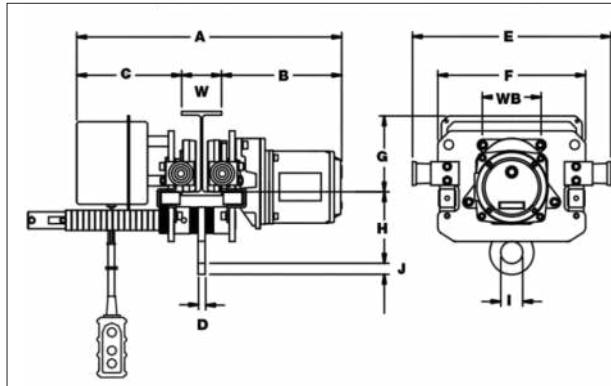
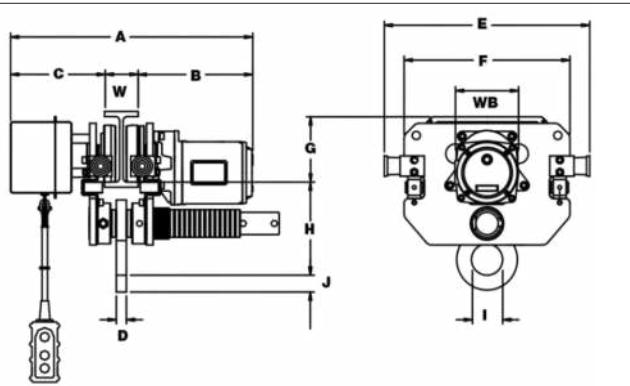
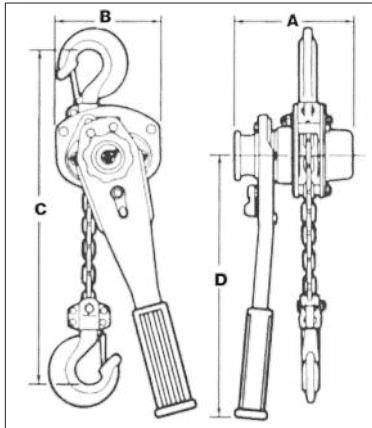


Figure B



Model Number	A W = Beam width	Dimensions (in)										Figure
		B	C	D	E	F	G	H	I Diameter	J	WB	
2130510-VFD	18.7 + W	10	8.7	0.5	16	11.8	6.5	5.2	1.8	0.8	4.4	A
2130520-VFD	18.9 + W	10.1	8.8	0.6	16.7	12.4	6.4	6	1.8	0.9	4.9	A
2130530-VFD	19.8 + W	10.9	8.9	0.8	18	14.2	6.2	7.2	2.6	1.3	5.5	B
2130550-VFD	20.4 + W	11.2	9.2	1	20	16.1	6.3	9	3	1.4	6.1	B
2330510	18.7 + W	10	8.7	0.5	16	11.8	6.5	5.2	1.8	0.8	4.4	A
2330520	18.9 + W	10.1	8.8	0.6	16.7	12.4	6.4	6	1.8	0.9	4.9	A

## LEVER HOISTS



Accolift® lever hoists are lightweight and portable with chain-type lever-operated pullers. Increases a worker's efficiency in pulling, lifting, lowering, moving and skidding objects in industrial maintenance, construction and utility company applications. Minimal effort is required to move tons. The short handle and short stroke are designed to operate in tight places. Excellent for stretching cable and fencing, positioning machinery and building components.

3

**Construction Features:**

**Frame/Side Plate:** Rugged, lightweight steel design supports and protects internal gearing. Frame designed to allow load hook to be attached when operator is moving from location to location preventing dragging of the load hook.

**Load Lever:** Designed and constructed to be easily operated by one person. Can be easily disassembled for maintenance.

**Operation:** The length of the load chain can easily be adjusted using the free chaining device. This device allows free movement of the load chain through the hoist under no load conditions. Once the chain is attached to the load and the slack is taken out, the change lever can be set to "up" to engage the hoist and chain will be pulled through the device with each stroke of the lever by the operator. When the operator needs to move the lever hoist to the next required location, the bottom hook assembly can be attached to the hoist body preventing dragging the hook through debris.

**Gears:** Gearing is cold forged and permanently lubricated for longevity. Gear case cover includes bushings to support pinion shaft and change gears.

**Mechanical Load Brake:** Weston type multiple disc brake controls load smoothly, holding full capacity loads in any position. Load is not transferred back to handle during handle advancement.

**Load Chain:** Electric welded alloy steel chain is heat treated for strength and wear resistance. Accurately and uniformly sized to seat properly in the deep pockets of the load sheaves.

**Load Block:** The load block supports the load hook permitting hook to swivel 360° under capacity loads. Load block is designed to guide the chain without jamming during normal operation.

**Hooks:** All hooks are drop forged, heat treated steel with spring type latches. Both hooks rotate 360° for easy rigging.

**Options:** Overload clutch, nickel plated load chain and shipyard hooks.

**Specification:** meets ANSI and ASME requirements.

Model Number	Model with Overload	Cap. (Ton)	Std. Lft (ft)	Pull to Lift Full Load (lb)	Dimensions (in)				Load Chain Diameter (in) X Chain Fall Lines	Weight for Add'l 1 ft. of lift (lb)	Net Weight (lb)
					A	B	C	D			
1150410	1150410-OL	3/4	5	66	6.1	4.8	13.0	10.8	.28 x (1)	0.6	15
1150420	1150420-OL	3/4	10	66	6.1	4.8	13.0	10.8	.28 x (1)	0.6	18
1150430	1150430-OL	1 1/2	5	66	6.6	5.6	14.9	15.2	.28 x (1)	0.8	23
1150440	1150440-OL	1 1/2	10	66	6.6	5.6	14.9	15.2	.28 x (1)	0.8	27
1150450	1150450-OL	2	5	88	6.6	5.6	15.5	15.2	.28 x (1)	0.8	24
1150460	1150460-OL	2	10	88	6.6	5.6	15.5	15.2	.28 x (1)	0.8	28
1150470	1150470-OL	3	5	81	7.9	6.8	18.3	15.2	.354 x (1)	1.2	39
1150480	1150480-OL	3	10	81	7.9	6.8	18.3	15.2	.354 x (1)	1.2	45
1150490	1150490-OL	6	5	84	7.9	9.5	24.2	15.2	.354 x (1)	2.4	64
1150500	1150500-OL	6	10	84	7.9	9.5	24.2	15.2	.354 x (2)	2.4	76
1150510	1150510-OL	9	5	86	7.9	13.7	30.5	15.2	.354 x (2)	3.6	123
1150520	1150520-OL	9	10	86 b	7.9	13.7	30.5	15.2	.354 x (3)	3.6	141

