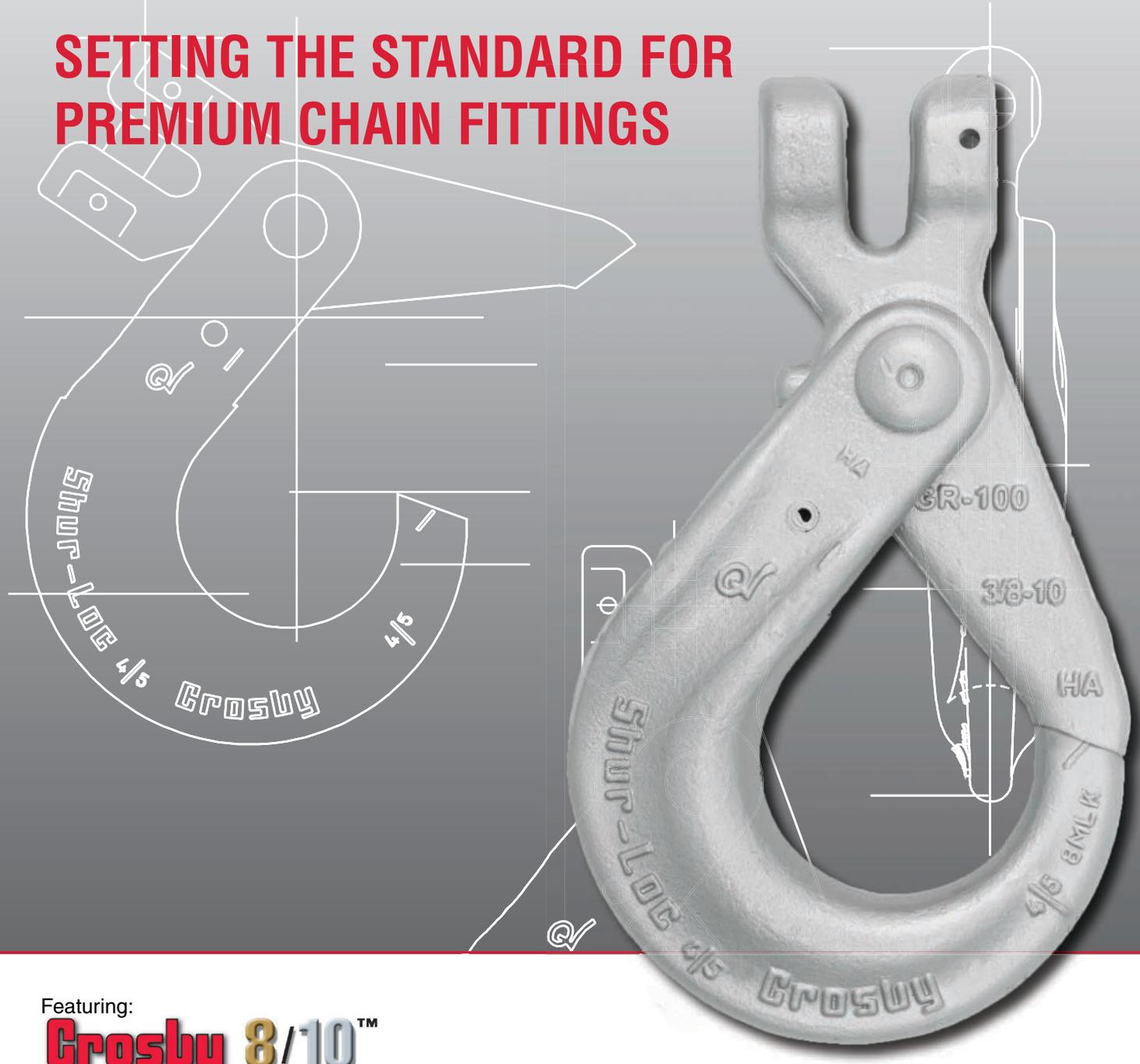


THE PLATINUM LINE

SETTING THE STANDARD FOR PREMIUM CHAIN FITTINGS



Featuring:

Crosby 8/10™

CROSBY SPECTRUM 10® GRADE
100 CHAIN FITTINGS

Crosby®



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Crosby® 8/10 Chain Fittings

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The Market Leader Yesterday, Today and Tomorrow

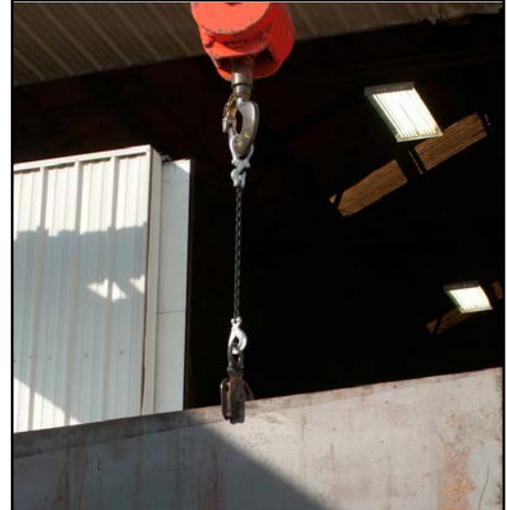
Crosby® Grade 8/10 Chain System

Platinum Line – “Setting the Standard for Premium Chain Fittings”

What does **Crosby 8/10™** mean for you?

It means you have a line of premium chain hardware that ...

- ... is 20% to 25% stronger (size for size) than available Grade 80 fittings.
- ... can be used with either Grade 100 or Grade 80 chain.
- ... in addition to meeting the requirements of the Grade 100 specification, meets the performance, dimensional and functionality requirements of Grade 80.
- ... includes all the performance properties you have come to expect from Crosby Grade 80 fittings as well as other Crosby products.
 - Working Load Limit (meets industry standards)
 - Ductility (allows product to deform when overloaded)
 - Toughness (resistance to crack initiation and growth at all temperatures)
 - Fatigue (ability to withstand repeated applications of the load)



Crosby Grade 100 products achieve the above properties due to careful design. Simply changing the heat treat process to increase the Working Load Limit has the potential of sacrificing the other three properties. For Crosby, that was not an option!

Additional Features



Fatigue Rated®

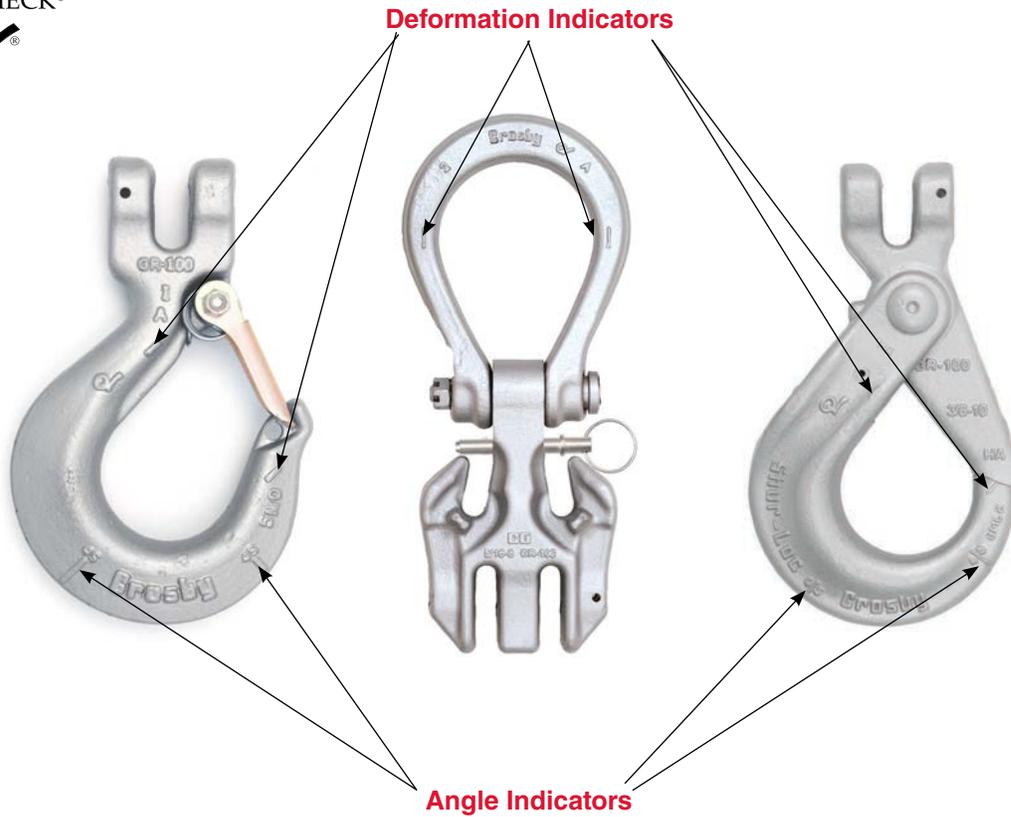


- ✓ Forged Alloy Steel – Quenched and Tempered.
- ✓ Fatigue Rated at 1-1/2 times the Working Load Limit at 20,000 cycles.
- ✓ Individually Proof Tested with Certification.
 - Master links are individually proof tested to values shown for respective product.
 - All other fittings are individually proof tested to 2-1/2 times the Working Load Limit.
- ✓ Sling Hooks incorporate markings forged into the product which address two (2) **QUIC-CHECK®** features – Deformation Indicators and Angle Indicators. (See page 2 for details.)

“Ask for the Platinum Line.”

Crosby® Grade 8/10 Chain System

Many Crosby alloy chain fittings incorporate markings forged into the product which address two (2) **QUIC-CHECK®** features.



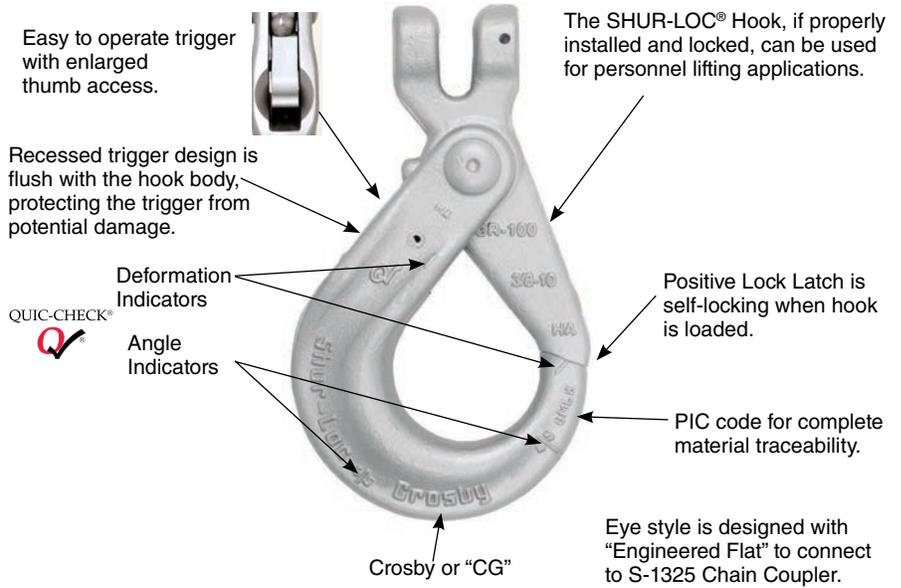
- **Deformation Indicators** – Two strategically placed marks, one just below the eye and the other on the hook tip, which allows for a **QUIC-CHECK® measurement** to determine if the throat opening has changed, thus indicating abuse or overload. To check, use a measuring device (i.e. tape measure) to measure the distance between the marks. The marks should align to either an inch or half-inch increment on the measuring device. If the measurement does not meet this criteria, the hook should be inspected further for possible damage.
- **Angle Indicators** – Indicates the maximum included angle which is allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.

