



# SHACKLES

With Product Warning and Application Information



G-209

Crosby

"There is No Equal"

The Market Leader: Yesterday Today and Tomorrow



G-2130

## Shackles

### DESIGN

The theoretical reserve capability of carbon shackles should be as a minimum 5 to 1, and alloy shackles a minimum of 5 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. Also important to the design of shackles is the selection of proper steel to support fatigue, ductility and impact properties.

### THE COMPETITION

- Ask:** *What is the Working Load Limit and design factor for shackles?*
- Ask:** *Is deformation upon overloading a critical consideration in their design?*
- Ask:** *Do they jeopardize other properties by having hardness high in order to increase working load or design factor?*

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.

Load Rated®

### CLOSED DIE FORGED

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.

### THE COMPETITION

- Ask:** *Are their shackles closed die forged with close tolerance pin holes?*
- Ask:** *Do their shackles have good fatigue life?*
- Ask:** *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.

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 Rated®

### QUENCHED AND 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 quench and tempering 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.

### THE COMPETITION

- Ask:** *Are their bows and pins quenched and tempered?*
- Ask:** *If not, are they willing to accept the increased risk of inconsistency?*
- Ask:** *If not, why are they willing to accept inferior impact, toughness, and product deformation?*
- Ask:** *Why do many manufacturers not recommend non-heat-treated shackles for overhead lifting?*
- Ask:** *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.

Crosby

All Crosby shackle bows and pins are quenched and tempered, which enhances their performance under cold temperatures and adverse field conditions. Crosby's Quenched and Tempered carbon shackles are recommended for all critical applications including overhead lifting. Alloy shackles are recommended when specific dimensional requirements dictate a size that require higher working load limits. Crosby's Quenched and Tempered 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.

"QT"  
QUENCHED & TEMPERED

### IDENTIFICATION AND APPLICATION INFORMATION

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 and boldly 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.

### THE COMPETITION

- Ask:** *Do they have an active traceability system used in manufacturing?*
- Ask:** *Is the material chemistry independently verified?*
- Ask:** *What training support is provided?*

Crosby

Crosby forges "Crosby" or "CG", the Working Load Limit, and the Product Identification Code (PIC) into each bow and "Crosby" or "CG", and the Product Identification Code (PIC) into each pin of its full line of screw pin, round pin, and bolt type anchor and chain shackles. Seminars conducted by Crosby provide training on the proper use of shackles. Crosby training packets, supplied free to attendees of Crosby seminars, provide training materials needed to explain the proper use of shackles.

QUIC-CHECK®  

\* G-2160 Wide Body Shackles are metric rated at 5 to 1. G-2140 Shackles, 200 ton and above, are rated at 4 to 1 in short tons.

Remember: "When buying Crosby, you're buying more than product, you're buying Quality."



- **Charpy impact properties:** Crosby's Quenched and Tempered shackles 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 Mag 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-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-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-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.



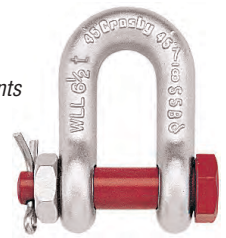
## G-215

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

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. For additional information, see page 475.



### G-215/S-215

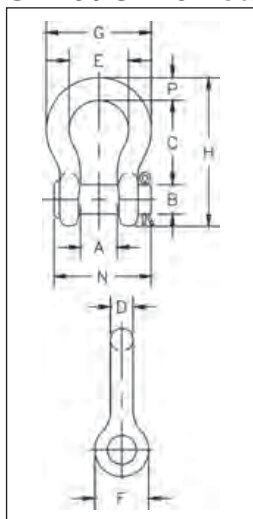
G-215 Round pin chain shackles meet the performance requirements of Federal Specification RR-C-271G Type IVB, Grade A, Class 1, except for those provisions required of the contractor. For additional information, see page 476.

- Capacities 1/2 through 35 metric tons.
- Forged - Quenched and Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Hot Dip galvanized or Self Colored.
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated.
- 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 and Tempered and can meet DNV impact requirements of 42 Joules (31 ft•lbf) at -20 degrees C (-4 degrees F).
- Look for the Red Pin® . . . the mark of genuine Crosby quality.



**SEE APPLICATION INFORMATION**  
On Page 92 of the General Catalog  
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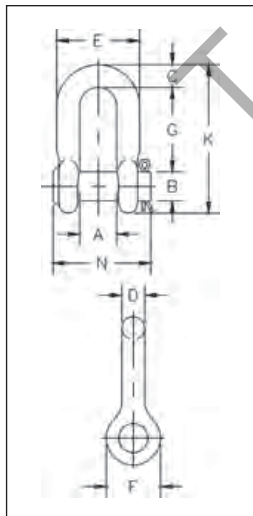
## G-213 / S-213 Round Pin Anchor Shackles



Nominal Size (in)	Working Load Limit (t)*	Stock No.		Weight Each (kg)	Dimensions (mm)											Tolerance +/-	
		G-213	S-213		A	B	C	D	E	F	G	H	N	P	C	A	
1/4	1/2	1018017	1018026	.06	11.9	7.85	28.7	6.35	19.8	15.5	32.5	46.7	34.0	6.35	1.50	1.50	
5/16	3/4	1018035	1018044	.08	13.5	9.65	31.0	7.85	21.3	19.1	37.3	53.0	40.4	7.85	1.50	1.50	
3/8	1	1018053	1018062	.13	16.8	11.2	36.6	9.65	26.2	23.1	45.2	63.0	47.2	9.65	3.30	1.50	
7/16	1-1/2	1018071	1018080	.17	19.1	12.7	42.9	11.2	29.5	26.9	51.5	74.0	54.0	11.2	3.30	1.50	
1/2	2	1018099	1018106	.32	20.6	16.0	47.8	12.7	33.3	30.2	58.5	83.5	60.5	12.7	3.30	1.50	
5/8	3-1/4	1018115	1018124	.68	26.9	19.1	60.5	16.0	42.9	38.1	74.5	106	74.0	17.5	3.30	1.50	
3/4	4-3/4	1018133	1018142	1.05	31.8	22.4	71.5	19.1	51.0	46.0	89.0	126	87.0	20.6	6.35	1.50	
7/8	6-1/2	1018151	1018160	1.58	36.6	25.4	84.0	22.4	58.0	53.0	102	148	96.5	24.6	6.35	1.50	
1	8-1/2	1018179	1018188	2.27	42.9	28.7	95.5	25.4	68.5	60.5	119	167	115	26.9	6.35	1.50	
1-1/8	9-1/2	1018197	1018204	3.16	46.0	31.8	108	28.7	74.0	68.5	131	190	130	31.8	6.35	1.50	
1-1/4	12	1018213	1018222	4.42	51.5	35.1	119	32.8	82.5	76.0	146	210	140	35.1	6.35	1.50	
1-3/8	13-1/2	1018231	1018240	6.01	57.0	38.1	133	36.1	92.0	84.0	162	233	156	38.1	6.35	3.30	
1-1/2	17	1018259	1018268	7.82	60.5	41.4	146	39.1	98.5	92.0	175	254	165	41.1	6.35	3.30	
1-3/4	25	1018277	1018286	13.4	73.0	51.0	178	46.7	127	106	225	313	197	57.0	6.35	3.30	
2	35	1018295	1018302	20.8	82.5	57.0	197	53.0	146	122	253	348	222	61.0	6.35	3.30	

\* NOTE: Maximum Proof Load is 2 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. DO NOT SIDE LOAD ROUND PIN SHACKLES.

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



Nominal Size (in)	Working Load Limit (t)*	Stock No.		Weight Each (kg)	Dimensions (mm)											Tolerance +/-	
		G-215	S-215		A	B	C	D	E	F	G	K	N	G	A		
1/4	1/2	1018810	1018829	.05	11.9	7.85	6.35	6.35	24.6	15.5	22.4	40.4	34.0	1.50	1.50		
5/16	3/4	1018838	1018847	.08	13.5	9.65	7.85	7.85	29.5	19.1	26.2	48.5	40.4	1.50	1.50		
3/8	1	1018856	1018865	.11	16.8	11.2	9.65	9.65	35.8	23.1	31.8	58.5	47.2	3.30	1.50		
7/16	1-1/2	1018874	1018883	.18	19.1	12.7	11.2	11.2	41.4	26.9	36.6	67.5	54.0	3.30	1.50		
1/2	2	1018892	1018909	.23	20.6	16.0	12.7	12.7	46.0	30.2	41.4	77.0	60.5	3.30	1.50		
5/8	3-1/4	1018918	1018927	.55	26.9	19.1	15.7	16.0	58.5	38.1	51.0	95.5	74.0	3.30	1.50		
3/4	4-3/4	1018936	1018945	.91	31.8	22.4	20.6	19.1	70.0	46.0	60.5	115	87.0	6.35	1.50		
7/8	6-1/2	1018954	1018963	1.49	36.6	25.4	24.6	22.4	81.0	53.0	71.5	135	96.5	6.35	1.50		
1	8-1/2	1018972	1018981	2.15	42.9	28.7	25.4	25.4	93.5	60.5	81.0	151	115	6.35	1.50		
1-1/8	9-1/2	1018990	1019007	2.86	46.0	31.8	31.8	28.7	103	68.5	91.0	172	130	6.35	1.50		
1-1/4	12	1019016	1019025	4.08	51.5	35.1	35.1	31.8	115	76.0	100	191	140	6.35	3.30		
1-3/8	13-1/2	1019034	1019043	5.44	57.0	38.1	38.1	35.1	127	84.0	111	210	156	6.35	3.30		
1-1/2	17	1019052	1019061	7.33	60.5	41.4	41.1	38.1	137	92.0	122	230	165	6.35	3.30		
1-3/4	25	1019070	1019089	13.6	73.0	51.0	54.0	44.5	162	106	146	279	197	6.35	3.30		
2	35	1019098	1019105	19.6	82.5	57.0	51.0	53.3	184	122	172	312	222	6.35	3.30		

\* NOTE: Maximum Proof Load is 2 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. DO NOT SIDE LOAD ROUND PIN SHACKLES.



# Crosby® Screw Pin Shackles



## G-209/S-209

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. For additional information, see page 475.

- Capacities 1/3 thru 55 metric tons, grade 6.
- Forged - Quenched and Tempered, with alloy pins.
- Working Load Limit and grade "6" permanently shown on every shackle.
- Hot Dip galvanized or self colored.
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated.
- 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. Proof testing and certification available when requested at the time of order, charges will apply.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- All 209 and 210 shackles can meet charpy requirements of 42 Joules (31 ft•lbf) avg. at -20° C (-4° F) 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.
- Look for the Red Pin® . . . the mark of genuine Crosby quality.



## G-210/S-210

G-210 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. For additional information, see page 452.