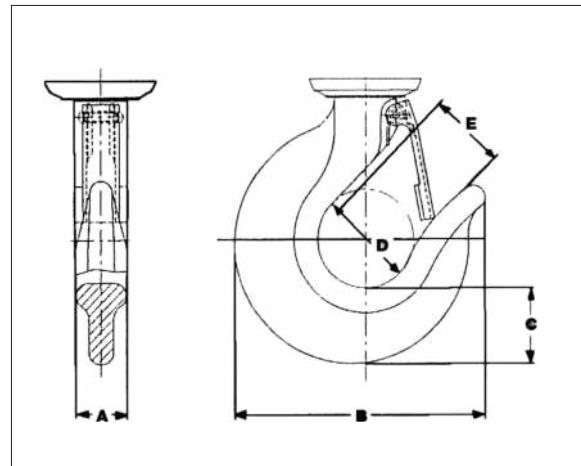
## HOOK DIMENSIONS

### HAND CHAIN HOISTS

Capacity (Ton)	Dimensions (in)				
	A	B	C	D	E
1/2	0.63	2.87	0.79	1.42	1.08
1	0.79	3.39	0.94	1.57	1.12
2	0.94	4.45	1.18	1.97	1.38
3	1.10	5.24	1.65	2.13	1.61
5	1.42	5.98	1.81	2.40	1.73
7 1/2	1.65	7.28	2.60	2.80	1.69
10	2.44	9.29	3.54	3.15	2.03
15	2.56	10.63	3.54	4.33	2.36
20	3.11	12.72	4.65	4.72	3.35

### LEVER HOISTS

Capacity (Ton)	Dimensions (in)				
	A	B	C	D	E
3/4	0.61	2.91	0.74	1.42	0.91
1 1/2	0.85	4.04	1.12	1.69	1.10
2	0.94	4.44	1.24	1.85	1.10
3	1.26	4.95	1.37	2.09	1.34
6	1.46	5.98	1.77	2.44	1.81
9	2.13	9.31	3.31	3.54	2.20



## OPTIONS FOR HAND CHAIN HOISTS

Bronze wheels, nickel plated trolley and hoist body, nickel plated hand and load chain, bronze coated hook and load block.



Bronze wheels, bronze load hook and stainless steel load chain.



Stainless steel load chain, bottom block and hook.

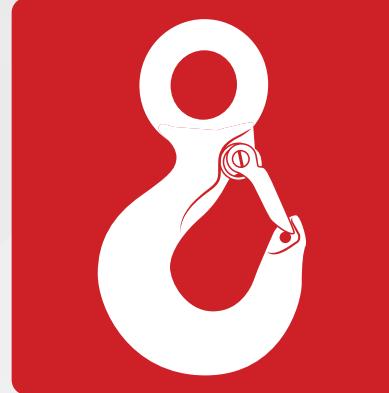


Chain container.



# HOOKS & SWIVELS

Setting the standard for hooks with industry-changing innovations.  
With the most extensive product range in the industry, there's a  
hook for every lift.