Crosby QUIC-CHECK® Reference Chart for Grade 8/10 Hooks

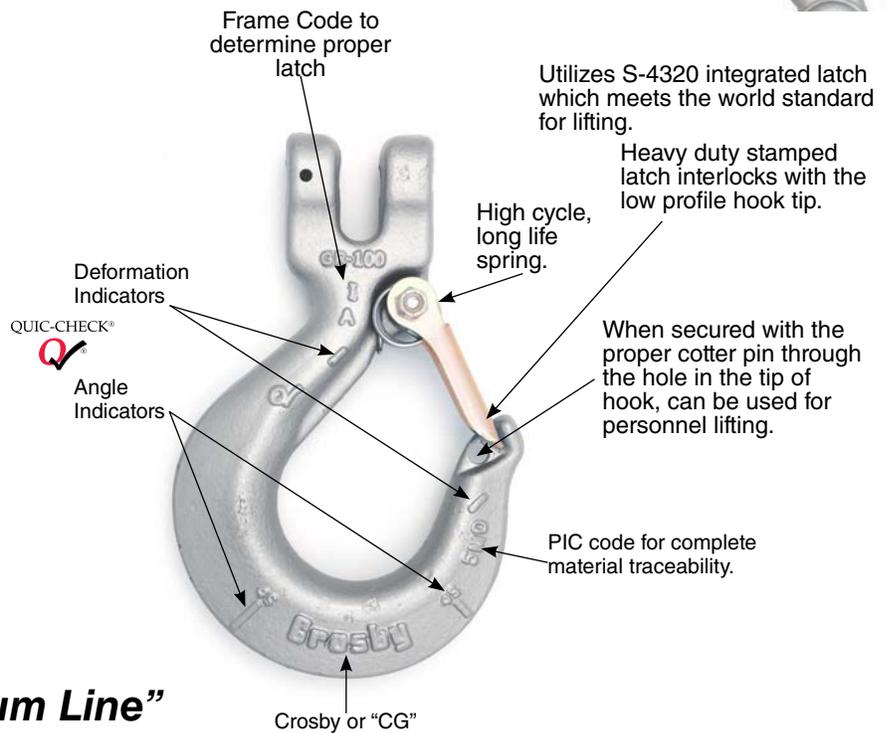
Crosby Catalog No.	L-1361	L-1362	S-1317	S-1316	S-1326	S-13326	L-1339	L-1327	A-1359	A-1329
Brochure Page No.	12	12	15	15	16	16	17	17	17	17
QUIC-CHECK® Deformation Indicators	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
QUIC-CHECK® Angle Indicators	✓	✓	✓	✓	✓	✓	✓	✓		

Crosby® Grade 8/10 Chain Hooks

Crosby® Grade 8/10 hooks provide many features, making them perfect for your rigging needs.



- Innovative cradle design allows for 100% efficiency of Grade 100 chain.
- The use of A-1338 Cradle Grab Hook will allow 100% of the chain sling capacity. When used to hook back to chain leg to form a choker, the angle of the choke must be 120 degrees or greater.

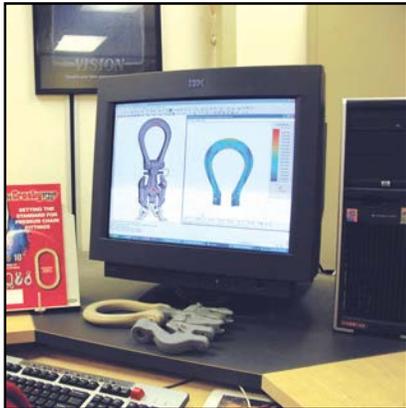


**“Look for the Platinum Line”
“Setting the Standard for
Premium Chain Fittings”**

Crosby ELIMINATOR®

Innovative Design

The Crosby **ELIMINATOR**® is the result of extensive designing and testing by Crosby's engineering department. Utilizing the capabilities of our state-of-the-art ProENGINEER® software, our engineers were able to model and perform stress analysis of anticipated loading conditions to optimize the product design.



- Chain shorteners are “built-in,” eliminating the need for additional legs of chain and components.
- Chain shortener pockets are designed to provide 100% efficiency of chain strength when adjusting the sling's length.
- Traditional adjustable slings must be de-rated 20%; this isn't necessary with the Crosby **ELIMINATOR**®.
- The Crosby **ELIMINATOR**® is a two-piece system for maximum flexibility and compatibility.
- Equipped with Crosby RFID technology for enhanced inspection processing.



Adjusted L-1361
Crosby **ELIMINATOR**®



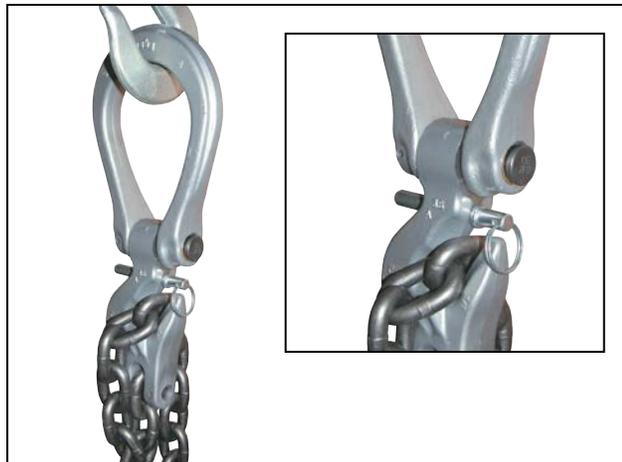
Adjusted L-1362
Crosby **ELIMINATOR**®

The Crosby **ELIMINATOR**® can be used “as-is,” or your authorized Crosby distributor can assemble it onto a larger master link to accommodate larger crane hooks.



Crosby **ELIMINATOR**® attached to A-1343 master link for use with multiple leg slings or for use with large hooks

Engineered to accommodate optional latch pin that can be inserted to keep the shortened chain legs in place under slack conditions.



Platinum color quickly identifies the Crosby **ELIMINATOR**® as a Spectrum 10 component with Grade 100 Working Load Limits.



Crosby ELIMINATOR®

Fewer Components

As the name implies, the primary advantage of the Crosby **ELIMINATOR**® system over traditional adjustable length chain slings is that it has eliminated many of the required fittings, thus reducing the complexity of the sling. The following photos and table provide you the potential reduction of fittings you can expect.



Traditional chain sling rigging



Crosby **ELIMINATOR**® rigging

Potential Chain Fitting Reduction Table			
Number of Legs	Adjustable Sling Type		% Reduction
	Traditional	Crosby ELIMINATOR ®	
1	5	2	60%
2	9	3	67%
3	13	6	54%
4	17	7	59%

Lighter Weight

By eliminating chain and components, the weight of the Crosby **ELIMINATOR**® system has been reduced by up to 15% when compared to traditional chain slings.

- A traditional 10 mm x 3 m AQOS (four leg sling with chain shortener) weighs 25.5 lbs. (less chain). A Crosby **ELIMINATOR**® quad leg sling with master link and sling hooks (EQOS) 10 mm x 3 m weighs 22 lbs, 14% lighter than the “traditional” method.
- This weight difference becomes even more pronounced if comparing a Crosby **ELIMINATOR**® sling with a traditional Grade 80 adjustable sling.

Easier To Inspect

With far fewer components, slings fabricated utilizing the Crosby **ELIMINATOR**® system can be more easily inspected for potential “removal from service” conditions specified in EN 1677.

- Less crowding of the master link makes it easier to examine all surfaces of all components for signs of wear.
- Fewer components allow a Crosby **ELIMINATOR**® sling to be inspected faster than traditional adjustable slings.



Contains Patented Crosby QUIC-CHECK® Markings

The L-1361 (Single leg) and the L-1362 (Double leg) Crosby **ELIMINATOR**® fittings incorporate markings forged into the bail which address the following Crosby **QUIC-CHECK**® feature:

Deformation Indicators – Two strategically placed marks, one on each side of the bail, which allow for a **QUIC-CHECK**® measurement to determine if the bail dimensions have changed, thus indicating abuse or overload.

To check, use a measuring device (i.e., tape measure) to measure the distance between the marks. The marks should align to either an inch or half-inch increment on the measuring device. If the measurement does not meet this criteria, the Crosby **ELIMINATOR**® should be inspected further for possible damage.

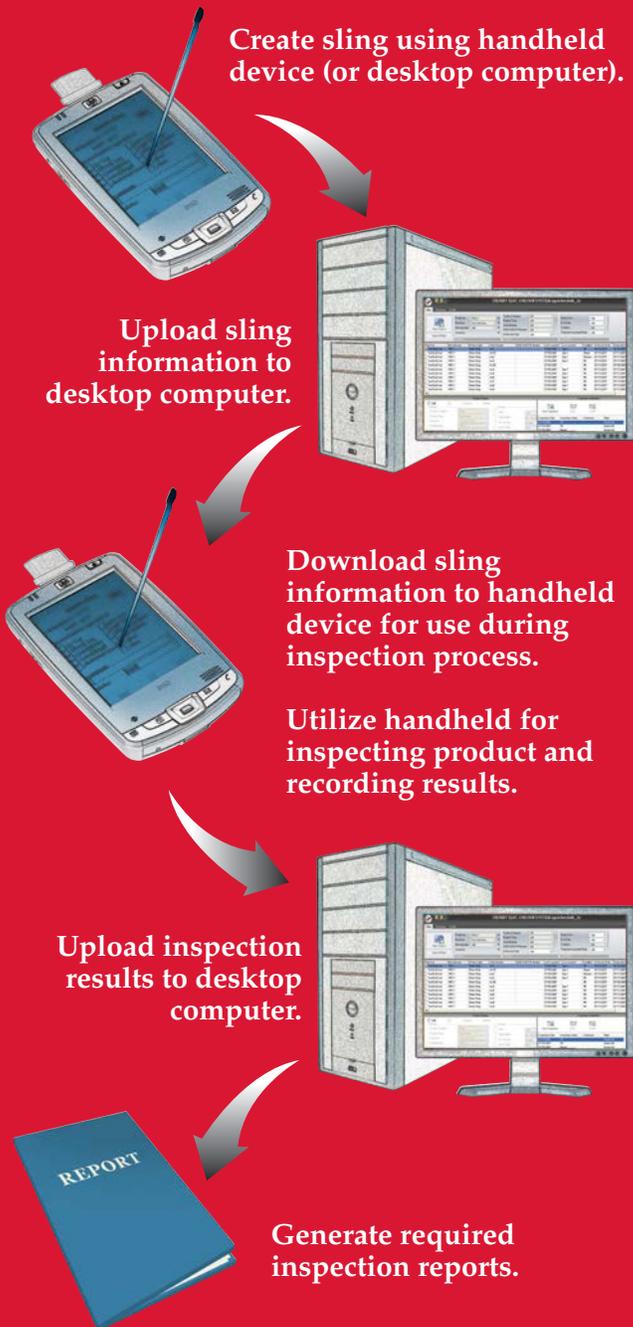


QUIC-CHECK®



The New Crosby QUIC-CHECK® Plus Inspection and Identification System

The Process is Simple, Efficient and Accurate



The Crosby QUIC-CHECK® Plus Inspection and Identification System assists in making inspections more efficient, more accurate and more timely.

The Crosby QUIC-CHECK® Plus Inspection and Identification System has been designed to provide a more accurate and efficient system for inspecting slings and various Crosby products. This is accomplished by combining an electronic inspection software program developed by Crosby with RFID (Radio Frequency Identification) technology. The Crosby QUIC-CHECK® Plus Inspection and Identification System also provides the user a quick reference to valuable inspection information on the specific product being inspected. U.S. Patent # 7,825,770



Crosby QUIC-CHECK® Plus Inspection and Identification System and B30.9.

ASME B30.9 requires many rigging products to be inspected on, as a minimum, an annual basis. It also requires the user to have a written inspection report on file for the most recent inspection. Using conventional inspection methods, the complete process (from inspection to the final printed report) can be very labor intensive and time consuming, and time is money. Using a series of drop down menus and check boxes, the inspector easily records the condition of the product in accordance with the ASME specification.