Shackles

Load Rated Fatigue Rated



QUIC-CHECK®



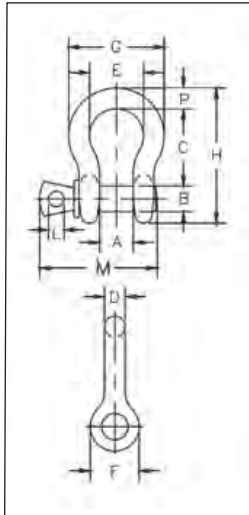
MAXTOUGH®



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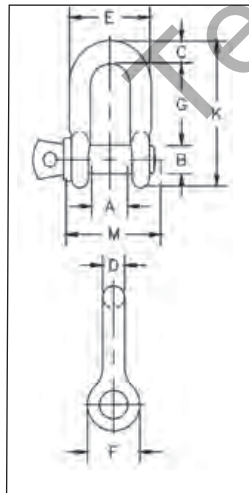
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## G-209 / S-209 Screw Pin Anchor Shackles



Nominal Size (in)	Working Load Limit (t)*	Stock No.		Weight Each (kg)	Dimensions (mm)													Tolerance +/-	
		G-209	S-209		A	B	C	D	E	F	G	H	L	M	P	C	A		
3/16	1/3	1018357	-	.03	9.65	6.35	22.4	4.85	15.2	14.2	24.9	37.3	4.06	28.4	4.85	1.50	1.50		
1/4	1/2	1018375	1018384	.05	11.9	7.85	28.7	6.35	19.8	15.5	32.5	46.7	4.85	35.1	6.35	1.50	1.50		
5/16	3/4	1018393	1018400	.09	13.5	9.65	31.0	7.85	21.3	19.1	37.3	53.0	5.60	42.2	7.85	3.30	1.50		
3/8	1	1018419	1018428	.14	16.8	11.2	36.6	9.65	26.2	23.1	45.2	63.0	6.35	51.5	9.65	3.30	1.50		
7/16	1-1/2	1018437	1018446	.17	19.1	12.7	42.9	11.2	29.5	26.9	51.5	74.0	7.85	60.5	11.2	3.30	1.50		
1/2	2	1018455	1018464	.33	20.6	16.0	47.8	12.7	33.3	30.2	58.5	83.5	9.65	68.5	12.7	3.30	1.50		
5/8	3-1/4	1018473	1018482	.62	26.9	19.1	60.5	16.0	42.9	38.1	74.5	106	11.2	85.0	17.5	6.35	1.50		
3/4	4-3/4	1018491	1018507	1.07	31.8	22.4	71.5	19.1	51.0	46.0	89.0	126	12.7	101	20.6	6.35	1.50		
7/8	6-1/2	1018516	1018525	1.64	36.6	25.4	84.0	22.4	58.0	53.0	102	148	12.7	114	24.6	6.35	1.50		
1	8-1/2	1018534	1018543	2.28	42.9	28.7	95.5	25.4	68.5	60.5	119	167	14.2	129	26.9	6.35	1.50		
1-1/8	9-1/2	1018552	1018561	3.36	46.0	31.8	108	29.5	74.0	68.5	131	190	16.0	142	31.8	6.35	1.50		
1-1/4	12	1018570	1018589	4.31	51.5	35.1	119	32.8	82.5	76.0	146	210	17.5	156	35.1	6.35	1.50		
1-3/8	13-1/2	1018598	1018605	6.14	57.0	38.1	133	36.1	92.0	84.0	162	233	19.1	174	38.1	6.35	3.30		
1-1/2	17	1018614	1018623	7.80	60.5	41.4	146	39.1	98.5	92.0	175	254	20.6	187	41.1	6.35	3.30		
1-3/4	25	1018632	1018641	12.6	73.0	51.0	178	46.7	127	106	225	313	25.4	231	57.0	6.35	3.30		
2	35	1018650	1018669	20.4	82.5	57.0	197	53.0	146	122	253	348	31.0	263	61.0	6.35	3.30		
2-1/2	55	1018678	1018687	38.9	105	70.0	267	69.0	184	145	327	453	35.1	330	79.5	6.35	6.35		

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



Nominal Size (in)	Working Load Limit (t)*	Stock No.		Weight Each (kg)	Dimensions (mm)													Tolerance +/-	
		G-210	S-210		A	B	C	D	E	F	G	K	L	M	G	A			
1/4	1/2	1019150	1019169	.05	11.9	7.85	6.35	6.35	24.6	15.5	22.4	40.4	4.85	35.1	1.50	1.50			
5/16	3/4	1019178	1019187	.08	13.5	9.65	7.85	7.85	29.5	19.1	26.2	48.5	5.60	42.2	1.50	1.50			
3/8	1	1019196	1019203	.13	16.8	11.2	9.65	9.65	35.8	23.1	31.8	58.5	6.35	51.5	3.30	1.50			
7/16	1-1/2	1019212	1019221	.20	19.1	12.7	11.2	11.2	41.4	26.9	36.6	67.5	7.85	60.5	3.30	1.50			
1/2	2	1019230	1019249	.27	20.6	16.0	12.7	12.7	46.0	30.2	41.4	77.0	9.65	68.5	3.30	1.50			
5/8	3-1/4	1019258	1019267	.57	26.9	19.1	15.7	16.0	58.5	38.1	51.0	95.5	11.2	85.0	3.30	1.50			
3/4	4-3/4	1019276	1019285	1.20	31.8	22.4	20.6	19.1	70.0	46.0	60.5	115	12.7	101	6.35	1.50			
7/8	6-1/2	1019294	1019301	1.43	36.6	25.4	24.6	22.4	81.0	53.0	71.5	135	12.7	114	6.35	1.50			
1	8-1/2	1019310	1019329	2.15	42.9	28.7	25.4	25.4	93.5	60.5	81.0	151	14.2	129	6.35	1.50			
1-1/8	9-1/2	1019338	1019347	3.06	46.0	31.8	31.8	28.7	103	68.5	91.0	172	16.0	142	6.35	1.50			
1-1/4	12	1019356	1019365	4.11	51.5	35.1	35.1	31.8	115	76.0	100	191	17.5	156	6.35	1.50			
1-3/8	13-1/2	1019374	1019383	5.28	57.0	38.1	38.1	35.1	127	84.0	111	210	19.1	174	6.35	3.30			
1-1/2	17	1019392	1019409	7.23	60.5	41.4	41.1	38.1	137	92.0	122	230	20.6	187	6.35	3.30			
1-3/4	25	1019418	1019427	12.1	73.0	51.0	54.0	44.5	162	106	146	279	25.4	231	6.35	3.30			
2	35	1019436	1019445	19.2	82.5	57.0	60.0	51.0	184	122	172	312	31.0	263	6.35	3.30			
2-1/2	55	1019454	1019463	32.5	105	70.0	66.5	66.5	238	145	203	377	35.1	330	6.35	6.35			

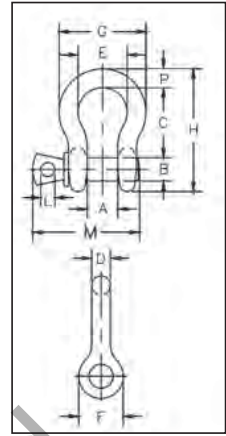
\* NOTE: Maximum Proof Load is 2 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see page 94.



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. For additional information, see page 475.

- Capacities 2 thru 21 metric tons. Meets performance requirements of Grade 8 shackles.
- Forged Alloy Steel – Quenched and Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Hot Dip Galvanized.
- Sizes 3/8 inch and below are 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.



SEE APPLICATION INFORMATION

On Page 92 of the General Catalog  
Para Español: www.thecrosbygroup.com

G-209A Alloy Screw Pin Shackles

Nominal Size (in)	Working Load Limit (t)*	G-209A Stock No.	Weight Each (kg)	Dimensions (mm)											Tolerance +/-	
				A	B	C	D	E	F	G	H	L	M	P	C	A
3/8	2	1017450	.14	16.8	11.2	36.6	9.65	26.2	23.1	45.2	63.5	6.35	51.5	9.65	3.30	1.50
7/16	2-2/3	1017472	.17	19.1	12.7	42.9	11.2	29.5	26.9	51.5	74.0	7.85	60.5	11.2	3.30	1.50
1/2	3-1/3	1017494	.29	20.6	16.0	47.8	12.7	23.3	30.2	58.5	83.5	9.65	68.5	12.7	3.30	1.50
5/8	5	1017516	.63	26.9	19.1	60.5	16.0	42.9	38.1	74.5	106	11.2	85.0	17.5	3.30	1.50
3/4	7	1017538	1.02	31.8	22.4	71.5	19.1	51.0	46.0	89.0	126	12.7	101	20.6	6.35	1.50
7/8	9-1/2	1017560	1.53	36.6	25.4	84.0	22.4	58.0	53.0	102	148	12.7	114	24.6	6.35	1.50
1	12-1/2	1017582	2.41	42.9	28.7	95.5	25.4	68.5	60.5	119	167	14.2	129	26.9	6.35	1.50
1-1/8	15	1017604	3.09	46.0	31.8	108	29.5	74.0	68.5	131	190	16.0	142	31.8	6.35	1.50
1-1/4	18	1017626	4.31	51.5	35.1	119	32.8	82.5	76.0	146	210	17.5	156	35.1	6.35	1.50
1-3/8	21	1017648	6.01	57.0	38.1	133	36.1	92.0	84.0	162	233	19.1	174	38.1	6.35	3.30

\* Maximum Proof Load is 2 times the Working Load Limit (metric tons) and 2.2 times the Working Load Limit (short tons). Minimum Ultimate Strength is 4.5 times the Working Load Limit for metric tonnes, and 5 times the Working Load Limit for short tons. For Working Load Limit reduction due to side loading applications, see page 94.

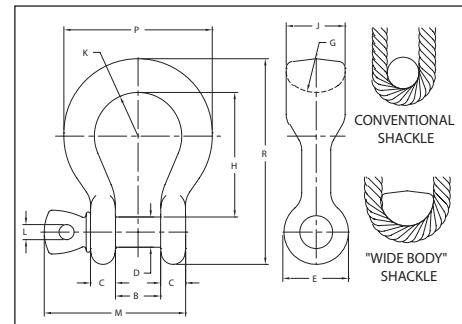


G-2169



S-2169

- Capacities of 7, 12.5 and 18 metric tons.
- Quenched and Tempered for maximum strength.
- Forged Alloy Steel.
- Available in galvanized and self colored finished
- 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.



SEE APPLICATION INFORMATION

On Page 92 of the General Catalog  
Para Español: www.thecrosbygroup.com

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

Working Load Limit (t)*	G-2169 Stock No.	S-2169 Stock No.	Weight Each (kg)	Dimensions (mm)											
				B +/- .25	C	D +/- .02	E	G	H	J	K	L	M	P	R
7	1021655	1021664	7.7	31.8	17.5	22.4	46.2	31.8	90.4	40.6	31.8	12.7	101	104	149
12.5	1021673	1021682	19.4	42.9	23.4	28.7	60.5	34.8	118	54.1	41.4	14.2	130	140	194
18	1021691	1021699	28.7	51.6	29.5	35.1	68.3	38.1	148	63.5	50.8	17.5	159	172	238

\* Ultimate Load is 5 times the Working Load Limit. Proof Load is 2 times the Working Load Limit.