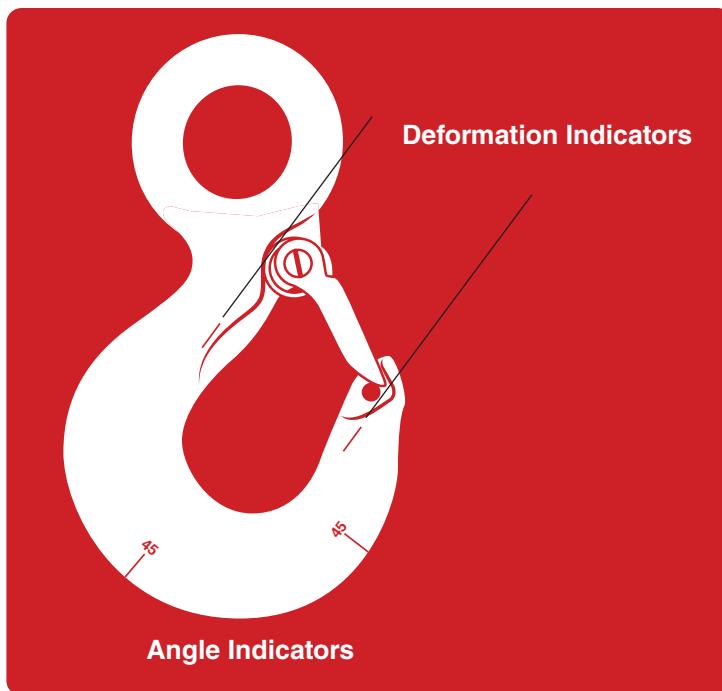


theCrosbygroup<sup>®</sup>

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### CROSBY VALUE ADDED

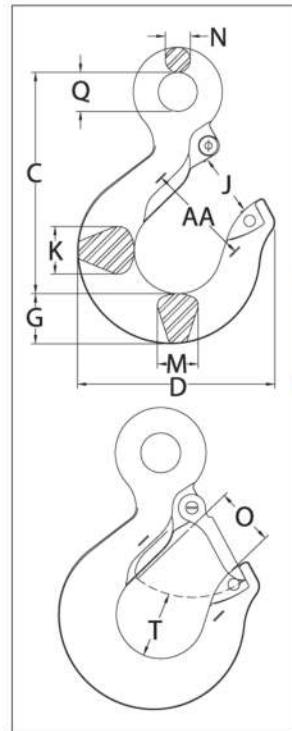
- Application information:** Application and warning information is available for Crosby hooks. The Crosby Warning System is designed to attract the attention of the user, clearly inform the user of the factors involved in the task, and provide the user with proper application procedures. Each Crosby hook is tagged with appropriate application and warning information, thus ensuring that the information is available at the point of application.
- Charpy impact properties:** Crosby's Quenched & Tempered® hooks have enhanced impact properties for greater toughness at all temperatures. Crosby can provide typical Charpy impact properties on selected sizes upon special request at the time of order.
- Fatigue properties:** Typical fatigue properties are available for selected sizes. In addition, these properties will be provided upon special request for other sizes.
- Ductility properties:** Crosby provides results of actual test values for ductility of the material. These results are measured by reduction of area and elongation. This is done for each production lot and is traceable by the Product Identification Code (PIC).
- Tensile strengths:** Crosby provides hardness, tensile, and yield strength for each production lot of hooks, traceable by the PIC.
- Material analysis:** Crosby can provide certified material (mill) analysis for each production lot, traceable by the PIC. Crosby, through its own laboratory, verifies the analysis of each heat of steel. Crosby purchases only special bar forging quality steel with specific cleanliness requirements and guaranteed hardenability.
- Field inspection:** Written instructions for visual, magnaflux, and dye penetrant inspection of hooks are available from Crosby. In addition, acceptance criteria and repair procedures for hooks are available.
- Proof testing:** If requested at the time of order, hooks can be furnished proof tested with certification. All SHUR-LOC® hooks (clevis and eye styles) are 100% proof tested with certificates.
- Magnetic particle certification:** If requested at the time of order, hooks can be magnetic particle inspected with certification.
- World-class certification:** Certification to world standards can be furnished upon request at the time of order. Specific standards include American Bureau of Shipping, Lloyds Register of Shipping, Det Norske Veritas, American Petroleum Institute, RINA, Nuclear Regulatory Commission, and other worldwide standards.
- Bronze hooks:** Crosby provides bronze shank hooks for non-sparking applications.
- QUIC-CHECK®:** Hooks incorporate markings forged into the product which address two QUIC-CHECK features:
  - Deformation Indicators: Two strategically placed marks, one just below the shank or eye and the other on the hook tip, which allows for a QUIC-CHECK measurement to determine if the throat opening has changed, thus indicating abuse or overload.
  - Angle Indicators: Indicates the maximum included angle which is allowed between two sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.
- McKissick® Split-Nut® Hook Retention System:** Shank hooks on crane blocks must be inspected in accordance with applicable ASME B30, CSA Z150, and other crane standards. These standards mandate the crane hook to be inspected for surface indications, damage and corrosion which could compromise the integrity of the crane block. Because of the type of environment in which these hooks are required to perform, the removal of corroded nuts from the threads can become a problem during inspections. The innovative, patented system is available on Crosby shank hooks. With four easy steps, the hook can be disassembled, inspected and put back into service in a fraction of the time of a conventional threaded nut.



L-1327



- For use with wire rope. Suitable for use with Grade 100 and Grade 80 chain. Working load limit needs to be de-rated to achieve a 5:1 design factor.
- Forged alloy steel, Quenched & Tempered.
- Each hook has a Product Identification Code (PIC) for material traceability, along with the size and the name Crosby.
- 25% stronger than Grade 80.
- Eye Sling Hooks incorporate QUIC-CHECK® deformation and angle indicators. (For detailed information, see the Crosby Value Added page at the beginning of this section.)
- When secured with the proper cotter pin through the hole in the tip of hook, meets the intent of OSHA Rule 1926.1431(g) and 1926.1501(g) for personnel lifting.
- Individually Proof Tested to 2.5 times the Working Load Limit with certification.
- Fatigue rated to 20,000 cycles at 1.5 times the Working Load Limit.



Crosby 8/10™ Fatigue Rated™

QUIC-CHECK®

QT

APPLICATION AND WARNING INFORMATION  
SECTION 17**L-1327 Eye Sling Hook**

Grade 100 Alloy Chain Size		Working Load Limit (lb)*	Hook ID Code	Stock No.	Weight Each (lb)	Dimensions (in)												Replacement Latch Stock No.
(in)	(mm)					C	D	G	J	K	M	N	O	Q	T	AA		
-	6	3200	DA	1025860	.50	3.34	2.86	.73	.90	.63	.63	.36	.89	.75	.87	1.50	1096325	
1/4-5/16	7 - 8	5700	HA	1025869	1.3	4.21	3.90	1.03	1.18	.75	.75	.50	1.15	.75	1.16	2.00	1096468	
3/8	10	8800	IA	1025878	2.3	4.99	4.34	1.19	1.53	1.19	1.00	.56	1.40	.94	1.23	2.50	1096515	
1/2	13	15000	JA	1025887	4.5	6.36	5.67	1.44	1.78	1.37	1.17	.72	1.67	1.12	1.88	3.00	1096562	
5/8	16	22600	KA	1025896	8.4	7.43	6.78	1.88	2.38	1.66	1.44	.88	2.08	1.31	2.03	4.00	1096609	
3/4	18-20	35300	KA	1025915	15.0	9.07	7.45	2.25	2.38	1.88	1.63	1.11	2.08	2.44	2.47	4.00	1096609	
7/8	22-23	44100	LA	1025924	20.7	10.08	8.30	2.59	2.50	2.19	1.94	1.27	2.27	2.84	2.62	4.00	1096657	
1	26	59700	NA	1025933	39.5	12.82	10.30	3.00	3.30	2.69	2.38	1.56	3.02	3.50	2.83	5.00	1096704	
1 1/4	32	90400	PA	1025942	105.0	18.19	14.06	4.56	4.25	3.75	3.19	2.00	3.00	4.50	3.88	7.00	1093717	

4:1 Design Factor. \*Deformation indicators.