In addition to providing you a competitive advantage, the Crosby QUIC-CHECK® Plus Inspection and Identification System provides the following two major advantages over conventional inspection methods:

- The system provides a more streamlined approach to inspection, while reducing the total time associated with the current process.
- It allows for a reduction in the manpower required when performing the inspection, while also providing quicker inspection reports with a higher level of accuracy.

Utilizing innovation to provide a streamlined and automated approach to the inspection process.

Inspection information for B30.9 in the palm of your hand.



The QUIC-CHECK® Plus Tag Reader option of the Pocket QUIC-CHECK® Plus system (located on the portable handheld device), allows the user quick reference to the status of any sling or product fitted with Crosby's RFID identification system. By simply scanning the appropriate tag, the user can quickly determine the following information about the sling or product:

- QUIC-CHECK® ID number
- Product Type (i.e., Chain Sling, Wire Rope Sling, Synthetic Sling, Shackle, etc.)
- In Service Date
- Date of Last Recorded Inspection
- Status of product at Last Recorded Inspection



Benefits of System

- Reduces total inspection process time up to 65%.
- Reduces cost of overall inspection process.
- Enhanced data accuracy eliminates errors.
 - No more handwritten inspection reports.
- Ability to keep electronic records of products and their associated history
- Ability to quickly reference support materials designed to facilitate the inspection process.
- Provides the ability to exchange data via a Crosby web server between users of a sharing circle.
- The PC application supports a Bluetooth RFID pen to read/write RFID tags without the need for a handheld device.
- Web reporting allows information transferred via Data Sharing to be available to authorized members of the Sharing Circle. These authorized users can generate reports directly from their web browser without the need for a QUIC-CHECK® Plus application.
- Provides a Custom Product feature to support any product; the user defines the details and inspection criteria.

RFID-Equipped Crosby® Products

Many standard Crosby® products come from the factory equipped with RFID chips that you can program and utilize in your inspection efforts.



“The Mark of Value Added Intelligent Lifting Hardware”

Grade 100 Assembly Chart

SINGLE LEG SLING

Spectrum 10 [®] Chain Size		Grade 100 Chain Stock No.	Master Link A-1343 Stock No.	Master Link Assembly A-1346 Stock No.	ELIMINATOR [®] L-1361 Stock No.	LOK-A-LOY [®] A-1337 Stock No.	Chain Coupler S-1325A Stock No.	Chain Shortener Link S-1311N Stock No.	SHUR-LOC [®] Clevis Hook S-1317 Stock No.	SHUR-LOC [®] Eye Hook S-1316 Stock No.	SHUR-LOC [®] Swivel Hook S-1326 Stock No.
(mm)	(in.)										
7	1/4 (9/32)	1210055	1247076	—	1049802	1015104	1098500	1017869	1029000	1022914	1004313
8	5/16	1210076	1247076	—	1049809	1015113	1098504	1017878	1029009	1022914	1004313
10	3/8	1210097	1247087	—	1049818	1015122	1098508	1017897	1029018	1022923	1004322
13	1/2	1210118	1247096	—	1049827	1015136	1098512	1017906	1029027	1022932	1004331
16	5/8	1210139	1247124	—	1049836	1015145	1098516	1017915	1029036	1022941	1004340
18	3/4	1210160	1247133	—	—	1015154	—	—	1029071	1022942	1004349
20	3/4	1210160	1247142	—	—	1015154	—	—	1021071	1022942	1004349
22-23	7/8	1210202	1247151	—	—	1015163	—	—	1029080	1022943	1004358
26	1	1210223	1247160	—	—	1015172	—	—	1029089	1022944	—
32	1-1/4	—	1247165	—	—	1015181	—	—	—	—	—

DOUBLE LEG SLING

Spectrum 10 [®] Chain Size		Grade 100 Chain Stock No.	Master Link A-1343 Stock No.	Master Link Assembly A-1346 Stock No.	ELIMINATOR [®] L-1362 Stock No.	LOK-A-LOY [®] A-1337 Stock No.	Chain Coupler S-1325A Stock No.	Chain Shortener Link S-1311N Stock No.	SHUR-LOC [®] Clevis Hook S-1317 Stock No.	SHUR-LOC [®] Eye Hook S-1316 Stock No.	SHUR-LOC [®] Swivel Hook S-1326 Stock No.
(mm)	(in.)										
7	1/4 (9/32)	1210055	1247087	—	1049913	1015104	1098500	1017869	1029000	1022914	1004313
8	5/16	1210076	1247087	—	1049922	1015113	1098504	1017878	1029009	1022914	1004313
10	3/8	1210097	1247096	—	1049931	1015122	1098508	1017897	1029018	1022923	1004322
13	1/2	1210118	1247124	—	1049940	1015136	1098512	1017906	1029027	1022932	1004331
16	5/8	1210139	1247142	—	1049949	1015145	1098516	1017915	1029036	1022941	1004340
18	3/4	1210160	1247151	—	—	1015154	—	—	1029071	1022942	1004349
20	3/4	1210160	1247151	—	—	1015154	—	—	1021071	1022942	1004349
22-23	7/8	1210202	1247160	—	—	1015163	—	—	1029080	1022943	1004358
26	1	1210223	1247165	—	—	1015172	—	—	1029089	1022944	—
32	1-1/4	—	1247172	—	—	1015181	—	—	—	—	—

TRIPLE AND QUAD LEG SLINGS

Spectrum 10 [®] Chain Size		Grade 100 Chain Stock No.	Master Link A-1343 Stock No.	Master Link Assembly A-1346 Stock No.	ELIMINATOR [®] L-1361 Stock No.	LOK-A-LOY [®] A-1337 Stock No.	Chain Coupler S-1325A Stock No.	Chain Shortener Link S-1311N Stock No.	SHUR-LOC [®] Clevis Hook S-1317 Stock No.	SHUR-LOC [®] Eye Hook S-1316 Stock No.	SHUR-LOC [®] Swivel Hook S-1326 Stock No.
(mm)	(in.)										
7	1/4 (9/32)	1210055	—	1256874	See Page 219	1015104	1098500	1017869	1029000	1022914	1004313
8	5/16	1210076	—	1256883		1015113	1098504	1017878	1029009	1022914	1004313
10	3/8	1210097	—	1256892		1015122	1098508	1017897	1029018	1022923	1004322
13	1/2	1210118	—	1256926		1015136	1098512	1017906	1029027	1022932	1004331
16	5/8	1210139	—	1256935		1015145	1098516	1017915	1029036	1022941	1004340
18	3/4	1210160	—	1256944		1015154	—	—	1029071	1022942	1004349
20	3/4	1210160	—	1256953		1015154	—	—	1021071	1022942	1004349
22-23	7/8	1210202	—	1256962		1015163	—	—	1029080	1022943	1004358
26	1	1210223	—	1256971		1015172	—	—	1029089	1022944	—
32	1-1/4	—	—	1014864*		1015181	—	—	—	—	—

Grade 100 Assembly Chart

SINGLE LEG SLING

Spectrum 10® Chain Size										
(in.)	(mm)	SHUR-LOC® Swivel Hook w/ Bearing S-13326 Stock No.	Clevis Sling Hook L-1339 Stock No.	Eye Sling Hook L-1327 Stock No.	Cradle Grab Hook A-1338* Stock No.	Clevis Grab Hook A-1358* Stock No.	Eye Grab Hook A-1328 Stock No.	Clevis Foundry Hook A-1359 Stock No.	Eye Foundry Hook A-1329 Stock No.	Chain Choker A-1355 Stock No.
1/4 (9/16)	7	1004413	1049112	1025869	1049417	1049610	1026169	1049907	1026280	1015204
5/16	8	1004413	1049121	1025869	1049426	1049629	1026169	1049911	1026280	1015204
3/8	10	1004422	1049130	1025878	1049435	1049638	1026187	1049916	1026289	1015213
1/2	13	1004431	1049149	1025887	1049444	1049647	1026196	1049925	1026297	1015222
5/8	16	1004440	1049158	1025896	1049453	1049656	1026205	1049934	1026306	1015231
3/4	20	—	1049167	1025915	—	—	1026214	1049943	1026315	—
7/8	22-23	—	1049176	1025924	—	—	1026223	1049952	1026324	—
1	26	—	—	1025933	—	—	1016232	—	1026333	—
1-1/4	32	—	—	1025942	—	—	1026241	—	1026342	—

DOUBLE LEG SLING

Spectrum 10® Chain Size		SHUR-LOC® Swivel Hook w/ Bearing S-1326 Stock No.	Clevis Sling Hook L-1339 Stock No.	Eye Sling Hook L-1327 Stock No.	Cradle Grab Hook A-1338* Stock No.	Clevis Grab Hook A-1358* Stock No.	Eye Grab Hook A-1328 Stock No.	Clevis Foundry Hook A-1359 Stock No.	Eye Foundry Hook A-1329 Stock No.	Chain Choker A-1355 Stock No.
(in.)	(mm)	SHUR-LOC® Swivel Hook w/ Bearing S-1326 Stock No.	Clevis Sling Hook L-1339 Stock No.	Eye Sling Hook L-1327 Stock No.	Cradle Grab Hook A-1338* Stock No.	Clevis Grab Hook A-1358* Stock No.	Eye Grab Hook A-1328 Stock No.	Clevis Foundry Hook A-1359 Stock No.	Eye Foundry Hook A-1329 Stock No.	Chain Choker A-1355 Stock No.
1/4 (9/16)	7	1004413	1049112	1025869	1049417	1049610	1026169	1049907	1026280	1015204
5/16	8	1004413	1049121	1025869	1049426	1049629	1026169	1049911	1026280	1015204
3/8	10	1004422	1049130	1025878	1049435	1049638	1026187	1049916	1026289	1015213
1/2	13	1004431	1049149	1025887	1049444	1049647	1026196	1049925	1026297	1015222
5/8	16	1004440	1049158	1025896	1049453	1049656	1026205	1049934	1026306	1015231
3/4	20	—	1049167	1025915	—	—	1026214	1049943	1026315	—
7/8	22-23	—	1049176	1025924	—	—	1026223	1049952	1026324	—
1	26	—	—	1025933	—	—	1026232	—	1026333	—
1-1/4	32	—	—	1025942	—	—	1026241	—	1026342	—

TRIPLE AND QUAD LEG SLINGS

Spectrum 10® Chain Size		SHUR-LOC® Swivel Hook w/ Bearing S-1326 Stock No.	Clevis Sling Hook L-1339 Stock No.	Eye Sling Hook L-1327 Stock No.	Cradle Grab Hook A-1338* Stock No.	Clevis Grab Hook A-1358* Stock No.	Eye Grab Hook A-1328 Stock No.	Clevis Foundry Hook A-1359 Stock No.	Eye Foundry Hook A-1329 Stock No.	Chain Choker A-1355 Stock No.
(in.)	(mm)	SHUR-LOC® Swivel Hook w/ Bearing S-1326 Stock No.	Clevis Sling Hook L-1339 Stock No.	Eye Sling Hook L-1327 Stock No.	Cradle Grab Hook A-1338* Stock No.	Clevis Grab Hook A-1358* Stock No.	Eye Grab Hook A-1328 Stock No.	Clevis Foundry Hook A-1359 Stock No.	Eye Foundry Hook A-1329 Stock No.	Chain Choker A-1355 Stock No.
1/4 (9/16)	7	1004413	1048991	1025869	1049417	1049610	1026169	1049907	1026280	1015204
5/16	8	1004413	1049000	1025869	1049426	1049629	1026169	1049911	1026280	1015204
3/8	10	1004422	1049009	1025878	1049435	1049638	1026187	1049916	1026289	1015213
1/2	13	1004431	1049018	1025887	1049444	1049647	1026196	1049925	1026297	1015222
5/8	16	1004440	1049027	1025896	1049453	1049656	1026205	1049934	1026306	1015231
3/4	20	—	1049036	1025915	—	—	1026214	1049943	1026315	—
7/8	22-23	—	1049045	1025924	—	—	1026223	1049952	1026324	—
1	26	—	—	1025933	—	—	1026232	—	1026333	—
1-1/4	32	—	—	1025942	—	—	1026241	—	1026342	—

* Available with latch attached.