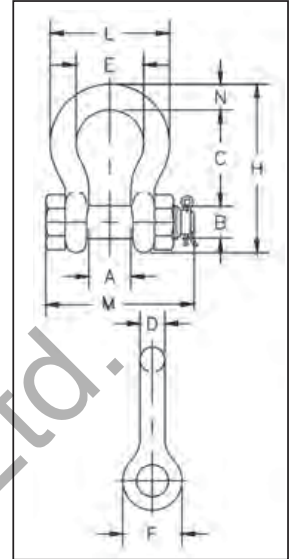
# Crosby® Bolt Type Shackles



## G-2130 / S-2130

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 A, Class 3, except for those provisions required of the contractor. For additional information, see page 475.

- Capacities 1/3 thru 150 metric tons, grade 6.
- Working Load Limit and grade "6" permanently shown on every shackle.
- Forged – Quenched and Tempered, with alloy bolts.
- Hot Dip galvanized or self colored. (85, 120, and 150 metric ton shackles are all hot dip galvanized bows and the bolts are Dimetcoated® and painted red)
- Sizes 3/8 and below are mechanically galvanized.
- Fatigue rated (1/3t - 55t).
- Shackles 25t and larger are **RFID EQUIPPED**.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- 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 DNV2.7-1 and EN13889.
- Crosby 3.25t through 25t G2130OC anchor shackles are type approved to DNV Certification Notes 2.7-1- Offshore Containers. These Crosby shackles are statistical proof and impact tested to 42 Joules (31 ft•lbf) min. avg. at -20° C (-4° F). The tests are conducted by Crosby and 3.1 test certification is available upon request. Refer to page 87 for Crosby COLD TUFF® shackles that meet the additional requirements of DNV rules for certification of lifting applications - Loose Gear.
- All other 2130 shackles can meet charpy requirements of 42 Joules (31 ft•lbf) avg at -20° C (-4° F) when requested at time of order.
- Look for the Red Pin® . . . the mark of genuine Crosby quality.



Shackles



**SEE APPLICATION INFORMATION**  
On Page 92 of the General Catalog  
Para Español: [www.thecrosbygroup.com](http://www.thecrosbygroup.com)

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

Nominal Size (in)	Working Load Limit (t)†	Stock No.			Weight Each (kg)	Dimensions (mm)											Tolerance +/-	
		G-2130	S-2130	G-2130OC		A	B	C	D	E	F	H	L	M	N	C	A	
3/16	1/3 ‡	1019464	–	–	.03	9.65	6.35	22.4	4.85	15.2	14.2	37.3	24.9	32.8	4.85	1.50	1.50	
1/4	1/2	1019466	–	–	.05	11.9	7.85	28.7	6.35	19.8	15.5	46.7	32.5	39.6	6.35	1.50	1.50	
5/16	3/4	1019468	–	–	.10	13.5	9.65	31.0	7.85	21.3	19.1	53.0	37.3	46.2	7.85	1.50	1.50	
3/8	1	1019470	–	–	.15	16.8	11.2	36.6	9.65	26.2	23.1	63.0	45.2	55.1	9.65	3.30	1.50	
7/16	1-1/2	1019471	–	–	.22	19.1	12.7	42.9	11.2	29.5	26.9	74.0	51.5	63.8	11.2	3.30	1.50	
1/2	2	1019472	1019481	–	.36	20.6	16.0	47.8	12.7	33.3	30.2	83.5	58.5	71.1	12.7	3.30	1.50	
5/8	3-1/4	1019490	1019506	1262013	.62	26.9	19.1	60.5	16.0	42.9	38.1	106	74.5	90.4	17.5	3.30	1.50	
3/4	4-3/4	1019515	1019524	1262022	1.23	31.8	22.4	71.5	19.1	51.0	46.0	126	89.0	105	20.6	6.35	1.50	
7/8	6-1/2	1019533	1019542	1262031	1.79	36.6	25.4	84.0	22.4	58.0	53.0	148	102	122	24.6	6.35	1.50	
1	8-1/2	1019551	1019560	1262040	2.28	42.9	28.7	95.5	25.4	68.5	60.5	167	119	137	26.9	6.35	1.50	
1-1/8	9-1/2	1019579	1019588	1262059	3.75	46.0	31.8	108	28.7	74.0	68.5	190	131	150	31.8	6.35	1.50	
1-1/4	12	1019597	1019604	1262068	5.31	51.5	35.1	119	31.8	82.5	76.0	210	146	170	35.1	6.35	1.50	
1-3/8	13-1/2	1019613	1019622	1262077	7.18	57.0	38.1	133	35.1	92.0	84.0	233	162	183	38.1	6.35	3.30	
1-1/2	17	1019631	1019640	1262086	8.62	60.5	41.4	146	38.1	98.5	92.0	254	175	196	41.1	6.35	3.30	
1-3/4	25	1019659	1019668	1262095	15.4	73.0	51.0	178	44.5	127	106	313	225	246	57.0	6.35	3.30	
2	35	1019677	1019686	–	23.7	82.5	57.0	197	51.0	146	122	348	253	275	61.0	6.35	3.30	
2-1/2	55	1019695	1019702	–	44.6	105	70.0	267	66.5	184	145	453	327	345	79.5	6.35	6.35	
3	† 85	1019711	–	–	70	127	82.5	330	76.0	200	165	546	365	384	92.0	6.35	6.35	
3-1/2	† 120 ‡	1019739	–	–	120	133	95.5	372	92.0	229	203	626	419	432	105	6.35	6.35	
4	† 150 ‡	1019757	–	–	153	140	108	368	104	254	229	653	468	451	116	6.35	6.35	

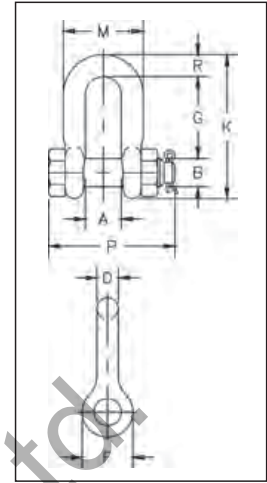
\* NOTE: Maximum Proof Load is 2 times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see page 94. † Individually Proof Tested with certification. ‡ Furnished in Anchor style only and furnished with eyebolts for handling.



**G-2150 / S-2150**

Bolt Type chain shackles with thin hex head bolt - nut with cotter pin. Meets the performance requirements of Federal Specification RR-C 271G, Type IVA, Grade A, Class 3, except for those provisions required of the contractor. For additional information, see page 475.

- Capacities 1/2 thru 85 metric tons, grade 6.
- Working Load Limit and grade "6" permanently shown on every shackle.
- Forged — Quenched and Tempered, with alloy pins.
- Hot Dip galvanized or self colored. (85, 120, and 150-metric ton shackles are all hot dip galvanized bows and the bolts are Dimetcoated® and painted red).
- Sizes 3/8 inch and below are mechanically galvanized.
- Fatigue rated (1/2t - 55t).
- Shackles 25t and larger are **RFID EQUIPPED**.
- Approved for use at -40° C (-40 degrees F) to 204° C (400° F).
- 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 certificate to designated standards, such as ABS, DNV, Lloyds, or other certification where 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 available. Certificates available when requested at time of order and may include additional charges.
- All 2150 shackles can meet charpy requirements of 42 Joules (31 ft•lbf) avg at -20° C (-4° F) upon special request.
- Look for the Red Pin® . . . the mark of genuine Crosby quality.



**SEE APPLICATION INFORMATION**  
 On Page 92 of the General Catalog  
 Para Español: www.thecrosbygroup.com

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

Nominal Size (in)	Working Load Limit (t)*	Stock No.		Weight Each (kg)	Dimensions (mm)									Tolerance +/-	
		G-2150	S-2150		A	B	D	F	G	K	M	P	R	G	A
1/4	1/2	1019768	-	.06	11.9	7.85	6.35	15.5	19.1	40.4	24.6	39.6	6.35	1.50	1.50
5/16	3/4	1019770	-	.10	13.5	9.65	7.85	19.1	25.4	48.5	29.5	46.2	7.85	1.50	1.50
3/8	1	1019772	-	.15	16.8	11.2	9.65	23.1	31.0	58.5	35.8	55.0	9.65	3.30	1.50
7/16	1-1/2	1019774	-	.22	19.1	12.7	11.2	26.9	36.1	67.5	41.1	63.5	11.2	3.30	1.50
1/2	2	1019775	1019784	.34	20.6	16.0	12.7	30.2	41.4	77.0	46.0	71.0	12.7	3.30	1.50
5/8	3-1/4	1019793	1019800	.67	26.9	19.1	16.0	38.1	51.0	95.5	58.5	89.5	16.0	3.30	1.50
3/4	4-3/4	1019819	1019828	1.14	31.8	22.4	19.1	46.0	60.5	115	70.0	103	20.6	6.35	1.50
7/8	6-1/2	1019837	1019846	1.74	36.6	25.4	22.4	53.0	71.5	135	81.0	120	24.6	6.35	1.50
1	8-1/2	1019855	1019864	2.52	42.9	28.7	25.4	60.5	81.0	151	93.5	135	25.4	6.35	1.50
1-1/8	9-1/2	1019873	1019882	3.45	46.0	31.8	28.7	68.5	91.0	172	103	150	31.8	6.35	1.50
1-1/4	12	1019891	1019908	4.90	51.5	35.1	31.8	76.0	100	191	115	165	35.1	6.35	1.50
1-3/8	13-1/2	1019917	1019926	6.24	57.0	38.1	35.1	84.0	111	210	127	183	38.1	6.35	3.30
1-1/2	17	1019935	1019944	8.39	60.5	41.4	38.1	92.0	122	230	137	196	41.1	6.35	3.30
1-3/4	25	1019953	1019962	14.2	73.0	51.0	44.5	106	146	279	162	230	54.0	6.35	3.30
2	35	1019971	1019980	21.2	82.5	57.0	51.0	122	172	312	184	264	60.0	6.35	3.30
2-1/2	55	1019999	1020004	38.6	105	70.0	66.5	145	203	377	238	344	66.5	6.35	6.35
3	† 85	1020013	-	56	127	82.5	76.0	165	216	429	279	419	89.0	6.35	6.35

\* NOTE: Maximum Proof Load is 2. times the Working Load Limit. Minimum Ultimate Strength is 6 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see page 94. † Individually Proof Tested with certification



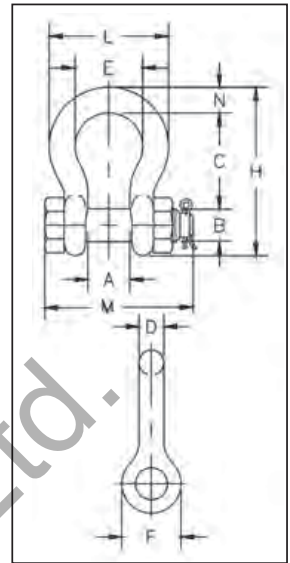
# Crosby® Bolt Type Shackles



**G-2130A**

Bolt Type Anchor shackles with thin head bolt – nut with cotter pin. Meets the performance requirements of Federal Specification R-C-271G, Type IVA, Grade B, Class 3, except for those provisions required of the contractor. For additional information, see page 475.