Hook Ductility: Compare an 'as forged' hook to the superior quality of a Crosby® Quenched & Tempered® hook. Watch video at

### S-319/S-319N



- The most complete line of shank marked hooks. Available 3/4 to 300 metric tons.
- Hook Identification code marked into each hook.
- All carbon and alloy hooks are quenched and tempered.
- Quenched & Tempered.
- Available in carbon steel, alloy steel, and bronze.
- Proper design, careful forging, and precision controlled quench and tempering give maximum strength without excessive weight and bulk.
- Every Crosby Shank Hook has a pre-drilled cam which can be equipped with a latch. Simply purchase the Crosby latch assemblies. Even years after the purchase of the original hook, latch assemblies can be added.
- Type Approval Certification in accordance with ABS 2016 Steel Vessels and ABS Guide for Certification on Cranes available. Certificates available when requested at time of order and may include additional charges.



QUIC-CHECK®  
TYPE APPROVED

TA  
TYPE APPROVED

QT  
TYPE APPROVED

APPLICATION AND WARNING INFORMATION  
SECTION 17

### S-319 / S-319N Shank Hook

Working Load Limit (t)			Hook ID Code	Shank Hooks Stock No.			Shank Length ‡	Weight Each (lb)	Rep. Latch Kits		
Carbon	Alloy	Bronze		Carbon S-319C S-319CN	Alloy S-319A S-319AN	Bronze S-319BN			S-4320 Stock No.	PL Stock No.	SS-4055 Stock No.
0.75	1	.5	†D	1028505	1028701	1028900	Std.	.50	1096325	-	-
1	1.5	.6	†F	1028514	1028710	1028909	Std.	.75	1096374	-	-
1.5	2	1	†G	1028523	1028723	1028918	Std.	1.00	1096421	-	-
2	3	1.4	†H	1028532	1028732	1028927	Std.	1.82	1096468	-	-
3	5	2	†I	1028541	1028741	1028936	Std.	3.69	1096515	1092000	-
5	7	3.5	†J	1028550	1028750	1028945	Std.	7.25	1096562	1092001	-
7.5	11	5	†K	1028563	1028765	1028954	Std.	13.4	1096609	1092002	-
10	15	6.5	†L	1028590	1028792	1028981	Std.	21.9	1096657	1092003	-
15	22	10	†N	1028599	1028801	1028990	Std.	38.4	1096704	1092004	-
20	30	-	O	1024386	1024803	-	Std.	72	-	1093716	1090161
20	30	-	O	1024402	1024821	-	Long	85	-	1093716	1090161
25	37	-	P	1024420	1024849	-	Std.	134	-	1093717	1090189
25	37	-	P	1024448	1024867	-	Long	172	-	1093717	1090189
30	45	-	S	1024466	1024885	-	Std.	182	-	1093718	1090189
30	45	-	S	1024484	1024901	-	Long	214	-	1093718	1090189
40	60	-	T	1024509	1024929	-	Std.	268	-	1093719	1090205
40	60	-	T	1024545	1024965	-	Long	312	-	1093719	1090205
50	75	-	U	1024563	1024983	-	Std.	390	-	1093720	-
50	75	-	U	1024581	1025009	-	Long	426	-	1093720	-
-	100	-	W	-	1025027	-	Std.	610	-	1093721	-
-	100	-	W	-	1025045	-	Long	675	-	1093721	-
-	150	-	X	-	1025063	-	Std.	735	-	1093721	-
-	200	-	Y	-	1025081	-	Std.	1020	-	1093723	-
-	300	-	Z	-	1025090	-	Std.	1390	-	1093724	-

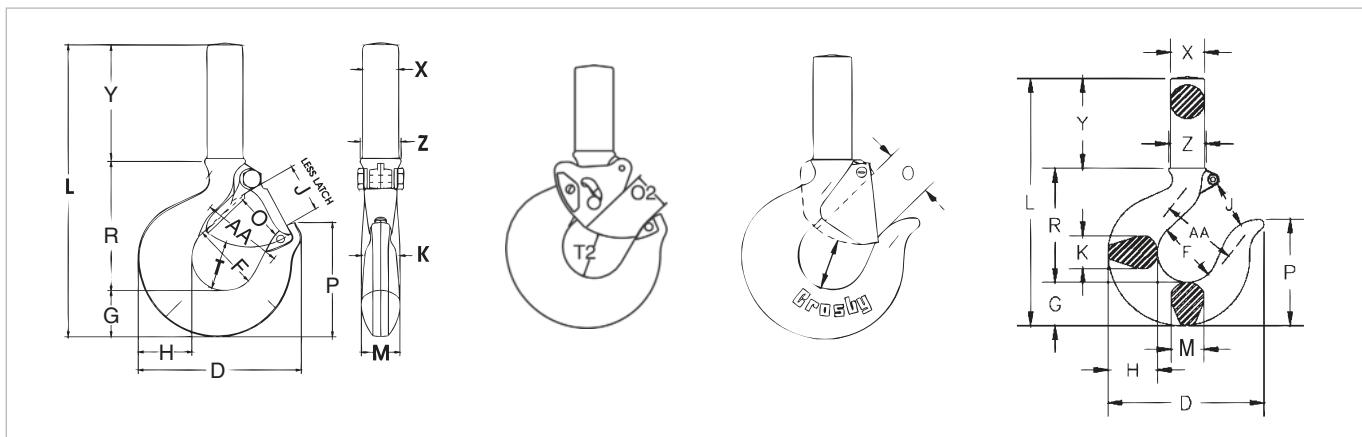
Maximum allowable Proof Load is 2 Times Working Load Limit. All carbon hooks designed with a 5:1 design factor. All alloy hooks 1 through 22t designed with a 4.5:1 design factor. All alloy hooks 30t and larger designed with a 4:1 design factor. All bronze hooks designed with a 4:1 design factor. †New 319N style hook. ‡See column "Y" on following page for actual length.