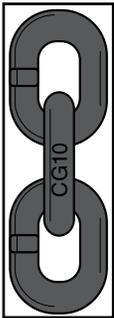
Crosby® Grade 100 Alloy Chain & Fittings

WORKING LOAD LIMIT – 4 TO 1 DESIGN FACTOR

Chain Size		90°	60°	45°	30°	60°	45°	30°
(in.)	(mm)	Single Leg	Double Leg			Triple and Quad Leg		
—	6	3200	5500	4500	3200	8300	6800	4800
1/4 (9/32)	7	4300	7400	6100	4300	11200	9100	6400
5/16	8	5700	9900	8100	5700	14800	12100	8500
3/8	10	8800	15200	12400	8800	22900	18700	13200
1/2	13	15000	26000	21200	15000	39000	31800	22500
5/8	16	22600	39100	32000	22600	58700	47900	33900
3/4	20	35300	61100	49900	35300	91700	74900	52950
7/8	22	42700	74000	60400	42700	110900	90600	64000
1	26	59700	103400	84400	59700	155100	12600	89550
1-1/4	32	90400	156600	127800	90400	234900	191700	135600

*For choker applications, the Working Load Limit must be reduced by 20%. The Crosby A-1338 cradle grab hook and S1311N chain shortner link do not require any reduction of the Working Load Limit. The design factor of 4 to 1 on Spectrum® 10 Alloy Chain agrees with the design factor used by the International Standards Organization (I.S.O.) and ANSI B30.9 and is the preferred set of Working Load Limit values to be used.

Spectrum 10® Grade 100 Alloy Chain for overhead lifting applications



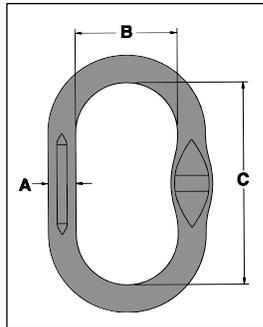
Chain Size		Gr. 100 Drum Stock No.	Feet Per Drum	Material Size (in.)	Working Load Limit (lbs.)*	Nominal Inside Length (in.)	Nominal Inside Width (in.)	Maximum Length 100 Links (in.)	Weight Per 100 Feet (lbs.)
(in.)	(mm)								
9/32 (1/4)	7	273710	500	.286	4300	.87	.42	90	75
5/16	8	273729	500	.332	5700	1.01	.49	104	113
3/8	10	273738	500	.404	8800	1.23	.58	126	148
1/2	13	273747	300	.529	15000	1.57	.77	164	249
5/8	16	273756	200	.641	22600	1.96	.90	202	378
3/4	20	273858	100	.812	35300	2.42	1.14	252	590
7/8	22	273867	100	.906	42700	2.70	1.26	277	740
1	26	273876	75	1.062	59700	3.09	1.42	328	1010

* Proof loaded at 2 times Working Load Limit. Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 Alloy Chain & Fittings

Crosby 8/10™

“QT”
QUENCHED & TEMPERED

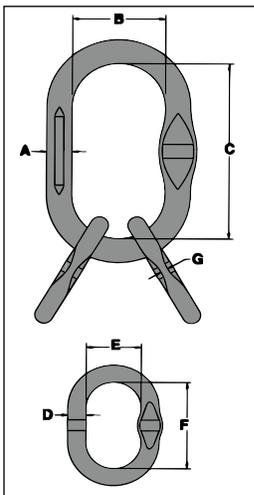


A-1342N Master Link

A-1342N Size		A-1342N Designation Marking	A-1342N Stock No.	Working Load Limit (lbs.)*	Proof Load (lbs.)	Weight Each (lbs.)	Dimensions (in.)		
(in.)	(mm)						A	B	C
1/4	6 - 7	X 1	1011403	8600	17200	1.1	.60	2.50	5.00
5/16	8	X 2	1011412	11400	22800	1.7	.70	2.75	5.50
3/8	10	X 3	1011421	17600	35200	2.5	.81	3.00	6.00
1/2	13	X 4	1011430	30000	60000	6.2	1.09	4.00	8.00
5/8	16	X 5	1011449	45200	90400	10.6	1.34	5.00	9.00
3/4	19	X 6	1011458	70600	141200	18.8	1.63	5.25	10.50
7/8	22	X 7	1011467†	85400	170800	28.8	1.88	6.00	12.00

* Minimum Ultimate Load is 4 times the Working Load Limit.

† Welded.



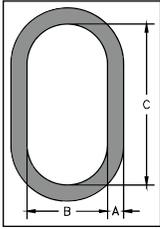
A-1345N Master Link Assembly

A-1345N Designation Marking	A-1345N Stock No.	Grade 100 Chain Size		Working Load Limit (lbs.)*	Proof Load (lbs.)	Weight Each (lbs.)	Dimensions (in.)						
		(in.)	(mm)				A	B	C	D	E	F	G
X 2	1011501	-	6	9600	19200	2.9	.70	2.75	5.50	.50	1.57	3.35	.24
X 3	1011510	1/4-5/16	7 - 8	17100	34200	4.2	.81	3.00	6.00	.56	1.77	3.35	.30
X 4	1011529	3/8	10	26400	52800	9.6	1.09	4.00	8.00	.75	2.36	3.94	.33
X 5	1011538	1/2	13	45000	90000	19.3	1.34	5.00	9.00	1.00	3.54	6.30	.51
X 6	1011547	5/8	16	67800	135600	31.4	1.65	5.25	10.50	1.25	3.94	7.09	.65
X 7	1011556	3/4	19	105900	211800	54.2	1.88	6.00	12.00	1.50	4.25	8.00	.81
X 8	1011565	7/8	22	128100	256200	112.2	2.25	8.00	16.00	1.88	6.00	12.00	.88

* Minimum Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 Alloy Chain Fittings

A-342 Alloy Master Links



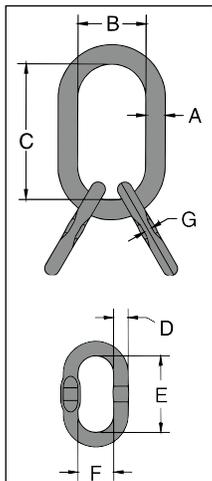
Size		A-342 Stock No.	Weight Each (lbs.)	Chain Size		Single Leg		Double Leg		Dimensions (in.)			
(in.)	(mm)			(in.)	(mm)	WLL Based on Grade 80 Chain (lbs.)*	WLL Based on Grade 100 Chain (lbs.)*	WLL Based on Grade 80 Chain 60° Sling Angle (lbs.)*	WLL Based on Grade 100 Chain 60° Sling Angle (lbs.)*	A	B	C	Deformation Indicator
1/2W	13W	1014266	1.3	1/4	7	3500	4300	6100	7400	.62	2.80	5.00	3.50
				5/16	8	4500	5700	-	-				
5/8	16	1014280	1.5	5/16	8	4500	5700	7800	-	.62	3.00	6.00	3.50
3/4W	19W	1014285	2.0	5/16	8	4500	5700	-	9900	.73	3.20	6.00	4.00
				3/8	10	7100	8800	12300	-				
7/8W	22W	1014319	3.3	3/8	10	7100	8800	12300	15200	.88	3.75	6.38	4.50
				1/2	13	12000	15000	-	-				
1W	26W	1014331	6.1	1/2	13	12000	15000	20800	26000	1.10	4.30	7.50	5.50
				5/8	16	18100	22600	-	-				
1-1/4W	32W	1014348	12.0	5/8	16	18100	22600	31300	39100	1.33	5.50	9.50	7.00
				3/4	20	28300	35300	-	-				
1-1/2W	38W	1014365	18.6	3/4	20	28300	35300	49000	61100	1.61	5.90	10.50	7.50
				7/8	22	34200	42700	-	-				
1-3/4	44	1014388	25.2	7/8	22	-	-	59200	-	1.75	6.00	12.00	7.50
				1	26	47700	-	-	-				
2	51	1014404	37.0	1	26	-	-	82600	-	2.00	7.00	14.00	9.00
				1-1/4	32	72300	-	-	-				
2-1/4	57	1014422	54.1	1-1/4	32	-	-	125200	-	2.25	8.00	16.00	10.00

* Chain slings require that the Minimum Ultimate Load be 4 times the Working Load Limit. Refer to Crosby® General Catalog to determine products actual Ultimate Load. Proof Test Load equals or exceeds the requirement of ASTM A952(8.1) and ASME B30.9-1.4 for the chain size and number of legs. See Crosby® General Catalog for other sling angles.

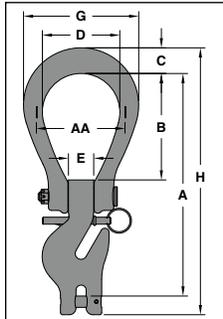
A-345 Master Link Assembly with Engineered Flat for Use with S-1325A coupler link

Size		A-345 Stock No.	Weight Each (lbs.)	Chain Size		Three and Four Leg Sling		Dimensions (in.)							Engineered Flat for S-1325 (in.) — (mm)	
(in.)	(mm)			(in.)	(mm)	WLL Based on Grade 80 Chain 60° Sling Angle (lbs.)*	WLL Based on Grade 100 Chain 60° Sling Angle (lbs.)*	A	B	C	D	E	F	G		Deformation Indicator
3/4W	19W	1014739	3.5	1/4	7	9100	11200	.73	3.20	6.00	.56	3.35	1.77	.30	4.00	1/4"-5/16"; 7-8mm
7/8W	22W	1014742	4.8	5/16	8	11700	14800	.88	3.75	6.38	.56	3.35	1.77	.30	4.50	-
1W	26W	1014766	9.3	3/8	10	18400	22900	1.10	4.30	7.50	.75	3.94	2.36	.33	5.50	3/8"; 10mm
1-1/4W	32W	1014779	15.8	1/2	13	31200	39000	1.33	5.50	9.50	1.00	6.30	3.54	.51	7.00	1/2"; 13mm
1-1/2W	38W	1014807	34.1	5/8	16	47000	58700	1.61	5.90	10.50	1.25	7.09	3.94	.65	7.50	5/8"; 16mm
1-3/4	44	1014810	46.7	3/4	20	73500	-	1.75	6.00	12.00	1.38	8.00	5.00	.73	7.50	3/4"; 20mm
2	51	1014832	67.2	7/8	22	88900	-	2.00	7.00	14.00	1.50	9.00	5.75	-	9.00	No Flat
2-1/2	64	1014850	206	1	26	123900	-	2.50	8.38	16.00	2.50	16.00	8.38	-	11.00	No Flat
2-3/4	70	1014959	282	1-1/4	32	187800	-	2.75	9.88	18.00	2.75	18.00	9.88	-	12.50	No Flat

* Chain slings require that the Minimum Ultimate Load be 4 times the Working Load Limit. Refer to Crosby® General Catalog to determine products actual Ultimate Load. See Crosby® General Catalog for other sling angles.



Crosby® ELIMINATOR® Fittings



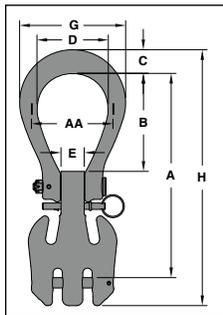
A-1361 Crosby ELIMINATOR® Single Hook

Chain Size		Frame Size	Working Load Limit (lbs.)*	A-1361 Stock No.	L-1361 Stock No.*	Weight Each (lbs.)	Dimensions (in.)							
(in.)	(mm)						A	B	C	D	E	G	H	AA
1/4	7	2	4300	1049797	1049802	3.9	8.20	3.88	.90	3.00	.94	4.40	9.78	3.50
5/16	8	2	5700	1049804	1049809	3.9	8.18	3.88	.90	3.00	.94	4.40	9.78	3.50
3/8	10	3	8800	1049813	1049818	6.5	10.05	4.81	1.16	3.50	1.13	5.20	12.06	4.00
1/2	13	4	15000	1049822	1049827	13.5	12.88	6.00	1.63	4.13	1.31	6.39	15.57	5.00
5/8	16	5	22600	1049831	1049836	24.1	15.26	6.88	1.96	4.75	1.63	7.41	18.58	6.00

* Proof tested at 2.5 times the Working Load Limit. Minimum Ultimate Load is 4 times the Working Load Limit.