- Capacities 2 to 17 metric tons.
- Meets or exceeds all requirements of Grade 8 shackles.
- Working Load Limit permanently shown on every shackle.
- Forged Alloy Steel – Quenched and Tempered, with bow and bolt.
- 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 O fshore Containers.
- Shackles are Quenched and Tempered and meet DNV impact requirements of 42 Joules (31 ft•lbf) at -40° C (-40° F).



Shackles



**SEE APPLICATION INFORMATION**  
On Page 92 of the General Catalog  
Para Español: [www.thecrosbygroup.com](http://www.thecrosbygroup.com)

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

Nominal Size (in)	Working Load Limit (t)*	G-2130A Stock No.	Weight Each (kg)	Dimensions (mm)										Tolerance +/-	
				A	B	C	D	E	F	H	L	M	N	C	A
1/2	2	1219472	.36	20.6	16.0	47.8	12.7	33.3	30.2	83.5	58.5	71.1	12.7	3.30	1.50
5/8	3-1/4	1219491	.62	26.9	19.1	60.5	16.0	42.9	38.1	106	74.5	90.4	17.5	6.35	1.50
3/4	4-3/4	1219516	1.23	31.8	22.4	71.5	19.1	51.0	46.0	126	89.0	105	20.6	6.35	1.50
7/8	6-1/2	1219534	1.79	36.6	25.4	84.0	22.4	58.0	53.0	148	102	122	24.6	6.35	1.50
1	8-1/2	1219552	2.28	42.9	28.0	95.5	25.4	68.5	60.5	167	119	137	26.9	6.35	1.50
1-1/8	9-1/2	1219578	3.75	46.0	31.8	108	28.7	74.0	68.5	190	131	150	31.8	6.35	1.50
1-1/4	12	1219598	5.31	51.5	35.1	119	31.8	82.5	76.0	210	146	170	35.1	6.35	1.50
1-3/8	13-1/2	1219614	7.18	57.0	38.1	133	35.1	92.0	84.0	233	162	183	38.1	6.35	3.30
1-1/2	17	1219632	8.62	60.5	41.4	146	38.1	98.5	92.0	254	175	196	41.1	6.35	3.30

\* NOTE: Maximum Proof Load is 2 times the Working Load Limit. Minimum Ultimate Strength is 8 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see page 94.



### Testing the Limits

In 2013, Sir Ranulph Fiennes and five colleagues set out to test the limits of human endurance and achieve the feat of becoming the first individual to cross the continent of Antarctica in winter. As a proud partner in this endeavor, Crosby provided its full range of COLD TUFF® products, which are specifically manufactured to function in extreme environments such as those encountered throughout the expedition—including temperatures as low as -90° C.

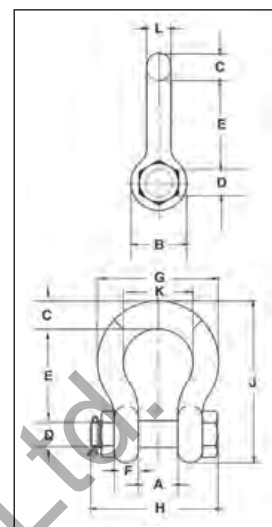




**G-2140 / S-2140**

G-2140 meets the performance requirements of Federal Specification RR-C-271F, Type IVA, Grade B, Class 3, except for those provisions required of the contractor. For additional information, see page 475.

- Quenched and Tempered.
- Alloy bows, Alloy bolts.
- Forged Alloy Steel 2 thru 200 metric tons. Cast Alloy Steel 250 thru 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 or self colored with bolts that are galvanized and painted red.
- Sizes 3/8 inch and below are mechanically galvanized.
- 120, 150, 175 metric ton shackle bows are hot-dip galvanized; bolts are Dimetcoated and painted red.
- 400 metric ton shackle bows are Dimetcoated; bolts are Dimetcoated 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 and Tempered and can meet DNV impact requirements of 42 Joules (31 ft•lbf) at -20° C (-4° F).
- All sizes are individually proof tested to 2.0 times the Working Load Limit.
- Refer to page 87 for Crosby COLD TUFF® shackles that meet the additional requirements of DNV rules for certification of lifting applications - Loose Gea .
- 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 orde .
- Meets or exceeds all requirements of ASME B30.26 including identification, ductilit , 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 available. Certificates available when requested at time of order and may include additional charges.
- Look for the Red Pin® . . . the mark of genuine Crosby quality.



QUIC-CHECK®



**SEE APPLICATION INFORMATION**

On Page 92 of the General Catalog  
Para Español: www.thecrosbygroup.com

**G-2140 / S-2140 Crosby® Alloy Bolt Type Anchor Shackles**

Nominal Shackle Size (in)	Working Load Limit (t)*	Stock No.			Weight Each (kg)	Dimensions (mm)											Tolerance +/-	
		G-2140	S-2140	G-2140OC		A	B	C	D +/- .5	E	F	G	H	J	K	L	A	E
3/8	2	1021015	-	-	0.15	16.8	23.1	9.7	11.2	36.6	9.7	45.2	55.1	63.2	26.2	9.7	1.5	3.3
7/16	2 2/3	1021020	-	-	0.22	19.1	26.9	11.2	12.7	42.9	10.4	51.6	63.8	73.9	29.5	11.2	1.5	3.3
1/2	3 1/3	1021029	-	-	0.36	20.6	30.2	12.7	16.3	47.8	11.7	58.7	71.1	83.3	33.3	12.7	1.5	3.3
5/8	5	1021038	-	-	0.76	26.9	38.1	17.5	19.6	60.5	14.7	74.7	90.4	106.4	42.9	16.0	1.5	3.3
3/4	7	1021047	-	-	1.23	31.8	46.0	20.6	22.6	71.4	17.5	88.9	105.4	126.2	50.8	19.1	1.5	6.4
7/8	9 1/2	1021056	-	-	1.79	36.6	53.1	24.6	25.9	84.1	20.6	102.4	122.4	148.1	57.9	22.4	1.5	6.4
1	12 1/2	1021065	-	-	2.57	42.9	60.5	26.9	29.2	95.3	23.4	119.1	136.9	166.6	68.3	25.4	1.5	6.4
1 1/8	15	1021074	-	-	3.75	46.0	68.3	31.8	31.8	108.0	26.4	131.1	149.9	189.7	73.9	28.7	1.5	6.4
1 1/4	18	1021083	-	-	5.31	51.6	76.2	35.1	35.6	119.1	29.5	146.1	169.9	209.6	82.6	32.8	1.5	6.4
1 3/8	21	1021092	-	-	7.18	57.2	84.1	38.1	38.9	133.4	32.5	162.1	183.1	232.7	92.2	36.1	3.3	6.4
1-1/2	30	1021110	1021129	1262407	8.52	60.5	91.9	41.1	41.4	146	35.3	175	196	254	98.6	38.9	3.3	6.4
1-3/4	40	1021138	1021147	1262416	15.4	73.2	106	57.2	50.8	178	44.5	224	237	313	127	46.7	3.3	6.4
2	55	1021156	1021165	1262425	23.6	82.6	122	61.0	57.2	197	50.8	258	264	347	146	52.8	3.3	6.4
2-1/2	85	1021174	1021183	1262434	43.5	105	148	79.2	69.9	267	66.5	324	345	455	184	68.8	6.4	6.4
3	120	1021192	-	1262443	81	127	165	92.2	82.6	330	76.2	371	384	546	200	79.2	6.4	6.4
3-1/2	† 150	1021218	-	1262452	120	133	203	111	95.3	372	95.3	432	448	632	229	91.9	6.4	6.4
4	† 175	1021236	-	1262461	153	140	229	116	108	368	102	457	517	652	254	102	6.4	6.4
4 3/4	† 200	1021234	-	-	209	184	267	127	121	386	116	529	611	706	279	121	6.35	6.35
5	† 250	1021243	-	-	276	216	305	143	127	470	123	600	632	828	330	127	4.0	1.80
6	† 300	1021252	-	-	362	213	330	154	152	475	124	629	666	871	330	149	4.0	1.80
7**	† 400	1021478	-	-	500	210	356	184	178	572	165	660	728	1022	330	152	6.4	6.4

\* Note: Maximum Proof Load is 2 times the Working Load Limit. Minimum Ultimate Load is 4.5 times the Working Load Limit on 2 thru 21 metric tons. For sizes 30 thru 175 metric tons, Minimum Ultimate Load is 5.4 times the Working Load Limit for 200 thru 400 metric tons, Minimum Ultimate Load is 4. times the Working Load Limit. \*\* Cast Alloy Steel.

† Furnished with Round Head Bolts with an handle for handling. For Working Load Limit reduction due to side loading applications, see page 94.



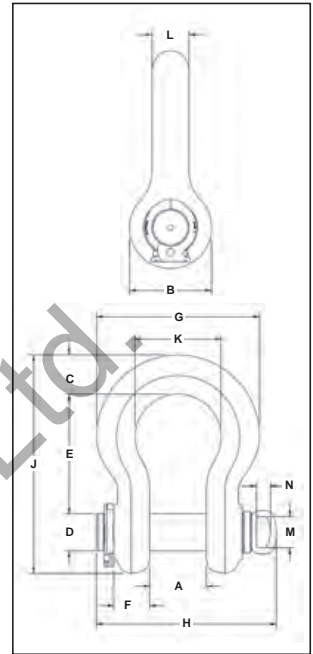
# Crosby® Alloy Easy-Loc® Shackles



## G-2140E

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. For additional information, see page 475.

- Quenched and Tempered.
- Alloy bows, Alloy bolts.
- Forged Alloy Steel 200 thru 300 metric tons. 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 Dimetcoated®; pins are Dimetcoated and painted red.
- All sizes are larger than 1-1/2 IN, **RFID EQUIPPED**.
- Approved for use at -40° C (-40° F) to 204° C (400° F).
- Shackles are Quenched and Tempered and can meet DNV impact requirements of 42 Joules (31 ft•lbf) at -20° C (-4° F).
- All sizes are individually proof tested to 2.0 times the Working Load Limit.
- Refer to page 87 for Crosby COLD TUFF® shackles that meet the additional requirements of DNV rules for certification of lifting applications - Loose Gear.
- 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.
- Look for the Red Pin® . . . the mark of genuine Crosby quality.