## S-319/S-319N

- Patented McKissick Split-Nut retention system available.
- Hooks incorporate QUIC-CHECK® deformation and angle indicators. (For detailed information, see the Crosby Value Added page at the beginning of this section.)
- Chemical analysis and tensile tests performed on each PIC to verify chemistry and mechanical properties.



APPLICATION AND WARNING INFORMATION SECTION 17



## S-319 / S-319N Shank Hook

Hook ID Code	Dimensions (in)																	
	D	F	G	H	J	K	L	M	O	O2 ††	P	R	T	T2 ††	X	Y	Z	AA*
†D	2.86	1.25	.73	.81	.93	.63	5.14	.63	.93 †	-	1.96	2.35	.97	-	.59	2.06	.69	1.50
†F	3.16	1.38	.84	.94	.97	.71	5.68	.71	.97 †	-	2.22	2.59	.97	-	.76	2.25	.78	2.00
†G	3.59	1.50	1.00	1.16	1.06	.88	6.35	.88	1.06 †	-	2.44	2.76	1.03	-	.72	2.59	.88	2.00
†H	4.00	1.62	1.14	1.31	1.19	.94	7.14	.94	1.16 †	-	2.78	3.16	1.16	-	.88	2.84	1.00	2.00
†I	4.84	2.00	1.44	1.63	1.50	1.31	8.63	1.13	1.36 †	1.00	3.47	3.85	1.53	1.50	1.16	3.44	1.25	2.50
†J	6.28	2.50	1.82	2.06	1.78	1.66	10.43	1.44	1.61 †	1.31	4.59	4.77	1.96	1.88	1.41	3.84	1.56	3.00
†K	7.54	3.00	2.26	2.63	2.41	1.88	12.52	1.63	2.08 †	1.81	5.25	5.88	2.47	2.25	1.81	4.38	1.94	4.00
†L	8.34	3.25	2.60	2.94	2.62	2.19	16.10	1.94	2.27 †	2.00	5.96	6.37	2.62	2.31	2.00	7.00	2.19	4.00
†N	10.34	4.25	3.01	3.50	3.41	2.69	18.15	2.38	3.02 †	2.75	6.88	8.14	2.83	2.56	2.56	7.00	2.63	5.00
O	13.62	5.00	3.62	4.62	4.00	3.00	23.09	3.00	3.25	-	8.78	9.44	3.44	-	3.12	10.00	3.12	6.50
O	13.62	5.00	3.62	4.62	4.00	3.00	31.09	3.00	3.25	-	8.78	9.44	3.44	-	3.12	18.00	3.12	6.50
P	14.06	5.38	4.56	5.00	4.25	3.62	32.12	3.00	3.00	-	11.31	12.50	3.88	-	4.00	15.00	4.00	7.00
P	14.06	5.38	4.56	5.00	4.25	3.62	41.12	3.00	3.00	-	11.31	12.50	3.88	-	4.00	24.00	4.00	7.00
S	15.44	6.00	5.06	5.50	4.75	3.72	34.12	3.25	3.38	-	12.56	14.00	4.75	-	4.19	15.00	4.19	8.00
S	15.44	6.00	5.06	5.50	4.75	3.72	43.12	3.25	3.38	-	12.56	14.00	4.75	-	4.19	24.00	4.19	8.00
T	18.50	7.00	6.00	6.50	5.75	4.44	36.06	3.91	4.12	-	14.75	15.56	5.69	-	4.50	14.50	4.50	10.00
T	18.50	7.00	6.00	6.50	5.75	4.44	47.56	3.91	4.12	-	14.75	15.56	5.69	-	4.50	26.00	4.50	10.00
U	20.62	7.75	6.69	7.25	6.50	5.25	41.16	4.25	4.88	-	16.53	19.38	6.00	-	5.00	15.00	5.00	11.50
U	20.62	7.75	6.69	7.25	6.50	5.25	49.16	4.25	4.88	-	16.53	19.38	6.00	-	5.00	23.00	5.00	11.50
W	23.00	6.81	8.59	9.88	5.88	5.50	42.12	5.50	4.50	-	17.25	18.41	7.00	-	7.00	15.00	7.00	12.00
W	23.00	6.81	8.59	9.88	5.88	5.50	48.12	5.50	4.50	-	17.25	18.41	7.00	-	7.00	21.00	7.00	12.00
X	24.38	6.75	9.12	10.94	6.00	6.00	45.75	6.00	4.50	-	18.00	18.38	7.00	-	7.25	18.00	7.25	13.00
Y	26.69	7.50	9.75	11.81	6.60	7.00	50.50	7.00	5.00	-	19.75	20.50	8.00	-	8.00	20.00	8.00	13.00
Z	30.12	9.50	10.62	12.94	8.00	7.25	54.69	8.00	6.25	-	22.69	23.50	8.25	-	9.50	20.00	9.50	15.00

Rough as-forged dimension. Shank will not machine to this dimension. Please refer to the warnings &amp; applications section for recommended shank diameter when machining.

\*Deformation indicators. †3/4t carbon through 22t alloy dimensions shown are for S-4320 Latch Kits. Dimensions for "O" frame size and larger are for PL Latch Kits. ††Dimensions are for PL-N latch kits. For the purpose of calculating D/d ratio, utilize dimension M.

### L-320CN Frame Size D-N



- Available in carbon steel and alloy steel.
- Eye hooks are load rated (marked with the Working Load Limit).
- Fatigue rated to 20,000 cycles at 1.5 times the Working Load Limit.
- Chemical analysis and tensile tests performed on each PIC to verify chemistry and mechanical properties.
- Hooks incorporate QUIC-CHECK® deformation and angle indicators. (For detailed information, see the Crosby Value Added page at the beginning of this section.)