* L-1361 includes the S-4104N Latch Pin.

A-1362 Crosby ELIMINATOR® Double Hook



Chain Size		Frame Size	Working Load Limit (lbs.)*	A-1362 Stock No.	L-1362 Stock No.*	Weight Each (lbs.)	Dimensions (in.)							
(in.)	(mm)						A	B	C	D	E	G	H	AA
1/4	7	2	8600	1049859	1049913	4.7	8.20	3.88	.90	3.00	.94	4.40	10.10	3.50
5/16	8	2	11400	1049868	1049922	4.7	8.18	3.88	.90	3.00	.94	4.40	10.10	3.50
3/8	10	3	17600	1049877	1049931	8.1	10.05	4.81	1.16	3.50	1.13	5.20	12.56	4.00
1/2	13	4	30000	1049886	1049940	17.3	12.88	6.00	1.63	4.13	1.31	6.39	16.25	5.00
5/8	16	5	45200	1049895	1049949	31.5	15.26	6.88	1.96	4.75	1.63	7.41	19.33	6.00

* Proof tested at 2 times the Working Load Limit. Minimum Ultimate Load is 4 times the Working Load Limit.

* L-1362 includes the S-4104N Latch Pin.

Using Crosby ELIMINATOR® in 3 Leg Slings



Spectrum 10 Chain Size		Master Link A-342 Stock No.	Master Link A-1342 Stock No.	Crosby ELIMINATOR® Single A-1361 Stock No.	Crosby ELIMINATOR® Double A-1362 Stock No.
(in.)	(mm)				
1/4 (9/32)	7	1014285	1011412	1049797	1049859
5/16	8	1014319	1011421	1049804	1049868
3/8	10	1014331	1011430	1049813	1049877
1/2	13	1014348	1011449	1049822	1049886
5/8	16	1014365	1011458	1049831	1049895

Use one of either A-342 or A-1342 master link.

Use one of each when making three leg sling.

Using Crosby ELIMINATOR® in 4 Leg Slings

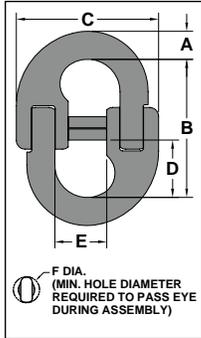


Spectrum 10 Chain Size		Master Link A-342 Stock No.	Master Link A-1342 Stock No.	Crosby ELIMINATOR® Single A-1361 Stock No.	Crosby ELIMINATOR® Double A-1362 Stock No.
(in.)	(mm)				
1/4 (9/32)	7	1014285	1011412	–	1049859
5/16	8	1014319	1011421	–	1049868
3/8	10	1014331	1011430	–	1049877
1/2	13	1014348	1011449	–	1049886
5/8	16	1014365	1011458	–	1049895

Use one of either A-342 or A-1342 master link.

Use two A-1362 fittings when making quad leg sling.

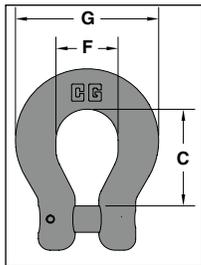
Crosby® Grade 100 Chain Fittings



LOK-A-LOY® 10 Alloy Connecting Link

Chain Size		A-1337 Stock No.	Pkg. Qty.	Weight Each (lbs.)	Working Load Limit (lbs.)*	Dimensions (in.)					
(in.)	(mm)					A	B	C	D	E	F
9/32 (1/4)	7	1015104	60	.26	4300	.38	1.94	1.90	.81	.69	.57
5/16	8	1015113	50	.35	5700	.37	2.35	2.07	.99	.72	.64
3/8	10	1015122	40	.75	8800	.48	2.70	2.47	1.12	.90	.78
1/2	13	1015136	12	1.60	15000	.68	3.45	3.31	1.44	1.12	.97
5/8	16	1015145	10	2.68	22600	.81	4.13	3.90	1.72	1.35	1.14
3/4	20	1015154	1	5.00	35300	.93	4.62	4.62	2.03	1.62	1.28
7/8	22	1015163	1	7.50	42700	1.06	5.46	5.46	2.27	2.00	1.49
1	25	1015172	1	11.03	59700	1.22	5.98	6.13	2.44	2.25	1.76
1-1/4	32	1015181	1	20.38	90400	1.50	7.43	7.59	3.07	2.56	2.23

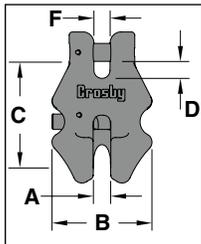
*Ultimate Load is 4 times the Working Load Limit. For Grade 6 Lok-A-Loy, see page 230.



S-1325A Grade 100 Chain Coupler

Chain Size		S-1325A Stock No.	Working Load Limit (lbs.)*	Weight Each (lbs.)	Dimensions (in.)		
(in.)	(mm)				C	F	G
-	6	1098496	3200	.25	1.03	.74	1.74
1/4	7	1098500	4300	.50	1.41	.88	2.32
5/16	8	1098504	5700	.50	1.40	.88	2.32
3/8	10	1098508	8800	.80	1.84	1.18	2.72
1/2	13	1098512	15000	1.70	2.12	1.50	3.62
5/8	16	1098516	22600	1.90	2.84	1.96	4.40

* Minimum Ultimate Load is 4 times the Working Load Limit.



S-1311N Grade 100 Chain Shortener Link

Chain Size		S-1311N Stock No.	Working Load Limit (lbs.)*	Weight Each (lbs.)	Dimensions (in.)					
(in.)	(mm)				A	B	C	D	E	F
-	6	1017860	3200	.49	.30	1.76	1.83	.29	.76	.29
1/4	7	1017869	4300	.84	.34	2.04	2.17	.34	.88	.33
5/16	8	1017878	5700	1.22	.40	2.36	2.53	.39	1.01	.38
3/8	10	1017897	8800	2.03	.48	2.84	3.07	.48	1.23	.46
1/2	13	1017906	15000	4.31	.62	3.56	3.77	.61	1.57	.59
5/8	16	1017915	22600	7.20	.73	4.24	4.64	.73	1.91	.70

* Minimum Ultimate Load is 4 times the Working Load Limit.

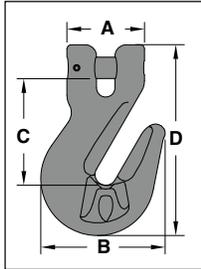
Crosby® Grade 100 Chain Fittings

Crosby 8/10™



Fatigue Rated®

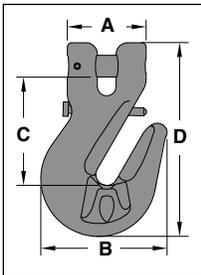
A-1338 Clevis Cradle Grab Hook



Chain Size		Working Load Limit (lbs.)*	A-1338 Stock No.	Weight Each (lbs.)	Dimensions (in.)					
(in.)	(mm)				A	B	C	D	E	F
1/4	7	4300	1049417	.45	1.72	2.54	2.20	3.88	1.50	.88
5/16	8	5700	1049426	.99	1.72	2.54	2.18	3.88	1.50	.88
3/8	10	8800	1049435	1.80	1.85	3.09	2.58	4.69	1.83	1.09
1/2	13	15000	1049444	3.92	2.39	3.83	3.28	5.88	2.25	1.42
5/8	16	22600	1049453	7.00	2.67	4.52	3.85	7.03	2.94	1.75

* Ultimate Load is 4 times the Working Load Limit.

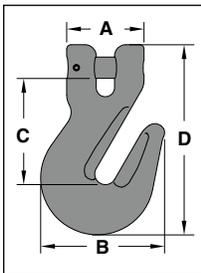
L-1338 Clevis Cradle Grab Hook with Latch



Chain Size		Working Load Limit (lbs.)*	L-1338 Stock No.	Weight Each (lbs.)	Dimensions (in.)						S-4338 Replacement Latch Kit Stock No.
(in.)	(mm)				A	B	C	D	E	F	
1/4	7	4300	1049480	.45	1.72	2.54	2.20	3.88	1.50	.88	1048426
5/16	8	5700	1049489	.99	1.72	2.54	2.18	3.88	1.50	.88	1048426
3/8	10	8800	1049498	1.80	1.85	3.09	2.58	4.69	1.83	1.09	1048435
1/2	13	15000	1049507	3.92	2.39	3.83	3.28	5.88	2.25	1.42	1048444
5/8	16	22600	1049516	7.00	2.67	4.52	3.85	7.03	2.94	1.75	1048453

* Ultimate Load is 4 times the Working Load Limit.

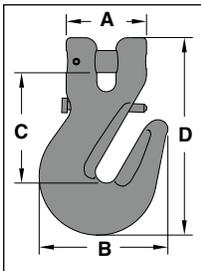
A-1358 Clevis Grab Hook



Chain Size		Working Load Limit (lbs.)*	A-1358 Stock No.	Weight Each (lbs.)	Dimensions (in.)				
(in.)	(mm)				A	B	C	D	F
1/4	7	4300	1049610	1.00	1.72	2.54	2.20	3.88	.88
5/16	8	5700	1049629	.99	1.72	2.54	2.18	3.88	.88
3/8	10	8800	1049638	1.80	1.85	3.09	2.58	4.69	1.09
1/2	13	15000	1049647	3.92	2.39	3.83	3.28	5.88	1.42
5/8	16	22600	1049656	7.00	2.67	4.52	3.85	7.03	1.75

* Ultimate Load is 4 times the Working Load Limit.

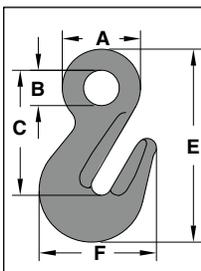
L-1358 Clevis Grab Hook with Latch



Chain Size		Working Load Limit (lbs.)*	L-1358 Stock No.	Weight Each (lbs.)	Dimensions (in.)					S-4338 Replacement Latch Kit Stock No.
(in.)	(mm)				A	B	C	D	F	
1/4	7	4300	1049605	1.00	1.72	2.54	2.20	3.88	.88	1048426
5/16	8	5700	1049614	.99	1.72	2.54	2.18	3.88	.88	1048426
3/8	10	8800	1049623	1.80	1.85	3.09	2.58	4.69	1.09	1048435
1/2	13	15000	1049634	3.92	2.39	3.83	3.28	5.88	1.42	1048444
5/8	16	22600	1049643	7.00	2.67	4.52	3.85	7.03	1.75	1048453

* Ultimate Load is 4 times the Working Load Limit.

A-1328 Eye Grab Hook



Chain Size		Working Load Limit (lbs.)*	A-1328 Stock No.	Weight Each (lbs.)	Dimensions (in.)					
(in.)	(mm)				A	B	C	E	F	H
1/4 - 5/16	7 - 8	5700	1026169	0.98	1.75	.75	2.79	4.29	2.57	.44
3/8	10	8800	1026187	1.6	2.06	.94	3.33	5.13	3.09	.53
1/2	13	1500	1026196	3.3	2.56	1.12	4.11	6.38	3.83	.66
5/8	16	22600	1026205	6	3.07	1.31	4.91	7.62	4.53	.79
3/4	18-20	35300	1026214	10.0	3.25	1.50	5.41	8.76	6.00	.94
7/8	22-23	44100	1026223	13.1	3.94	1.81	6.48	10.10	6.53	1.09
1	26	59700	1026232	18.9	4.44	2.00	7.22	11.45	7.75	1.19
1 1/4	32	90400	1026241	39.4	5.64	2.38	9.08	14.59	9.50	1.50

* Ultimate Load is 4 times the Working Load Limit.