### SEE APPLICATION INFORMATION

On Page 92 of the General Catalog  
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## G-2140E Crosby® Alloy Easy-Loc Shackles

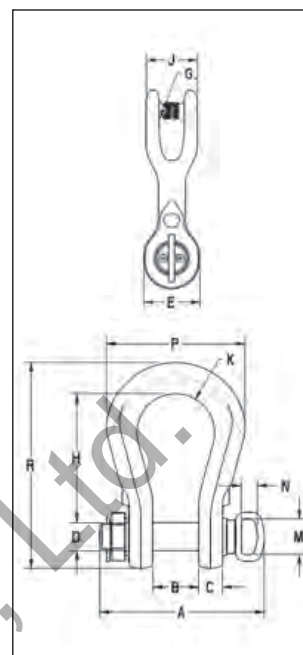
Nominal Shackle Size (in)	Working Load Limit (t)*	Stock No.	Weight Each (kg)	Dimensions (mm)													Tolerance +/-	
				A	B	C	D +/- .5	E	F	G	H	J	K	L	M	N	A	E
4-3/4	† 200	1021475	208	184	267	127	121	386	116	529	587	706	279	121	101	45.7	6.4	6.4
5	† 250	1021484	271	216	305	143	127	470	114	600	617	829	330	127	101	45.7	6.4	6.4
6	† 300	1021493	359	213	330	154	152	475	124	629	646	871	330	149	101	45.7	6.4	6.4

\* Note: Maximum Proof Load is 2 times the Working Load Limit. For 200 thru 400 metric tons, Minimum Ultimate Load is 4 times the Working Load Limit. † Furnished with Round Head Bolts with a handle for handling. For Working Load Limit reduction due to side loading applications, see page 94.



G-2160 / S-2160

- All sizes Quenched and Tempered for maximum strength.
- Forged alloy steel from 7 thru 300 metric tons.
- Cast alloy steel from 400 thru 1550 metric tons.
- Proof tested as follows:
  - 7 thru 75 metric tons and 200 thru 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 thru 55t), are Hot Dip Galvanized and pins are painted red.
- G-2160, (75t and larger), bows are furnished Dimetcoated, and pins are Dimetcoated, then painted red.
- S-2160 bows and pins are painted red.
- Shackles, 30t and larger, are **RFID EQUIPPED**.
- Can be used to connect Synthetic Web Slings, Synthetic Round Slings or Wire Rope Slings.
- Increase in shackle bow radius provides minimum 58% gain in sling bearing surface and eliminates need for a thimble.
- Increases usable sling strength minimum of 15% and greatly improves life of wire rope slings.
- 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 f • lbf) 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.



QUIC-CHECK



SEE APPLICATION INFORMATION

On Page 92 of the General Catalog  
Para Español: www.thecrosbygroup.com

G-2160 / S-2160 Crosby® “Wide Body” Shackles

Working Load Limit (t)*	Stock No.		Weight Each (kg)	Dimensions (mm)														Effective Body Diameter
	G-2160	S-2160		A	+/- 6.35	B	C	+/- .5	D	E	G	H	J	K	M	N	P	
7	1021256	1021548	1.81	105	31.8	17.5	22.4	46.2	31.8	90.4	40.6	31.8	-	-	104	149	53.3	
12.5	1021265	1021557	4.54	137	42.9	23.4	28.7	60.5	34.8	118	54.1	41.4	-	-	140	194	61.0	
18	1021274	1021566	6.8	170	51.6	29.5	35.1	68.3	38.1	148	63.5	50.8	-	-	172	238	71.1	
30	1021283	1021575	11.34	195	60.2	35.1	41.4	88.9	63.5	176	79.5	63.5	-	-	216	289	104	
40	1021285	1021584	20.9	236	73.2	42.9	50.8	102	44.4	205	95.3	76.2	-	-	270	346	91.4	
55	1021287	1021593	32.21	263	82.6	50.8	57.2	118	66.8	238	114	88.9	-	-	311	397	109	
75	1022101	-	51	382	105	53.8	69.9	136	95.3	293	127	92.5	102	45.7	312	474	160	
125	1022110	-	87	450	130	67.6	80.0	165	95.3	365	150	110	102	45.7	393	584	173	
200	1022118	-	191	491	150	74.7	105	214	133	480	217	138	102	45.7	520	773	241	
300	1022127	-	365	574	187	97.5	133	267	156	600	264	160	102	45.7	610	957	290	
400	1021334	-	518	772	220	131	160	320	203	575	320	185	102	45.7	690	985	363	
500	1021343	-	653	849	250	146	180	340	205	630	340	225	102	45.7	790	1085	376	
600	1021352	-	967	916	275	158	200	394	330	700	370	247	146	57.2	865	1200	516	
700	1021361	-	1170	990	300	167	215	433	223	735	400	270	146	57.2	940	1275	422	
800	1021254	-	1372	1059	325	185	230	449	248	750	420	277	146	57.2	975	1323	457	
900	1021389	-	1712	1112	350	198	250	478	330	757	440	293	146	57.2	1025	1387	569	
1000	1021370	-	1850	1169	380	212	270	508	261	760	460	308	146	57.2	1075	1405	490	
1250	1021272	-	2588	1278	432	233	300	573	354	930	530	323	-	-	1175	1660	620	
1550	1021281	-	3650	1588	465	282	320	616	318	1075	580	338	-	-	1316	1896	693	

\*Note: Maximum Proof Load is 2 times the Working Load Limit on 75 thru 300 metric tons (except for 125 metric tons which is proof tested to 1.6 times the Working Load Limit). Minimum Ultimate Load is 5 times the Working Load Limit on 75 thru 300 metric tons. Maximum Proof Load is 1.33 times the Working Load Limit on 400 thru 1550 metric tons. Minimum Ultimate Load is 4.5 times the Working Load Limit on 400 thru 1550 metric tons.

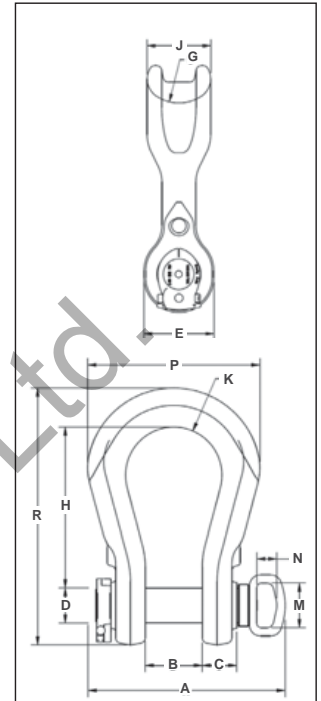


# Crosby® Wide Body Shackles



G-2160E

- All sizes Quenched and Tempered for maximum strength.
- Forged alloy steel from 75 through 300 metric tons.
- Proof tested as follows:
  - 7-75 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 Dimetcoated, and pins are Dimetcoated, then painted red.
- Shackles are **RFID EQUIPPED**.
- Can be used to connect HIGH STRENGTH Synthetic Web Slings, HIGH STRENGTH Synthetic Round Slings or Wire Rope Slings.
- Increase in shackle bow radius provides minimum 58% gain in sling bearing surface and eliminates need for a thimble.
- Increases usable sling strength minimum of 15% and greatly improves life of wire rope slings.
- 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•lbf) 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.



Shackles

Load Rated



QUIC-CHECK



**SEE APPLICATION INFORMATION**  
 On Page 92 of the General Catalog  
 Para Español: [www.thecrosbygroup.com](http://www.thecrosbygroup.com)

## G-2160E Crosby® Easy-Loc “Wide Body” Shackles

Working Load Limit (t)*	Stock No.		Weight Each (kg)	Dimensions (mm)														Effective Body Diameter
	G-2160E	S-2160E		A	B +/- 6.35	C	D +/- .5	E	G	H	J	K	M	N	P	R		
75	1021500	–	49.9	382	105	60.7	69.9	136	95.3	293	127	92.5	102	45.7	321	474	160	
125	1021509	–	86.2	450	130	78.7	80.0	165	95.3	365	150	110	102	45.7	393	584	173	
200	1021518	–	185	491	150	86.1	105	214	133	480	219	138	102	45.7	515	773	241	
300	1021527	–	357	574	187	109	133	267	156	600	264	160	102	45.7	608	953	290	

\*Note: Maximum Proof Load is 2 times the Working Load Limit on 75 thru 300 metric tons (except for 125 metric tons which is proof tested to 1.6 times the Working Load Limit). Minimum Ultimate Load is 5 times the Working Load Limit on 75 thru 300 metric tons.

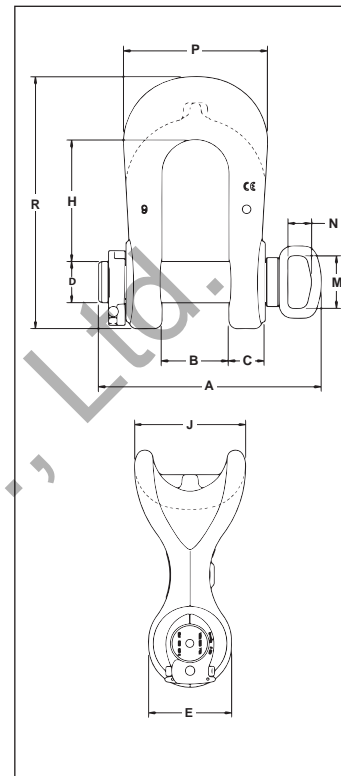


**G-2170**  
Grommet  
Shackle



Scan our QR Code with your smart device to visit the online flyer.

- All sizes Quenched and Tempered for maximum strength.
- All sizes cast alloy steel.
- All ratings are in metric tons, embossed on side of bow.
- G-2170 bows are furnished Dimetcoated and pins are Dimetcoated, then painted red.
- All sizes are **RFID EQUIPPED** in bow and pin.
- Designed for use with single or double large diameter grommets.
- Extra large sling contact area improves efficiency of the grommet sling
- Shackles utilize new Easy-Loc bolt system
- Large machined flat on ears that can be drilled and tapped for adapting other accessories.
- Increases usable sling strength minimum of 60% and greatly improves life of grommet slings.
- Bow and bolt are certified to meet charpy impact testing of 42 Joules (31 ft•lbf) min. avg. at -20° C (-4° F).
- All 2170 shackles are individually proof tested and magnetic particle inspected.
- Shackles requiring ABS, Lloyds, and other certifications are available upon special request and must be specified at time of order.
- All 2170 shackles can meet requirements of DNV Rules for Certification of Lifting Appliances upon special request and must be specified at time of order.
  - Serialization / Identification
  - Material Testing (Physical / Chemical / Charpy)
  - Proof Testing
- Look for the Red Pin®...the mark of genuine Crosby quality.