### L-320C Frame Size O-T



**Load Rated**    **Fatigue Rated**

**TA**  
TYPE APPROVED

QUIC-CHECK®  
**QC**

**QT**  
QUICK TURNAROUND

APPLICATION AND WARNING INFORMATION  
SECTION 17

### L-320N / L-320 Eye Hooks

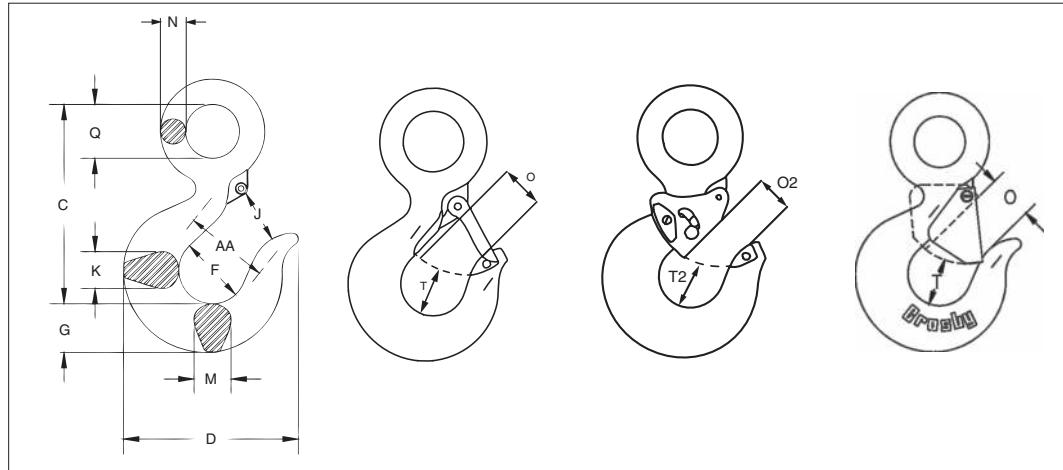
Working Load Limit (t)		Hook ID Code	Eye Hook Stock No.			Weight Each (lb)	Replacement Latch Kits		
Carbon	Alloy		Carbon L-320C L-320CN S.C.	Carbon GL-320CN Galv.	Alloy L-320A L-320AN S.C.		S-4320 Stock No.	PL Stock No.	SS-4055 Stock No.
0.75	1	†D	1022205	1022208	1022380	.61	1096325	-	-
1	1.5	†F	1022216	1022219	1022391	.89	1096374	-	-
1.5	2	†G	1022227	1022230	1022402	1.44	1096421	-	-
2	3	†H	1022238	1022241	1022413	2.07	1096468	-	-
3	5	†I	1022246	1022249	1022424	4.30	1096515	1092000	-
5	7	†J	1022260	1022262	1022435	8.30	1096562	1092001	-
7.5	11	†K	1022271	1022274	1022446	15.00	1096609	1092002	-
10	15	†L	1022282	1022285	1022457	20.77	1096657	1092003	-
15	22	†N	1022293	1022296	1022468	39.50	1096704	1092004	-
20	30	O	1022302	-	1022477	60.00	-	1093716	1090161
25	37	P	1023306	-	1023565	105.00	-	1093717	1090189
40	45	S	1023324	-	1023583	148.00	-	1093718	1090189
40	60	T	1023342	-	1023609	228.00	-	1093719	1090205

All carbon hooks have a 5:1 Design Factor. Alloy eye hooks 1t through 22t have a 5:1 Design Factor. Alloy eye hooks 30t through 60t have a 4.5:1 Design Factor. For 3/4t carbon through 22t alloy eye hooks, Proof Load is 2.5 times Working Load Limit. For 20t carbon through 60t alloy eye hooks, Proof Load is 2 times Working Load Limit.

## L-320AN Frame Size D-N



## L-320AN Frame Size O-T



Load Rated

Fatigue Rated

TA  
TYPE APPROVED

QUIC-CHECK®

Q&T  
Quality Assurance

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SECTION 17

## L-320N / L-320 EYE HOOKS

Hook ID Code*	Dimensions (in)													
	C	D	F	G	J	K	M	N	O†	O2††	Q	T†	T2††	AA**
†D	3.34	2.83	1.25	.73	.90	.63	.63	.36	.89	-	.75	.87	-	1.50
†F	3.81	3.11	1.38	.84	.93	.71	.71	.42	.91	-	.91	.98	-	2.00
†G	4.14	3.53	1.50	1.00	1.00	.88	.88	.55	1.00	-	1.13	1.03	-	2.00
†H	4.69	3.97	1.63	1.13	1.13	.94	.94	.58	1.09	-	1.25	1.16	-	2.00
†I	5.77	4.81	2.00	1.44	1.47	1.31	1.31	.72	1.36	1.00	1.56	1.53	1.50	2.50
†J	7.37	6.27	2.50	1.81	1.75	1.66	1.66	.90	1.61	1.31	2.00	1.96	1.88	3.00
†K	9.07	7.45	3.00	2.25	2.29	1.88	1.63	1.11	2.08	1.81	2.44	2.47	2.25	4.00
†L	10.08	8.30	3.25	2.59	2.50	2.19	1.94	1.27	2.27	2.00	2.84	2.62	2.31	4.00
†N	12.53	10.30	4.25	3.00	3.30	2.69	2.38	1.56	3.02	2.75	3.50	2.83	2.56	5.00
O	14.06	13.62	5.00	3.62	4.00	3.00	3.00	1.75	3.25	-	3.50	3.44	-	6.50
P	18.19	14.06	5.38	4.56	4.25	3.75	3.19	2.00	3.00	-	4.50	3.88	-	7.00
S	20.12	15.44	6.00	5.06	4.75	4.50	3.25	2.18	3.38	-	4.94	4.75	-	8.00
T	23.72	18.50	7.00	6.00	5.75	5.50	3.91	2.53	4.12	-	5.69	5.69	-	10.00

\*Deformation indicators. †3/4t carbon though 22t alloy dimensions shown are for S-4320 Latch Kits. Dimensions for "O" frame size and larger are for PL Latch Kits.