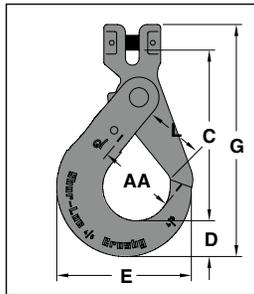
Crosby® Grade 100 SHUR-LOC® Hooks

Crosby 8/10™

“QT”
QUIC-CHECK™

Fatigue Rated

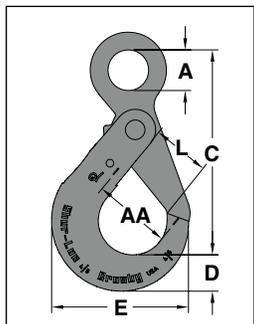
QUIC-CHECK™



S-1317 Clevis SHUR-LOC® Hook

Chain Size		Working Load Limit (lbs.)*	S-1317 Stock No.	Weight Each (lbs.)	Dimensions (in.)						
(in.)	(mm)				C	D	E	G	J	L	AA
-	6	3200	1028991	.77	3.44	.79	2.60	4.75	.63	1.16	1.50
1/4	7	4300	1029000	1.80	4.48	1.10	3.51	6.25	.81	1.48	2.00
5/16	8	5700	1029009	1.80	4.47	1.10	3.51	6.25	.81	1.48	2.00
3/8	10	8800	1029018	3.66	5.53	1.17	4.39	7.54	.94	1.83	2.50
1/2	13	15000	1029027	6.80	6.81	1.67	5.49	9.52	1.16	2.22	3.00
5/8	16	22600	1029036	11.9	8.22	2.04	6.55	11.61	1.50	2.65	3.50
3/4	18-20	35300	1029071	15.0	9.42	2.22	7.76	13.21	2.03	3.52	-
7/8	22	42700	1029080	28.0	11.14	2.45	8.75	15.45	2.20	3.83	-
1	26	59700	1029089	49.5	12.56	3.21	9.87	18.44	2.68	4.09	-

* Minimum Ultimate Load is 4 times the Working Load Limit.



S-1316 EYE SHUR-LOC® Eye Hook

Chain Size		Working Load Limit (lbs.)*	S-1316 Stock No.	Weight Each (lbs.)	Dimensions (in.)								
(in.)	(mm)				A	C	D	E	F	H	J	L	AA
-	6	3200	1022896	.85	.78	3.95	.79	2.60	.67	.31	.63	1.14	1.50
1/4-5/16	7-8	5700	1022914	1.80	1.08	5.31	1.10	3.50	.87	.39	.81	1.48	2.00
3/8	10	8800	1022923	3.40	1.30	6.57	1.17	4.39	1.10	.51	.94	1.83	2.50
1/2	13	15000	1022932	6.00	1.65	8.23	1.67	5.45	1.26	.67	1.16	2.22	3.00
5/8	16	22600	1022941	15.1	2.20	10.06	2.04	6.56	1.50	.87	1.50	2.65	3.50
3/4	18-20	35300	1022942	19.0	2.60	10.77	2.22	7.76	2.01	.87	2.03	3.52	-
7/8	22	42700	1022943	28.0	2.87	12.49	2.45	8.75	2.27	.98	2.20	3.83	-
1	26	59700	1022944	49.5	3.15	14.60	3.21	9.87	2.46	1.26	2.68	4.09	-

* Minimum Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 SHUR-LOC® Swivel Hook

Crosby 8/10™

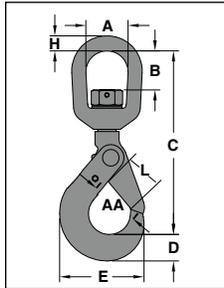


Fatigue Rated®



S-1326 SHUR-LOC® Swivel Hooks

- Suitable for infrequent, non-continuous rotation under load.

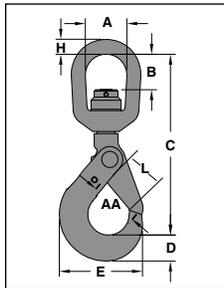


Chain Size		S-1326 Stock No.	Grade 100 Alloy Chain Working Load Limit (lbs.) 4:1*	Weight Each (lbs.)	Dimensions (in.)									
(in.)	(mm)				A	B	C	D	E	F	H	J	L	AA
—	6	1004304	3200	1.26	1.50	1.32	6.13	.79	2.60	.67	.50	.63	1.13	1.50
1/4-5/16	7-8	1004313	5700	2.62	1.75	1.59	7.60	1.10	3.50	.87	.63	.81	1.38	2.00
3/8	10	1004322	8800	4.70	2.00	1.73	8.83	1.17	4.39	1.10	.75	.94	1.75	2.50
1/2	13	1004331	15000	8.64	2.50	2.38	11.20	1.67	5.45	1.26	1.00	1.16	2.11	3.00
5/8	16	1004340	22600	17.00	2.75	2.53	12.98	2.05	6.56	1.50	1.13	1.50	2.49	3.50
3/4	18-20	1004349	35300	24.00	2.83	2.52	17.42	2.22	7.76	2.01	1.10	2.03	3.52	5.00
7/8	22	1004358	44100	29.00	3.44	3.19	16.47	2.45	8.75	2.26	1.30	2.20	3.83	6.00

* Ultimate Load is 4 times the Working Load Limit.

S-13326 SHUR-LOC® Swivel Hooks with Bearing

- Suitable for frequent rotation under load.



Chain Size		S-13326 Stock No.	Grade 100 Alloy Chain Working Load Limit (lbs.) 4:1*	Weight Each (lbs.)	Dimensions (in.)									
(in.)	(mm)				A	B	C	D	E	F	H	J	L	AA
—	6	1004404	3200	1.50	1.50	1.14	6.17	.79	2.60	.67	.50	.63	1.13	1.50
1/4-5/16	7-8	1004413	5700	3.10	1.75	1.52	7.54	1.10	3.50	.87	.63	.81	1.44	2.00
3/8	10	1004422	8800	5.26	2.00	1.61	8.88	1.16	4.35	1.10	.75	.94	1.83	2.50
1/2	13	1004431	15000	11.22	2.50	2.03	11.11	1.66	5.45	1.26	1.00	1.16	2.19	3.00
5/8	16	1004440	22600	17.32	2.75	1.98	12.61	2.05	6.56	1.50	1.13	1.50	2.61	3.50

* Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 Hooks

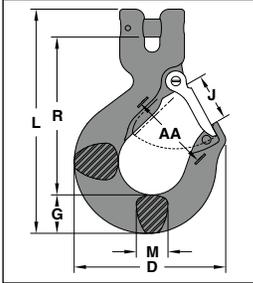
Crosby 8/10™

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A-1339 Clevis Sling Hook

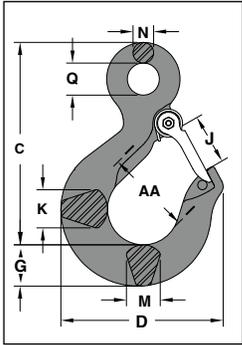


Chain Size		Working Load Limit (lbs.)*	Hook ID Code	A-1339 Stock No.	L-1339 Stock No.	Weight Each (lbs.)	Dimensions (in.)								S-4320 Repl. Latch Stock No.	S-4339 Repl. Latch Stock No.
(in.)	(mm)						D	G	J	L	M	R	AA			
-	6	3200	DA	1048982	1049103	0.64	2.86	0.73	0.93	4.21	0.63	2.95	1.50	1096325	-	
1/4	7	4300	HA	1048991	1049112	1.58	3.86	1.04	1.19	5.67	0.75	3.97	2.00	1096468	-	
5/16	8	5700	HA	1049000	1049121	1.57	3.86	1.04	1.19	5.67	0.75	3.95	2.00	1096468	-	
3/8	10	8800	IA	1049009	1049130	2.58	4.38	1.19	1.53	6.75	1.00	4.71	2.50	1096515	-	
1/2	13	15000	JA	1049018	1049149	5.28	5.60	1.44	1.78	8.38	1.17	5.89	3.00	1096562	-	
5/8	16	22600	KA	1049027	1049158	9.81	6.76	1.89	2.41	10.21	1.44	6.97	4.00	1096609	-	
3/4	18-20	35300	-	1049036	1049167	18.3	8.31	2.83	2.69	13.07	1.97	8.00	4.50	-	1048714	
7/8**	22-23**	44100	-	1049045	1049176	24.6	9.17	3.07	3.05	13.98	1.97	8.76	5.00	-	1048732	

* Ultimate Load is 4 times the Working Load Limit.

** 7/8 in. (22-23 mm) size does not have cam, latch attaches to unique pin.

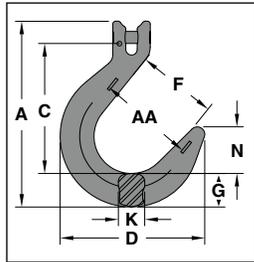
S-1327 Eye Sling Hook



Grade 100 Alloy Chain Size		Working Load Limit (lbs.)*	Hook ID Code	S-1327 Stock No.	L-1327 Stock No.	Weight Each (lbs.)	Dimensions (in.)											Replacement Latch Stock No.
(in.)	(mm)						C	D	G	J	K	M	N	O	Q	T	AA	
-	6	3200	DA	1025857	1025860	.50	3.34	2.86	.73	.90	.63	.36	.89	.75	.87	1.50	1096325	
1/4-5/16	7 - 8	5700	HA	1025866	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	1025875	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	1025884	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	1025893	1025896	8.4	7.43	6.78	1.88	2.38	1.66	1.44	.88	2.21	1.31	2.03	4.00	1096609
3/4	18-20	35300	KA	1025911	-	15.0	9.07	7.45	2.25	2.29	1.88	1.63	1.11	2.08	2.44	2.47	4.00	1096609
7/8	22-23	44100	LA	1025920	-	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	1025929	-	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	1025938	-	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

* Ultimate Load is 4 times the Working Load Limit.

A-1359 Clevis Foundry Hook

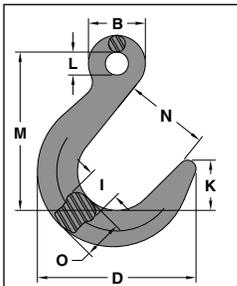


Chain Size		Working Load Limit at Saddle of Hook (lbs.)*	Working Load Limit at Tip of Hook (lbs.)*	Weight Each (lbs.)	Dimensions (in.)								
(in.)	(mm)				A-1359 Stock No.	A	C	D	F	G	K	N	AA
1/4	7	1049907	4300	2150	2.10	6.26	4.39	4.82	2.50	1.13	0.88	1.57	3.50
5/16	8	1049911	5700	2850	2.10	6.26	4.37	4.82	2.50	1.13	0.88	1.57	3.50
3/8	10	1049916	8800	4400	4.29	7.76	5.54	5.82	3.00	1.38	1.30	1.88	4.00
1/2	13	1049925	15000	7500	7.93	9.38	6.67	7.04	3.50	1.63	1.50	2.25	4.50
5/8	16	1049934	22600	11300	14.2	11.25	7.68	8.17	4.00	2.19	1.75	2.53	5.00
3/4	18-20	1049943	35300	17650	24.7	14.43	9.79	9.65	5.00	2.40	2.20	3.39	6.00
7/8	22-23	1049952	44100	22050	43.8	16.25	11.02	11.03	5.51	3.07	2.72	3.74	6.50

* Ultimate Load is 4 times the Working Load Limit.

A-1329 Eye Foundry Hook

- Hook can be tip loaded at the reduced Working Load Limit – see below. Operator must ensure the load is retained properly in the hook.