**SEE APPLICATION INFORMATION**

On Page 92 of the General Catalog  
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## G-2170 Crosby® Grommet Shackles

Working Load Limit (t)*	Stock No.	Weight Each (kg.)	Dimensions (mm)											Effective Body Diameter
	G-2170		A	B +/- 6.35	C	D +/- .5	E	H	J	M	N	P	R	
75	1023147	52.2	382	105	60.7	69.9	140	197	191	102	45.7	238	411	286
125	1023156	81.2	432	130	69.9	80.0	171	236	229	102	45.7	279	489	343
200	1023174	170	491	150	86.1	105	229	296	328	102	45.7	346	635	469
300	1023183	314	574	187	109	133	283	386	394	102	45.7	432	808	578
500	1022119	758	761	250	152	180	349	501	508	102	45.7	584	1053	762

\* Note: Maximum Proof Load is 2 times the Working Load Limit on 75 thru 300 metric tons. Minimum Ultimate Load is 5 times the Working Load Limit on 75 thru 300 metric tons. Maximum Proof Load is 1.33 times the Working Load Limit on 500 metric tons. Minimum Ultimate Load is 4.5 times the Working Load Limit on 500 metric tons.



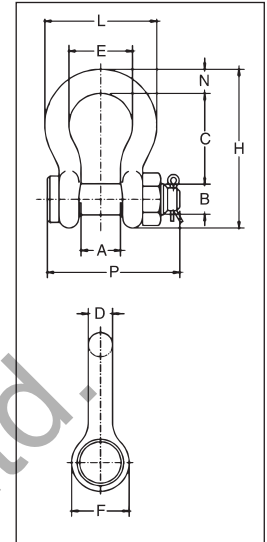
# Crosby® Grommet Shackles



G-2130CT / G-2140CT



- Forged - Quenched and 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 f • lbf) min. avg. at -20° C (-4° F).
- Individually mag inspected with certification
- Type Approval and certification in accordance with DNV 2.7-1 O fshore 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° . May be used at -50°F (-45° C) in non DNV applications.
- Refer to page 167 for COLD TUFF® Master Links and Master Link assemblies.



Shackles



**SEE APPLICATION INFORMATION**  
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## Crosby® G-2130CT COLD TUFF® Shackles

Nominal Shackle Size (in)	Working Load Limit (t)*	G-2130CT Stock No.	Weight Each (kg)	Dimensions (mm)										Tolerance +/-	
				A	B	C	D	E	F	H	L	N	P	A	C
3/4	4-3/4	1260568	1.23	31.8	22.4	71.5	19.1	51.0	46.0	126	89.0	20.6	108	1.50	6.35
7/8	6-1/2	1260577	1.76	36.6	25.4	84.0	22.4	58.0	53.0	148	102	24.6	120	1.50	6.35
1	8-1/2	1260586	2.57	42.9	28.7	95.5	26.2	68.5	60.5	167	119	26.9	137	1.50	6.35
1-1/8	9-1/2	1260595	3.75	46.0	31.8	108	28.7	74.0	68.5	190	131	31.8	150	1.50	6.35
1-1/4	12	1260604	5.31	51.5	35.1	119	32.8	82.5	76.0	210	146	35.1	168	1.50	6.35
1-3/8	13-1/2	1260613	6.85	57.0	38.1	133	35.1	92.0	84.0	233	162	38.1	183	3.30	6.35
1-1/2	17	1260622	9.43	60.5	41.4	146	39.1	98.5	92.0	254	175	41.1	195	3.30	6.35
1-3/4	25	1260633	15.4	73.0	51.0	178	46.7	127	106	313	225	57.0	233	3.30	6.35

Bolt Type Anchor shackle with thin head bolt - nut with cotter pin. Meets the performance requirements of Federal Specification RR-C-271 , Type IVA, Grade A, Class 3, except for those provisions required of the contractor. For additional information, see page 466.



\* NOTE: Maximum Proof Load is 2 times the Working Load Limit. 4-3/4t - 25t, Minimum Ultimate Load is 5.4 times the Working Load Limit. For Working Load Limit reduction due to side loading applications, see page 94.

## Crosby® G-2140CT COLD TUFF® Shackles

Nominal Shackle Size (in)	Working Load Limit (t)*	G-2140CT Stock No.	Weight Each (kg)	Dimensions (mm)										Tolerance +/-	
				A	B	C	D	E	F	H	L	N	P	A	C
1-1/2	30	1260801	9.43	60.5	41.4	146	38.9	98.6	91.9	254	175	41.1	196	3.3	6.4
1-3/4	40	1260812	15.4	73.2	50.8	178	46.7	127	106	313	224	57.2	237	3.3	6.4
2	55	1260823	23.6	82.6	57.2	197	52.8	146	122	347	258	61.0	264	3.3	6.4
2-1/2	85	1260834	43.5	105	69.9	267	68.8	184	148	455	324	79.2	345	6.4	6.4
3	120	1260843	81	127	82.6	330	79.2	200	165	546	371	92.2	384	6.4	6.4
3-1/2	† 150	1260852	120	133	95.3	372	91.9	229	203	632	432	111	448	6.4	6.4
4	† 175	1260861	153	140	108	368	102	254	229	652	457	116	517	6.4	6.4
4-3/4	† 200	1260870	204	184	121	397	114	279	267	743	533	152	539	6.4	6.4
5	† 250	1260889	272	216	127	508	114	330	305	889	622	165	576	6.4	6.4

Bolt Type Anchor shackle 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. For additional information, see page 466.



\* NOTE: Maximum Proof Load is 2 times the Working Load Limit. 30t - 175t, Minimum Ultimate Load is 5.4 times the Working Load Limit. 200t and larger, Minimum Ultimate Load is 4 times the Working Load Limit. † Furnished with Round Head Bolts with welded handle. For Working Load Limit reduction due to side loading applications, see page 94.



# Shackle Bolt Securement MADE EASY

The Patent Pending Easy-Loc V2™ shackle bolt securement system will change the way you make your next critical lift. It's shackle bolt securement made as easy as 1,2,3.

Wide opening ergonomic grip provides easy access for all hand sizes

Both shackle and pin are RFID equipped

316 stainless steel design resists corrosion

The new Easy-Loc V2™ can be retrofitted on all original Crosby Easy-Loc® Shackles

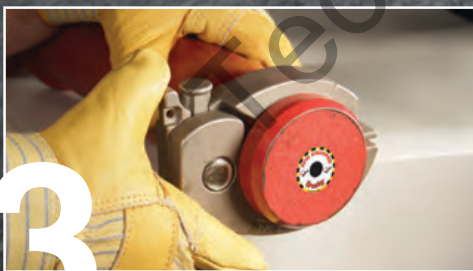
No cotter pin or tools required



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**

Made in the U.S.A.

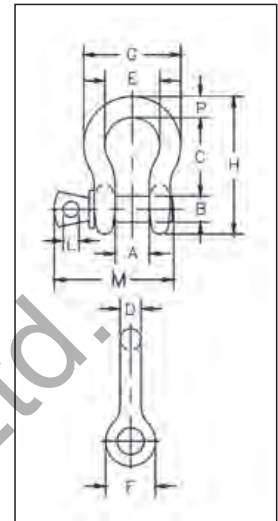
Contact your local authorized Crosby distributor or visit at [thecrosbygroup.com](http://thecrosbygroup.com)





**S-209T  
THEATRICAL  
SHACKLE**

- Sizes: 3/8" through 3/4"
- Capacities: 1 through 4-3/4 metric tonnes.
- Forged - Quenched and Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Flat black baked on powder coat finish
- Fatigue Rated.
- 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.



Shackles

**Load Rated**

**Fatigue Rated**

**"QT"**

**MAXTOUGH**

**QUIC-CHECK**

**SEE APPLICATION INFORMATION**  
On Page 92 of the General Catalog  
Para Español: [www.thecrosbygroup.com](http://www.thecrosbygroup.com)

## S-209T Theatrical Shackles

Nominal Size (in)	Working Load Limit (t)*	S-209T Stock No.	Weight Each (kg)	Dimensions (mm)											Tolerance +/-	
				A	B	C	D	E	F	G	H	L	M	P	C	A
3/8	1	1018706	.14	16.8	11.2	36.6	9.65	26.2	23.1	45.2	63.0	6.35	51.5	9.65	3.30	1.50
7/16	1-1/2	1018724	.17	19.1	12.7	42.9	11.2	29.9	26.9	51.5	74.0	7.85	60.5	11.2	3.30	1.50
1/2	2	1018742	.33	20.6	16.0	47.8	12.7	33.3	30.2	58.5	83.5	9.65	68.5	12.7	3.30	1.50
5/8	3-1/4	1018760	.62	26.9	19.1	60.5	16.0	42.9	38.1	74.5	106	11.2	85.0	17.5	6.35	1.50
3/4	4-3/4	1018778	1.07	31.8	22.4	71.5	19.1	51.0	46.0	89.0	126	12.7	101	20.6	6.35	1.50

\* Minimum Ultimate Load is 6 times the Working Load Limit. Maximum Proof Load is 2.0 times the Working Load Limit.

### **S-209T... The "Crosby"**

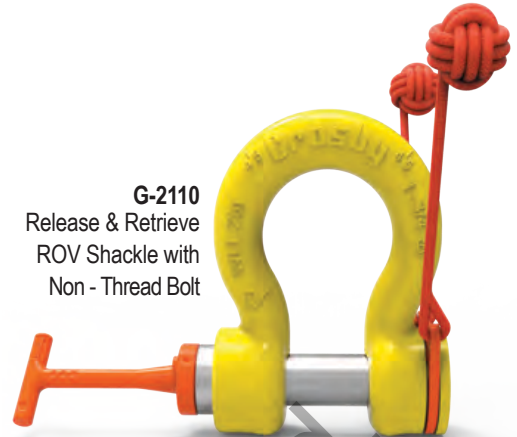
When you're looking for the top-named shackle used for theatrical and stage rigging applications, ask for a "Crosby"—the name synonymous with quality, safety and heavy lifting. The S-209T shackle is enhanced with a flat black baked-on powder coat finish that causes the shackle to blend in with stage surroundings. This guarantees "behind-the-scene" strength and dependability without detracting the eye from on-stage action.