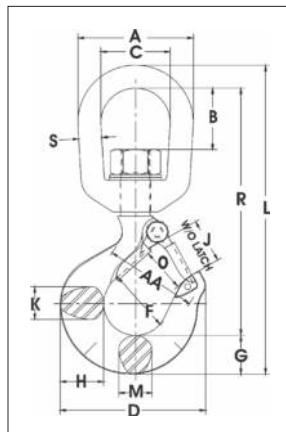
††Dimensions are for PL-N latch kits.

### L-322CN / L-322AN



- Forged, Quenched & Tempered.
- Suitable for positioning of the hook before the load is lifted.
- Swivel hooks are load rated.
- Proper design, careful forging, and precision controlled quench and tempering gives maximum strength without excessive weight and bulk.
- Low profile hook tip designed to utilize Crosby S-4320 or PL-N latch kit.
- Hooks incorporate QUIC-CHECK® deformation and angle indicators. (For detailed information, see the Crosby Value Added page at the beginning of this section.)

Use in corrosive environment requires shank and nut inspection in accordance with ASME B30.10-1.10.4(b)(5)(c).



**Load Rated**

**Fatigue Rated**

**TA**

**QUIC-CHECK®**

**QT**

APPLICATION AND WARNING INFORMATION  
SECTION 17

### L-322CN / L-322AN Swivel Hooks with Latch

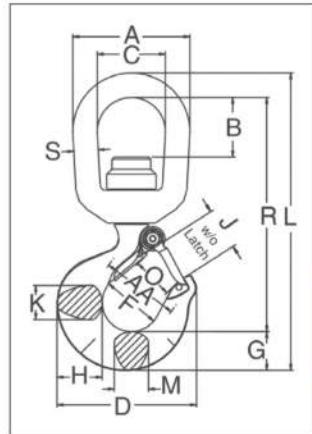
Working Load Limit (t)		Hook ID Code*	L-322CN Stock No.	L-322AN Stock No.	Weight Each (lb)	Dimensions (in)													Rep. Latch Stock No.		
Carbon	Alloy					A	B	C	D	F	G	H	J	K	L	M	O†	R	S	AA*	
0.75	1	D	1048603	1048807	.75	2.00	.82	1.25	2.86	1.25	.73	.81	.93	.63	5.66	.63	.89	4.55	.38	1.50	1096325
1	1.5	F	1048612	1048816	1.25	2.50	1.31	1.50	3.15	1.38	.84	.94	.97	.71	6.71	.71	.91	5.37	.50	2.00	1096374
1.5	2	G	1048621	1048825	2.25	3.00	1.50	1.75	3.59	1.50	1.00	1.16	1.06	.88	7.75	.88	1.00	6.12	.63	2.00	1096421
2	3	H	1048630	1048834	2.30	3.00	1.50	1.75	4.00	1.62	1.13	1.31	1.19	.94	8.25	.94	1.09	6.50	.63	2.00	1096468
3	5	I	1048639	1048840	4.96	3.50	1.64	2.00	4.84	2.00	1.44	1.63	1.50	1.31	9.69	1.13	1.36	7.50	.75	2.50	1096515
5	7	J	1048648	1048859	10.29	4.56	2.29	2.50	6.28	2.50	1.81	2.06	1.78	1.66	12.47	1.44	1.61	9.63	1.00	3.00	1096562
7.5	11	K	1048657	1048868	19.40	5.00	2.44	2.75	7.54	3.00	2.25	2.63	2.41	1.88	14.75	1.63	2.08	11.37	1.13	4.00	1096609
10	15	L	1048666	1048880	23.25	5.62	2.48	3.12	8.34	3.25	2.59	2.94	2.62	2.19	16.40	1.94	2.27	12.25	1.25	4.00	1096657
15	22	N	1048675	1048889	47.00	7.10	3.76	4.10	10.34	4.25	3.00	3.50	3.41	2.69	21.34	2.38	3.02	16.71	1.50	5.00	1096704
-	30	O	-	1048898	70.50	7.10	3.76	4.10	13.62	5.00	3.61	4.63	4.00	3.00	23.25	3.00	3.62	18.01	1.50	6.50	1090161

All carbon swivel hooks have a 5:1 Design Factor and Proof Load is 2 times the Working Load Limit. Alloy swivel hooks 1t through 22t have a 4.5:1 Design Factor and Proof Load is 2.5 times the Working Load Limit. Alloy swivel hooks of 30t capacity have a 4:1 Design Factor and Proof Load is 2 times the Working Load Limit. \*Deformation indicators †Dimensions for hooks 3/4t carbon through 22t alloy are for S-4320 latch kits. Dimensions for hooks 30t alloy are for 4055 latch kit.

L-3322B



- Bearing design allows hook to rotate freely under load.
- Capacities ranging from 2 through 15 metric tons.
- Forged, Quenched & Tempered.
- Low profile hook tip designed to utilize Crosby S-4320 or PL-N latch kit.
- L-3322 hooks incorporate QUIC-CHECK® deformation and angle indicators. (For detailed information, see the Crosby Value Added page at the beginning of this section.)