Chain Size		Working Load Limit at Saddle of Hook (lbs.)*	Working Load Limit at Tip of Hook (lbs.)	Weight Each (lbs.)	Dimensions (in.)								
(in.)	(mm)				A-1329 Stock No.	B	D	I	K	L	M	N	O
(1/4)	7	1026280	4300	2150	2.40	1.56	4.75	1.00	1.56	.63	4.75	2.50	1.23
3/8	10	1026289	8800	4400	4.50	2.00	5.69	1.27	1.88	.75	5.75	3.00	1.50
1/2	13	1026297	15000	7500	7.10	2.50	6.75	1.50	2.22	1.00	6.88	3.50	1.75
5/8	16	1026306	22600	11300	12.20	3.00	7.81	1.81	2.63	1.25	8.06	4.00	2.03
3/4	19	1026315	35300	17650	19.30	3.50	9.13	2.20	3.50	1.50	9.25	4.50	2.56
7/8	22-23	1026324	44100	22050	26.30	4.00	10.06	2.25	3.38	1.75	10.38	5.00	2.78

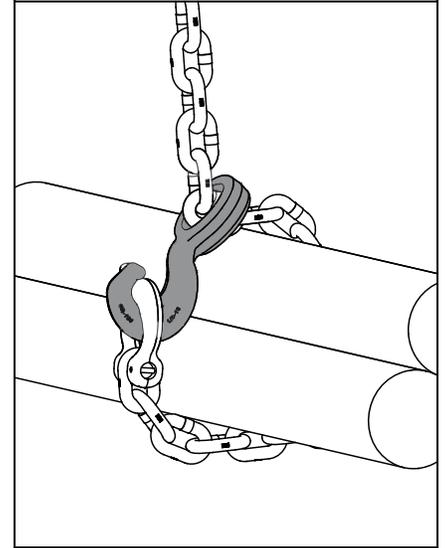
* Ultimate Load is 4 times the Working Load Limit.

Crosby® Grade 100 Hooks

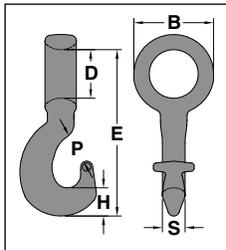
Crosby 8/10™

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A-1355 Chain Choker Hook



Grade 100 Alloy Chain Size		Working Load Limit (lbs.)*	A-1355 Stock No.	Weight Each (lbs.)	Dimensions (in.)					
(in.)	(mm)				B	D	E	H	P	S
1/4-5/16	7-8	5700	1015204	.77	2.05	1.18	4.83	.79	.69	.65
3/8	10	8800	1015213	1.65	2.66	1.57	6.07	.93	.93	.69
1/2	13	15000	1015222	3.14	3.35	2.03	7.61	1.18	1.26	.94
5/8	16	22600	1015231	6.97	4.21	2.52	9.68	1.54	1.12	1.18

* Ultimate Load is 4 times the Working Load Limit. For use with the S-1325A Coupler Link.

Sling Identification Tag Kits

Stamped ID Tag



Stamped ID Tags

- Heavy Duty, Prestamped, Zinc plated metal tag.
- 4-1/8" x 1-7/16" tag dimensions.
- 2-1/2" diameter metal attaching ring.
- Tag prestamped for simple inclusion of sling type, Working Load Limit, reach, serial number, chain size and grade.

ID Tag Stock No.	Carton Qty.	Weight Per Carton (lbs.)
115244	50	10.55

RFID Equipped Tags



115369 115350

ID Tags

- Heavy Duty tags.
- Chain tags meet requirements of EN818 for Sling Identification.
- Raised edge and recessed pads to protect lettering.
- Raised lettering for quick reference.



Forged ID Tag



115217

Stock No.	Style	Material Type	RFID Equipped	Tag Size (in.)	Weight Each (lbs.)
115369	Chain	Cast Stainless Steel	Yes	6-5/16 x 1-5/8	.46
115350	Wire Rope	Cast Stainless Steel	Yes	1-11/16 x 1-5/16	.07
115217	Chain	Forged Steel	No	5-3/4 x 1-7/8	.40
115353*	Chain	Stamped Zinc Plated Steel	Yes	5-3/4 x 1-5/8	.29
115355*	Wire Rope	Stamped Zinc Plated Steel	Yes	1-11/16 x 1-5/16	.04

* Patent pending.

Stamped ID Tags



115353



115355

Crosby® Replacement Kits

Clevis Pin Replacement Kits



Chain Size (in.)	Chain Size (mm)	A-1362	A-1337	A-1361, S-1325A, S-1311N, A-1338, L-1338, A-1358, L-1358, S-1317, L-1339	A-1359
—	6	—	—	1091792	—
1/4	7	1092713	1087690	1091801	1091884
5/16	8	1092722	1087595	1091810	1091885
3/8	10	1092731	1087692	1091829	1091829
1/2	13	1092740	1087693	1091838	1091838
5/8	16	1092759	1087694	1091847	1091847
3/4	18	—	—	1091897	1091897
3/4	20	—	1087702	1091897	1091897
7/8	22	—	1087703	1091887	1091887
7/8	23	—	—	—	1091887
1	26	—	1087704	1091888	—
1 1/4	32	—	1087705	—	—



Hook Latch / Locking Pin Replacement Kits

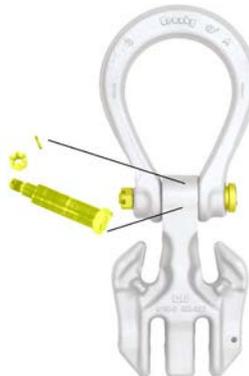


Chain Size (in.)	Chain Size (mm)	A-1361	A-1362	S-1311N	L-1338, L-1358	L-1339	L-1327
—	6	—	—	1264009	—	1096325	1096325
1/4	7	1092983	1092983	1264018	1048426	1096468	1096468
5/16	8	1092983	1092983	1264027	1048426	1096468	1096468
3/8	10	1092992	1092992	1264036	1048435	1096515	1096515
1/2	13	1093001	1093001	1264045	1048444	1096562	1096562
5/8	16	1093010	1093010	1264054	1048453	1096609	1096609
3/4	18	—	—	—	—	1048714	1096609
3/4	20	—	—	—	—	1048714	1096609
7/8	22	—	—	—	—	1048732*	1096657
7/8	23	—	—	—	—	1048732*	1096657
1	26	—	—	—	—	—	1096704
1 1/4	32	—	—	—	—	—	1093717

SHUR-LOC® Hook Trigger Replacement Kits



Chain Size (in.)	Chain Size (mm)	S-1317, S-1316, S1318A, S-1326, S13326
—	6	6603010
1/4	7	6603011
5/16	8	6603011
3/8	10	6603012
1/2	13	6603013
5/8	16	6603014
3/4	18	6603015
3/4	20	6603017
7/8	22	6603008
1	26	6603017



Hinge Bolt Replacement Kits

Chain Size (mm)	Chain Size (mm)	A-1361, A-1362
1/4	7	1092916
5/16	8	1092916
3/8	10	1092925
1/2	13	1092934
5/8	16	1092943

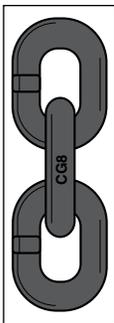
Crosby® Grade 80 Alloy Chain

WORKING LOAD LIMIT – 4 TO 1 DESIGN FACTOR

Spectrum 8® Alloy Chain Size		90°	60°	45°	30°	60°	45°	30°
(in.)	(mm)	Single Leg	Double Leg		Triple and Quad Leg			
—	6	2500	4330	3540	2500	6500	5300	3750
1/4 (9/32)	7	3500	6100	4900	3500	9100	7400	5200
5/16	8	4500	7800	6400	4500	11700	9500	6800
3/8	10	7100	12300	10000	7100	18400	15100	10600
1/2	13	12000	20800	17000	12000	31200	25500	18000
5/8	16	18100	31300	25600	18100	47000	38400	27100
3/4	20	28300	49000	40000	28300	73500	60000	42400
7/8	22	34200	59200	48400	34200	88900	72500	51300
1	26	47700	82600	67400	47700	123900	101200	71500
1-1/4	32	72300	125200	102200	72300	187800	153400	108400

* For choker applications, the Working Load Limit must be reduced by 20%. The Crosby A-1338 cradle grab hook and S1311N chain shortener link does not require any reduction of the Working Load Limit. The design factor of 4 to 1 on Spectrum® 8 Alloy Chain agrees with the design factor used by the International Standards Organization (I.S.O.) and ANSI B30.9 and is the preferred set of Working Load Limit values to be used.

SPECTRUM 8® GRADE 80 ALLOY CHAIN FOR OVERHEAD LIFTING APPLICATIONS



Chain Size (in.)	Chain Size (mm)	Gr. 80 Drum Stock No.	Feet Per Drum	Material Size (in.)	Working Load Limit (lbs.)*	Nominal Inside Length (in.)	Nominal Inside Width (in.)	Maximum Length 100 Links (in.)	Weight Per 100 Feet (lbs.)
9/32 (1/4)	7	273527	500	.279	3500	.87	.42	90	75
5/16	8	273536	500	.332	4500	1.01	.49	104	113
3/8	10	273545	500	.394	7100	1.23	.58	126	148
1/2	13	273554	300	.529	12000	1.57	.77	164	249
5/8	16	273563	200	.625	18100	1.96	.90	202	378
3/4	20	273572	100	.780	28300	2.42	1.14	252	590
7/8	22	273581	100	.906	34200	2.66	1.26	277	740
1	26	273590	75	1.031	47700	2.89	1.42	328	1010
1-1/4	32	273599	66	1.260	72300	3.78	1.73	403	1478

* Proof loaded at 2 times Working Load Limit. Ultimate Load is 4 times the Working Load Limit.

Grade 80 Assembly Chart

SINGLE LEG SLING

Spectrum 8 Chain Size (in.) (mm)												
	Grade 8 Chain Stock No.	Master Link A-342 Stock No.	Master Link Assembly A-345 Stock No.	LOK-A-LOY® A-1337 Stock No.	Chain Coupler S-1325 Stock No.	Clevis Sling Hook A-1339 A-339** Stock No.	SHUR-LOC® Clevis Hook S-1317 Stock No.	Latching Clevis Chain Hook S-314 Stock No.	Clevis Grab Hook A-338 Stock No.	Cradle Grab Hook A-1338 Stock No.	Eye Sling Hook A-1327 Stock No.	Eye Foundry Hook A-1329 Stock No.
1/4 7	273527	1014266	—	1015104	1098500	1048991	1029000	1225021	1027659	1049417	1003764	1026280
5/16 8	273536	1014266 1014280 1014285	—	1015113	1098504	1049000	1029009	1225021	—	1049426	—	1026280
3/8 10	273545	1014285 1014319	—	1015122	1098508	1049009	1029018	1225091	1027677	1049435	1003773	1026289
1/2 13	273554	1014319 1014331	—	1015136	1098512	1049018	1029027	1225161	1027686	1049444	1003782	1026297
5/8 16	273563	1014331 1014348	—	1015145	1098516	1049027	1029036	1225162	1027695	1049453	1003791	1026306
3/4 20	273572	1014348 1014365	—	1015154	—	1027793**	—	—	1027702	—	1003808	1026315
7/8 22	273581	1014365 1014388	—	1015163	—	1027800**	—	—	1027711	—	1003817	1026324
1 26	—	1014388 1014404	—	1015172	—	—	—	—	—	—	—	—
1-1/4 32	—	1014404 1014422	—	1015181	—	—	—	—	—	—	—	—