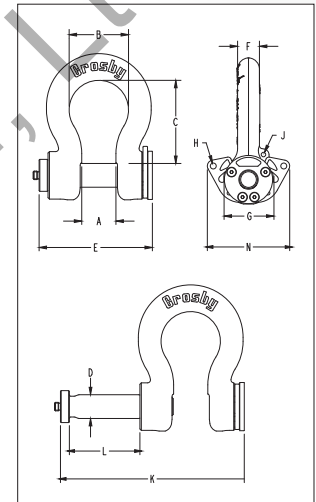
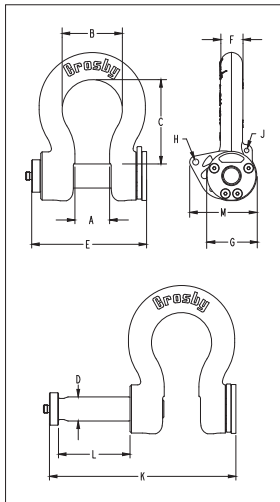




**G-2100**  
Release & Retrieve  
ROV Shackle with  
QUIC-Thread Bolt



**G-2110**  
Release & Retrieve  
ROV Shackle with  
Non - Thread Bolt



- Forged alloy bow with an industry best 6 to 1 performance design factor.
- Patent pending captured bolt can withstand over 2,000 lbs. (907 kg) of pull-out force.
- Galvanized bow with an API RP 17H color compliant coating.
- Galvanized alloy bolt (Non-Threaded) (**G-2110**)
- On average, QUIC-Thread bolt requires only 3.5 rotations for full engagement (**G-2100**)
- Raised pad for serialization.
- API RP 17H compliant 316 stainless steel handles available in T, D, F, and Eye models (sold separately)
- Built in eyelets for optional tether points.
- Monkey fist(s) included
- Capacities from 9-1/2t through 85t.
- Forged Steel, Quenched & Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- **QUIC-CHECK®** deformation and angle indicators forged on the bow.

Load Rated®



**SEE APPLICATION INFORMATION**  
On Page 92 of the General Catalog  
Para Español: www.thecrosbygroup.com

**G-2100 ROV Release & Retrieve Shackle — QUIC-Threaded**

Working Load Limit (t)*	Stock No.	Weight Each (kg)	Dimensions (mm)											
			A	B	C	D	E	F	G	H	J	K	L	N
9.5	2038739	5.1	46.0	73.9	108	31.8	186	29.5	2.68	11.2	7.9	293	107	97.3
12	2038762	6.2	51.6	82.6	119	35.1	197	32.8	3.00	11.2	7.9	311	114	101
17	2038785	10.7	60.5	98.6	146	41.4	217	38.9	3.62	12.7	7.9	349	132	126
25	2038614	17.5	73.2	127	178	50.8	242	46.7	4.20	12.7	9.7	393	151	141
35	2038808	23.3	82.6	146	197	57.9	264	52.8	4.82	12.7	9.7	431	167	149
55	2038831	49	105	184	266	70.6	320	69.1	5.81	12.7	9.7	527	207	191
85	2038877	71	127	200	330	83.3	361	79.2	6.50	12.7	12.7	600	238	199

\*Minimum Ultimate Load is 6 times the Working Load Limit in metric tons. \*Note: Maximum Proof Loads are 2xWLL in metric tons.

**G-2110 ROV Release & Retrieve Shackle — Non-Threaded**

Working Load Limit (t)*	Stock No.	Weight Each (kg)	Dimensions (mm)											
			A	B	C	D	E	F	G	H	J	K	L	N
9.5	2038740	5.2	46.0	73.9	108	31.8	186	29.5	68.1	9.7	7.9	293	107	126
12	2038763	6.3	51.6	82.6	119	35.1	197	32.8	76.2	9.7	7.9	311	114	126
17	2038786	10.8	60.5	98.6	146	41.4	217	38.9	91.9	12.7	7.9	349	132	160
25	2038621	17.5	73.2	127	178	50.8	242	46.7	107	12.7	9.7	393	151	176
35	2038809	23.3	82.6	146	197	57.9	264	52.8	122	12.7	9.7	431	167	176
55	2038832	49	105	184	266	70.6	320	69.1	148	12.7	9.7	527	207	217
85	2038878	71	127	200	330	83.3	361	79.2	165	12.7	12.7	600	238	217

\*Minimum Ultimate Load is 6 times the Working Load Limit in metric tons. \*Note: Maximum Proof Loads are 2xWLL in metric tons.

# Crosby® ROV Shackles

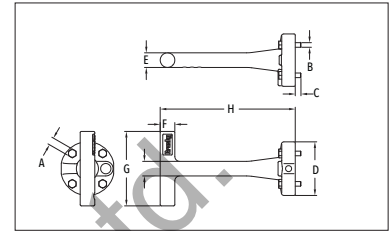
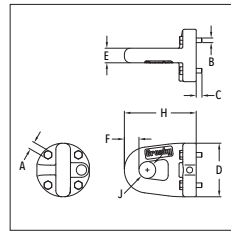
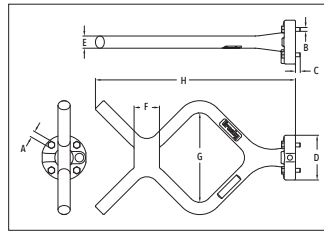
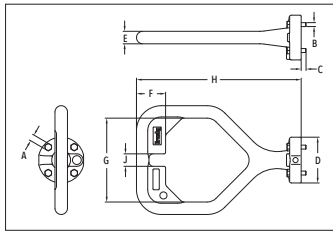


“D” Handle

“F” Handle

“Eye” Handle

“T” Handle



- New Interchangeable handles for ROV shackle bolts.
- For use with G-2100 and G-2110 ROV shackles only.
- Handles are stainless steel and Painted fluorescent orange.
- “D” and “F” handle kits available containing handle, retaining bolts, and individual packet of Loctite for easy installation.
- Handles are RFID equipped.



**NOTE:** ROV Hooks available on page 130 and 131.

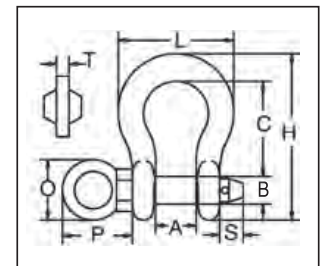
## G-42100H ROV Handles

Handle Style	Stock No.	Weight Each (lb)	Dimensions (in)									
			A	B	C	D	E	F	G	H	J	K
D	1021324	10.0	10	6	7.4	31.8	19.1	44.5	128	251	19.1	–
F	1021315	11.1	10	6	7.4	31.8	19.1	39.6	140	312	–	–
T	1021306	5.4	10	6	7.4	31.8	19.1	19.1	97	176	–	19.1
Eye	1021333	4.7	10	6	7.4	31.8	19.1	19.1	–	93.7	21.8	–



G-209R ROV SHACKLE

- Capacities from 6-1/2t through 55t.
- Forged Steel, Quenched & Tempered, with alloy pins.
- Working Load Limit permanently shown on every shackle.
- Fatigue rated.
- **QUIC-CHECK®** deformation and angle indicators forged on the bow.
- All ROV shackle bows are galvanized, then painted fluorescent yellow.
- Look for the Red Pin® . . . the mark of genuine Crosby quality.



Load Rated

Fatigue Rated

QT

CE



QUIC-CHECK®

**SEE APPLICATION INFORMATION**

On Page 92 of the General Catalog  
Para Español: [www.thecrosbygroup.com](http://www.thecrosbygroup.com)

## G-209R Subsea Shackles

Working Load Limit (t)*	G-209R Stock No.	Weight Each (lb)	Dimensions (in)									
			A +/- .25	B	C	H	L	O	P	S	T	
6-1/2	1020872	3.62	1.44	1.00	3.31	5.83	4.03	1.18	2.28	.65	.39	
8-1/2	1020902	5.03	1.69	1.13	3.75	6.56	4.69	1.18	2.40	.73	.39	
9-1/2	1020932	7.41	1.81	1.25	4.25	7.47	5.16	2.28	3.27	.75	.47	
12	1020952	9.50	2.03	1.38	4.69	8.25	5.75	2.28	3.31	.89	.47	
13-1/2	1020972	13.53	2.25	1.50	5.25	9.16	6.38	2.36	3.58	.91	.59	
17	1020992	17.20	2.38	1.63	5.75	10.00	6.88	2.36	3.66	1.18	.59	
25	1021102	27.78	2.88	2.00	7.00	12.34	8.86	2.16	4.49	1.14	.69	
35	1021125	45.00	3.25	2.25	7.75	13.68	9.97	2.60	5.12	1.18	.79	
55	1021158	85.75	4.13	2.75	10.50	17.84	12.87	2.76	5.63	1.50	.98	

\* Minimum Ultimate Load is 5 times the Working Load Limit. Maximum Proof Load is 2.0 times the Working Load Limit.

## Round Pin Shackles



G/S-213



G/S-215

**Round Pin Shackles** can be used in tie down, towing, suspension or lifting applications where the load is strictly applied in-line. Round pin shackles should never be used in rigging applications to gather multiple sling legs, or where side loading conditions may occur.

## Bolt-Type Shackles



G/S-2130



G/S-2150



G/S-2140



G/S-2160

**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. The bolt-type shackle's secondary securement system, utilizing a nut and cotter, eliminates the requirement to tighten pin before each lift or movement of load.

## Screw Pin Shackles



G/S-209



S-209T



G-209A



G/S-210



S-253



G-2169

**Screw Pin Shackles** are used in Pick and Place\* applications. For permanent or long-term installations, Crosby recommends the use of bolt type shackles.

If you choose to disregard Crosby's recommendation, the screw pin shall be secured from rotation or loosening (Page 93).

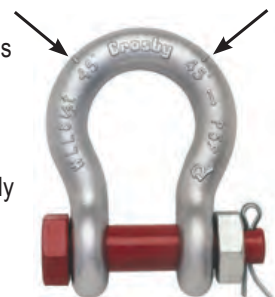
Screw pin shackles can be used for applications involving side-loading circumstances. Reduced working load limits are required for side-loading applications. While in service, do not allow the screw pin to be rotated by a live line, such as a choker application.

\* Pick and Place application: Pick (move) a load and place as required. Tighten screw pin before each pick.

**QUIC-CHECK®** All Crosby Shackles, with the exception of 2160, 2169, 2170, 252 and 253 styles incorporate markings forged into the product that address an easy to use **QUIC-CHECK®** feature. Angle indicators are forged into the shackle bow at 45 degree\*\* angles from vertical. These are utilized on screw pin and bolt type shackles to quickly check the approximate angle of a two-legged hitch, or quickly

check the angle of a single leg hitch when the shackle pin is secured and the pull of the load is off vertical (side loaded), thus requiring a reduction in the working load limit of the shackle.

\*\* Round Pin Shackles utilize the 45 degree **QUIC-CHECK®** indicators to ensure load is applied strictly in-line.



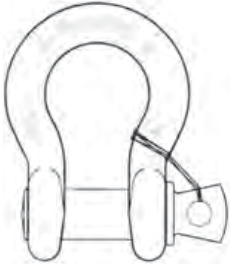
G-2130



**RIGGING PRACTICE SHACKLES**

Screw pin shall be fully engaged. If designed for a cotter pin, it shall be used and maintained. Applied load should be centered in the bow to prevent side loading. Multiple sling legs should not be applied to the pin. If side loaded, the rated load shall be reduced according to Table 1 on pages 94.