4



APPLICATION AND WARNING INFORMATION SECTION 17

### L-3322B Swivel Hooks with Bearing

Working Load Limit (t)	Hook ID Code*	Stock No.	Weight Each (lb)	Dimensions (in)																Rep. Latch Stock No.
				A	B	C	D	F	G	H	J	K	L	M	O	R	S	AA*		
2	GA	1028609	2.5	3.00	1.50	1.75	3.59	1.50	1.00	1.16	1.06	.88	7.64	.88	1.00	6.01	.63	2.00	1096421	
3	HA	1028618	3.8	3.50	1.56	2.00	4.00	1.62	1.13	1.31	1.19	.94	8.60	.94	1.09	6.72	.75	2.00	1096468	
5	IA	1028627	7.0	4.00	1.56	2.25	4.84	2.00	1.44	1.63	1.50	1.31	10.32	1.13	1.36	8.00	.88	2.50	1096515	
7	JA	1028636	14.0	5.00	1.94	2.75	6.27	2.50	1.81	2.06	1.78	1.66	12.84	1.44	1.61	9.90	1.13	3.00	1096562	
11	KA	1028645	22.3	5.62	2.05	3.12	7.54	3.00	2.25	2.63	2.41	1.88	15.24	1.63	2.08	11.74	1.25	4.00	1096609	
15	LA	1028654	36.0	7.12	3.62	4.10	8.33	3.25	2.59	2.94	2.62	2.19	18.64	1.94	2.27	14.41	1.50	4.00	1096657	

4.5:1 Design Factor. Maximum allowable proof load is 2.5 times Working Load Limit. \*Deformation indicators.

Ep. 21 Grinding and wear allowance on rigging hardware

## VIDEO PODCAST SERIES

Our experts answer some of your most common safe rigging, lifting, and securement questions in our video podcast series, *Ask the Expert*.

Watch all episodes and submit your questions at [\[redacted\]](#) and subscribe to our YouTube channel to catch every new video as soon as it's released.

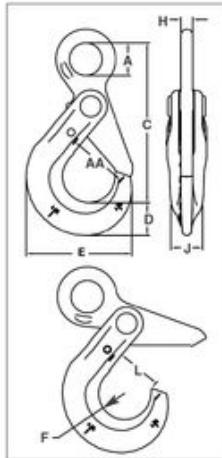
Ep. 31 Crosby Shurloc® Hook inspection requirements

Ep. 5 Hooks: Why the tips must point outward on multiple bridles

# Ask the Expert

VIDEO PODCAST

S-1316

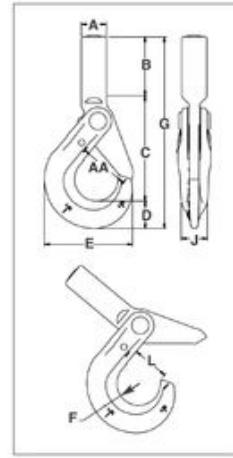


- All SHUR-LOC® hooks have the following features:
  - Forged alloy steel, Quenched & Tempered.
  - Recessed trigger design is flush with the hook body, protecting the trigger from potential damage.
  - Easy to operate with enlarged thumb access.
  - Positive lock latch is self-locking when the hook is loaded.
  - The SHUR-LOC® hook, if properly installed and locked, can be used for personnel lifting applications and meets the intent of OSHA Rule 1926.1431(g)(1)(i)(A) and 1926.1501(g)(4)(iv)(B).
  - Fatigue rated to 20,000 cycles at 1-1/2 times the Working Load Limit.
  - Contact Engineered Solutions for additional threading or Split-Nut options at [thecrosbygroup.com/engineeredsolutions](http://thecrosbygroup.com/engineeredsolutions).
- Eye Style incorporates these added features:
  - Individually Proof Tested to 2-1/2 times the chain Working Load Limit with certification.
  - S-1316 meets the performance requirements of EN1677-3.
  - Suitable for use with Grade 100 and Grade 80 chain.
  - Designed with 'engineered flat' to connect to S-1325 chain coupler.

**Crosby 8/10™** **Fatigue Tested** **QT** **CE**

APPLICATION AND WARNING INFORMATION  
SECTION 17

S-1318A



### S-1316 SHUR-LOC® Eye Hook with Positive Locking Latch

Chain Size		Stock No.	Frame code	Grade 100 Alloy Chain Working Load Limit (lb) 4:1	Working Load Limit (lb) 5:1	Weight Each (lb)	Dimensions (in)									
(in)	(mm)						A	C	D	E	F	H	J	L	AA*	
-	6	1022896	D	3200	2560	.85	.78	3.95	.79	2.60	.67	.31	.63	1.14	1.50	
1/4-5/16	7-8	1022914	G	5700	4560	1.80	1.08	5.31	1.10	3.50	.87	.39	.81	1.48	2.00	
3/8	10	1022923	H	8800	7040	3.40	1.30	6.57	1.17	4.39	1.10	.51	.94	1.83	2.50	
1/2	13	1022932	I	15000	12000	6.00	1.65	8.23	1.67	5.45	1.26	.67	1.16	2.22	3.00	
5/8	16	1022941	J	22600	18000	15.1	2.20	10.06	2.04	6.56	1.50	.87	1.50	2.65	3.50	
3/4	18-20	1022952	-	35300	28240	19.0	2.60	10.77	2.22	7.76	2.01	.87	2.03	3.52	5.00	
7/8	22	1022943	-	42700	34160	28.0	2.87	12.49	2.45	8.75	2.27	.98	2.20	3.83	6.00	
1	26	1022944	-	59700	47760	49.5	3.15	14.60	3.21	9.87	2.46	1.26	2.68	4.09	6.50	

\*Deformation indicators.

### S-1318A SHUR-LOC® Shank Hook

Chain Size		Stock No.	Frame code	Grade 100 Alloy Chain Working Load Limit (lb)	Dimensions (in)										
(in)	(mm)				A†	B	C	D	E	F	G	J	L		
-	6	1098200	D	3200	.79	2.16	3.31	.79	2.60	.67	6.26	.63	1.16	1.50	1.00
1/4-5/16	7-8	1098209	G	5700	1.00	2.40	4.16	1.10	3.51	.87	7.66	.81	1.48	2.00	1.99
3/8	10	1098218	H	8800	1.14	2.95	5.14	1.17	4.39	1.10	9.26	.94	1.83	2.50	3.56
1/2	13	1098227	I	15000	1.34	3.35	6.31	1.67	5.49	1.26	11.33	1.16	2.22	3.00	7.00

4:1 Design Factor based on Grade 100 chain. \*Deformation indicators. †Dimension before machining (as forged).