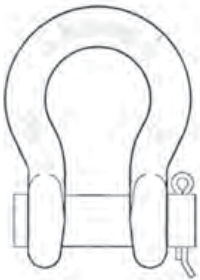
**Screw Pin Shackles Pin Security**



**MOUSE SCREW PIN WHEN USED IN LONG-TERM OR HIGH-VIBRATION APPLICATIONS.**

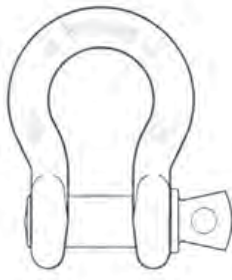
Mouse or Mousing (screw pin shackle) is a secondary securement method used to secure screw pin from rotation or loosening. Annealed iron wire is looped through hole in collar of pin and around adjacent leg of shackle body with wire ends securely twisted together.

**Shackles**



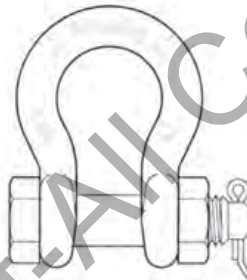
**ROUND PIN**

Do not side load, do not use as a collector ring, always use cotter pin.



**SCREW PIN**

Use when picking and placing a load, tighten pin prior to each lift.



**BOLT-TYPE**

Use in permanent or long-term installations, always use nut and cotter.

**Connection of Slings to Shackles**

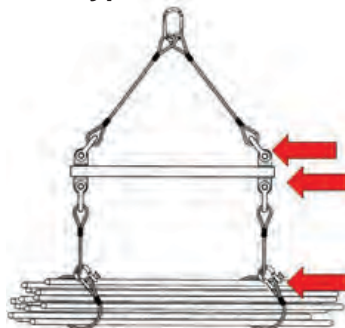


Diameter of shackle must be greater than wire rope diameter if no thimble in eye.



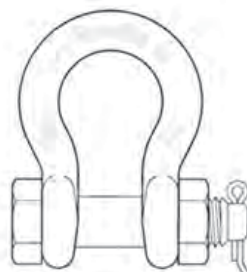
Shackle must be large enough to avoid pinching of synthetic slings.

**Bolt-Type Shackles**



Use Bolt-Type Shackle when a permanent or long-term connection.

Use a screw pin shackle when it will be a temporary connection.



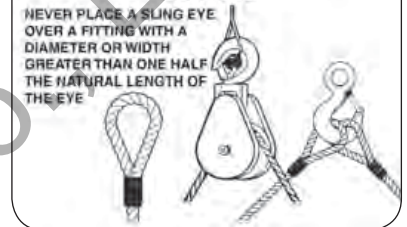
**WIRE ROPE SLINGS AND CONNECTIONS TO FITTINGS**



USE A THIMBLE TO PROTECT SLING AND TO INCREASE D/d

NEVER PLACE EYE OVER A FITTING SMALLER DIAMETER OR WIDTH THAN THE ROPE'S DIAMETER

**WIRE ROPE SLINGS AND CONNECTIONS TO FITTINGS**



NEVER PLACE A SLING EYE OVER A FITTING WITH A DIAMETER OR WIDTH GREATER THAN ONE HALF THE NATURAL LENGTH OF THE EYE

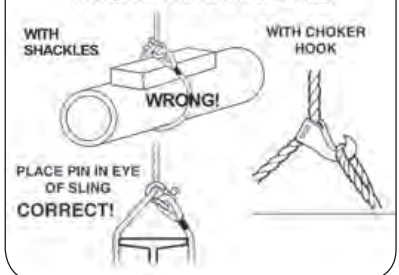
**SYNTHETIC SLINGS RATED LOAD**

FOLDING, BUNCHING OR PINCHING OF SYNTHETIC SLINGS, WHICH OCCURS WHEN USED WITH SHACKLES, HOOKS OR OTHER APPLICATIONS WILL REDUCE THE RATED LOAD



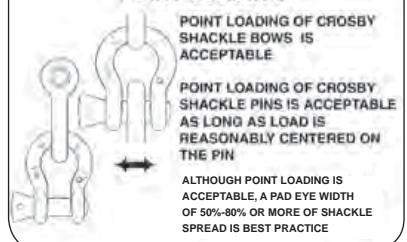
ASME B30.9

**CHOKER HITCH FORMED**



PLACE PIN IN EYE OF SLING CORRECT!

**CROSBY SHACKLES POINT LOADING**



POINT LOADING OF CROSBY SHACKLE BOWS IS ACCEPTABLE

POINT LOADING OF CROSBY SHACKLE PINS IS ACCEPTABLE AS LONG AS LOAD IS REASONABLY CENTERED ON THE PIN

ALTHOUGH POINT LOADING IS ACCEPTABLE, A PAD EYE WIDTH OF 50%-80% OR MORE OF SHACKLE SPREAD IS BEST PRACTICE

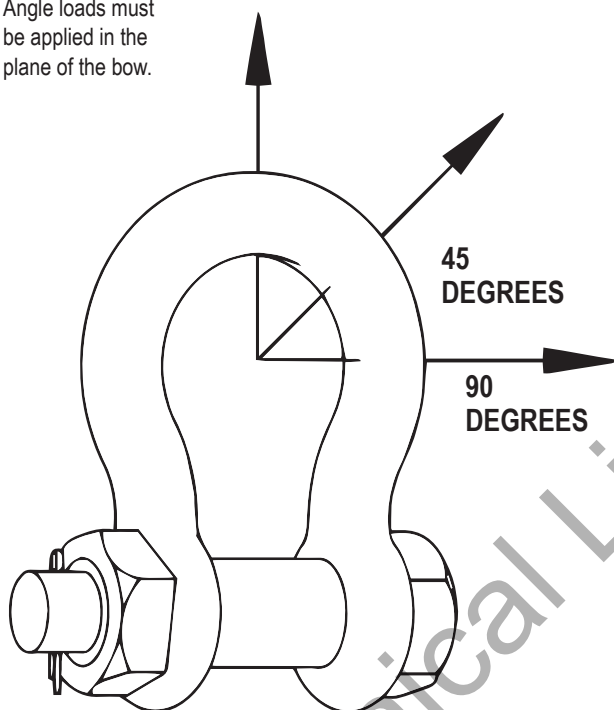
### Point Loading of Crosby Shackles

It has been determined that all Crosby® shackles can be point-to-point loaded to the Working Load Limit without bending of the pin/bolt. This loading can be bow-to-bow, bow-to-pin, or pin-to-pin (if there is not interference between the diameter of the shackle ears). However, caution should be given to maintain the load at the center of the span by spacers so the load will not slide over to one side, and overload that ear. See "Off Center Loading Of Crosby® Screw Pin & Bolt Type Shackles – 3/16" to 3" Sizes"

### Angular Loading Of Crosby® Screw Pin & Bolt Type Shackles

Crosby® has made representative tests with smaller size shackles with the load applied at 90 degrees to the normal plane of loading (ie. in-line). The test results indicated that in order to maintain a proof load of 2 times the Working Load Limit (2 x WLL), the Working Load Limit should be reduced to 50% (ie. one-half the catalog working load rating). DO NOT SIDE LOAD G/S-213 OR G/S-215 ROUND PIN SHACKLES. Calculations based on the above test indicates the Working Load Limit should be reduced as shown below for loads applied at various angles to the normal plane of loading:

Angle loads must be applied in the plane of the bow.



### SIDE LOADED RATING REDUCTION TABLE FOR 3/16" - 3" (120 METRIC TONS)

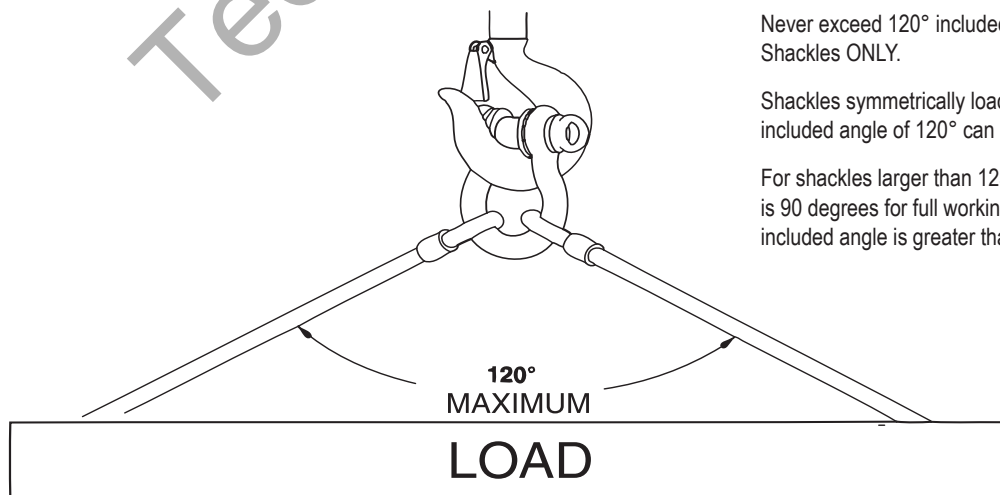
Table 1	
Side Loading Reduction Chart for Screw Pin and Bolt Type Shackles Only+	
Angle of Side Load from Vertical In-Line of Shackle	Adjusted Working Load Limit
0° - 10° In-Line*	0% of Rated Working Load Limit
11° - 20° from In-Line*	15% of Rated Working Load Limit
21° - 30° from In-Line*	25% of Rated Working Load Limit
31° - 45° from In-Line*	30% of Rated Working Load Limit
46° - 55° from In-Line*	40% of Rated Working Load Limit
56° - 70° from In-Line*	45% of Rated Working Load Limit
71° - 90° from In-Line*	50% of Rated Working Load Limit

+ In-Line load is applied perpendicular to pin. \* DO NOT SIDE LOAD ROUND PIN SHACKLE.

Table 1	
SHACKLE SIZE GREATER THAN 3" ANGLE FROM IN-LINE (DEGREES) REDUCTION IN WLL	
0° - 5° In-Line*	0% of Rated Working Load Limit
6° - 10° from In-Line*	15% of Rated Working Load Limit
>10° from In-Line*	ANALYSIS REQ'D.

For shackles larger than 125 metric tons, where the angle of the side load is greater than 5 degrees, contact Crosby Engineering.

### INCLUDED ANGLE - SHACKLES



Never exceed 120° included angle. Use Bolt Type and Screw Pin Shackles ONLY.

Shackles symmetrically loaded with two leg slings having a maximum included angle of 120° can be utilized to full Working Load Limit.

For shackles larger than 125 metric tons, the maximum included angle is 90 degrees for full working load limit. Contact Crosby Engineering if included angle is greater than 90 degrees.