+ Available in eye style. ** Old style A-339

DOUBLE LEG SLING

Spectrum 8 Chain Size (in.) (mm)												
	Grade 8 Chain Stock No.	Master Link A-342 Stock No.	Master Link Assembly A-345 Stock No.	LOK-A-LOY® A-1337 Stock No.	Chain Coupler S-1325 Stock No.	Clevis Sling Hook A-1339 A-339** Stock No.	SHUR-LOC® Clevis Hook S-1317 Stock No.	Latching Clevis Chain Hook S-314 Stock No.	Clevis Grab Hook A-338 Stock No.	Cradle Grab Hook A-1338 Stock No.	Eye Sling Hook A-1327 Stock No.	Eye Foundry Hook A-1329 Stock No.
1/4 7	273527	1014266	—	1015104	1098500	1048991	1029000	1225021	1027659	1049417	1003764	1026280
5/16 8	273536	1014285	—	1015113	1098504	1049000	1029009	1225021	—	1049426	—	1026280
3/8 10	273545	1014319	—	1015122	1098508	1049009	1029018	1225091	1027677	1049435	1003773	1026289
1/2 13	273554	1014331	—	1015136	1098512	1049018	1029027	1225161	1027686	1049444	1003782	1026297
5/8 16	273563	1014348	—	1015145	1098516	1049027	1029036	1225162	1027695	1049453	1003791	1026306
3/4 20	273572	1014365	—	1015154	—	1027793**	—	—	1027702	—	1003808	1026315
7/8 22	273581	1014388	—	1015163	—	1027800**	—	—	1027711	—	1003817	1026324
1 26	—	1014404	—	1015172	—	—	—	—	—	—	—	—
1-1/4 32	—	1014468	—	1015181	—	—	—	—	—	—	—	—

+ Available in eye style. ** Old style A-339

TRIPLE AND QUADRUPLE LEG SLING

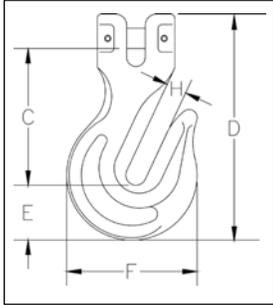
Spectrum 8 Chain Size (in.) (mm)												
	Grade 8 Chain Stock No.	Master Link A-342 Stock No.	Master Link Assembly A-345 Stock No.	LOK-A-LOY® A-1337 Stock No.	Chain Coupler S-1325 Stock No.	Clevis Sling Hook A-1339 A-339** Stock No.	SHUR-LOC® Clevis Hook S-1317 Stock No.	Latching Clevis Chain Hook S-314 Stock No.	Clevis Grab Hook A-338 Stock No.	Cradle Grab Hook A-1338 Stock No.	Eye Sling Hook A-1327 Stock No.	Eye Foundry Hook A-1329 Stock No.
1/4 7	273527	—	1014739	1015104	1098500	1048991	1029000	1225021	1027659	1049417	1003764	1026280
5/16 8	273536	—	1014742	1015113	1098504	1049000	1029009	1225021	—	1049426	—	1026280
3/8 10	273545	—	1014766	1015122	1098508	1049009	1029018	1225091	1027677	1049435	1003773	1026289
1/2 13	273554	—	1014779	1015136	1098512	1049018	1029027	1225161	1027686	1049444	1003782	1026297
5/8 16	273563	—	1014807	1015145	1098516	1049027	1029036	1225162	1027695	1049453	1003791	1026306
3/4 20	273572	—	10148174	1015154	—	1027793**	—	—	1027702	—	1003808	1026315
7/8 22	273581	—	1014832	1015163	—	1027800**	—	—	1027711	—	1003817	1026324
1 26	—	—	1014815	1015172	—	—	—	—	—	—	—	—
1-1/4 32	—	—	1014846	1015181	—	—	—	—	—	—	—	—

+ Available in eye style. ** Old style A-339

Grade 80 Alloy Chain Fittings



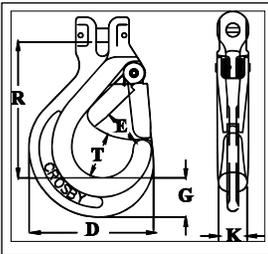
A-338 Clevis Grab Hook



Chain Size (in.)	A-338 Stock No.	Working Load Limit (lbs.)*	Weight Each (lbs.)	Dimensions (in.)				
				C	D	E	F	H
9/32 (1/4)	1027659	3500	.62	2.61	4.17	.89	2.16	.38
3/8	1027677	7100	1.26	3.21	5.21	1.16	3.00	.50
1/2	1027686	12000	3.45	4.19	6.95	1.69	4.00	.62
5/8	1027695	18100	5.64	5.03	8.25	1.88	4.64	.75
3/4	1027702	28300	10.40	5.95	9.97	2.19	5.26	.88
7/8	1027711	34200	13.62	6.92	11.56	2.56	6.12	1.00

* Ultimate Load is 4 times the Working Load Limit.

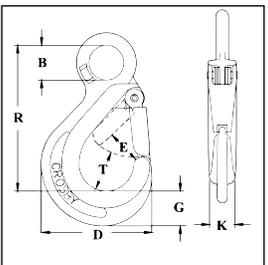
S-314A Clevis Chain Hook with Integrated Latch



Chain Size		S-314A Stock No.	Grade 8 Alloy Chain Working Load Limit (lbs.) 4:1*	Weight Each (lbs.)	Dimensions (in.)						Replacement Latch Stock No.
(in.)	(mm)				D	E	G	K	R	T	
-	6	1225020	2500	.69	2.60	.81	.79	.63	2.84	1.02	1291332
1/4 - 5/16	7 - 8	1225021	4500	1.53	3.50	1.08	1.10	.81	3.83	1.28	1291402
3/8	10	1225091	7100	2.84	4.35	1.42	1.16	.94	4.92	1.66	1291472
1/2	13	1225161	12000	5.17	5.45	1.52	1.67	1.16	5.64	1.94	1291542
5/8	16	1225162	18100	9.00	6.56	1.91	2.05	1.50	6.79	2.32	1291612

* Ultimate Load is 4 times the Working Load Limit.

S-315A Eye Chain Hook with Integrated Latch



Chain Size		S-315A Stock No.	Grade 80 Alloy Chain Working Load Limit (lbs.) 4:1*	Working Load Limit for Wire Rope (Tons) 5:1	Weight Each (lbs.)	Dimensions (in.)							Replacement Latch Stock No.
(in.)	(mm)					B	D	E	G	K	R	T	
-	6	1029820	2500	1	.56	.79	2.60	.81	.79	.63	3.33	1.02	1291332
1/4 - 5/16	7 - 8	1029825	4500	2	1.31	1.10	3.50	1.08	1.10	.81	4.62	1.28	1291402
3/8	10	1029830	7100	3	2.60	1.42	4.35	1.42	1.16	.94	6.20	1.66	1291472
1/2	13	1029835	12000	5	4.70	1.81	5.45	1.52	1.67	1.16	7.33	1.94	1291542
5/8	16	1029840	18100	7	8.55	2.20	6.56	1.91	2.05	1.50	8.94	2.32	1291612

* Ultimate Load is 4 times the Working Load Limit.

Alloy Fittings Application and Information

HOW TO ASSEMBLE AN S-1325 COUPLER LINK ON TO MASTER LINK



1. Slide Coupler Link over Engineered Flat of Master Link.



2. Rotate Coupler Link so that clevis fitting is to the outside of Master Link and attach to chain sling.

HOW TO ASSEMBLE A CROSBY CLEVIS TYPE FITTING

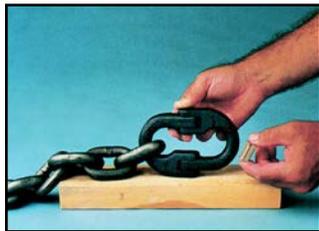


1. Place chain link into clevis of chain coupler. Insert pin fully into the clevis ears.

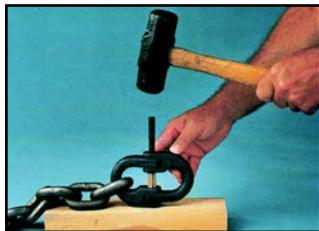


2. Place the coupler link on its side and using a hammer, drive the locking pin into the clevis ear until it is flush with the outside surface.

HOW TO ASSEMBLE A LOK-A-LOY® CONNECTING LINK



1. Place the locking sleeve between the assembled half link forgings.



2. Drive the pin through the assembled link ends and sleeve until the end of the pin is flush with the outside of the connecting link halves.

HOW TO ASSEMBLE LOAD PIN IN CROSBY ELIMINATOR® FITTINGS



1. Place both chain links into clevis slots of fitting, insert pin fully into the two-leg clevis.



2. Place Eliminator assembly on a firm surface. Using a hammer, drive the locking pin into the two-leg clevis until it is flush with the top of the hole.

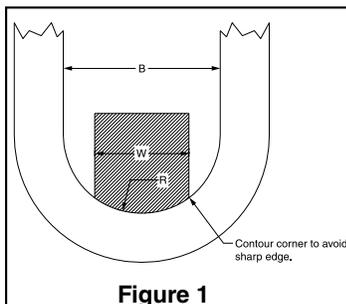


Figure 1

Crosby master links and master link assemblies are proof tested with special fixtures in accordance with ASTM A952. While other specifications such as EN 1677-4 Recommended Guideline for Proof Test Procedures for Slings related to master link and master link assemblies also allow for the use of special fixtures when proof testing, Crosby follows the guidelines set forth in ASTM A952. The purpose of the special fixture is to prevent localized point loading during the proof test. Point loading at the proof test load may result in permanent deformation. The proof test fixture per ASTM A952 allows for a maximum fixture width (W) of 60% of the inside width (B) of the master link. The radius of the fixture (R) is one-half of inside width of the master link. A sketch showing an example of the special fixture is shown in Figure 1. Note that the corner of the fixture should be contoured so that a sharp edge does not make contact with the master link during the loaded condition.

Over the years some master links and master link assemblies have changed dimensions and working load limits. Special consideration should be given to the actual inside width of the master link being tested and its correct allowable proof load value. If the correct allowable proof load value is in question, then Crosby Engineering should be consulted for the appropriate proof load value.

ALLOY STEEL CHAIN SLINGS AND CROSBY ELIMINATOR®

Warning, Selection, Use and Maintenance Information



WARNING

- Loads may disengage from sling if proper rigging procedures and inspection are not followed.
- A falling load may cause serious injury or death.
- Inspect sling for damage before each use.
- Do not attempt to use sling above rated load and angle upon which it is based.
- Consult sling load chart for capacity reduction due to sling angle or type of hitch used.
- Read and understand these instructions before using sling.

IMPORTANT SAFETY INFORMATION Read and Follow

These warnings and instructions are applicable to alloy chain slings produced from Crosby Grade 8 (80) and Grade 10 (100) chain and components.

- Only alloy chain, grade 80 (Crosby Spectrum 8®), or grade 100 (Crosby Spectrum 10®), should be used for overhead lifting applications.
- Working Load Limit (WLL) is the maximum load in pounds which should ever be applied to chain, when the chain is new or in “as new” condition, and when the load is uniformly applied in direct tension to a straight length of chain.
- Working Load Limit (WLL) is the maximum working load for a specific minimum sling angle, measured from the horizontal plane. The minimum sling angle and Working Load Limit is identified on the sling.
- The Working Load Limit or Design factor may be affected by wear, misuse, overloading, corrosion, deformation, intentional alterations, sharp corner cutting action diameter of curvature over which the sling is used (D/d) and other use conditions.
- Shock loading and extraordinary conditions must be taken into account when selecting alloy chain slings.
- See OSHA Regulation for Slings 1910.184, ASME B30.9-“SLINGS”, ASME B30.10-“HOOKS”, and ASME B30.26 “RIGGING HARDWARE” for additional information.

ASME B30.9 requires a designated person inspect each new sling and attachments prior to initial use, as well as the user or other designated person perform a visual inspection on a sling each day it is used. In addition, a periodic inspection shall be performed by a designated person at least annually, and shall maintain a record of the last inspection. For further inspection information, see Chain Inspection section of this document, or refer to ASME B30.9-1.9.

CAUSE FOR REMOVAL FROM SERVICE

A sling shall be removed from service if any of the following are visible on chain or attachments:

- Wear, nicks, cracks, breaks, gouges, stretch, bend, weld

splatter, discoloration from excessive temperature, and throat openings of hooks.

- Chain links and attachments that do not hinge freely to adjacent links.
- Latches on hooks, if present, that do not hinge freely, seat properly or show evidence of permanent distortion.
- Excessive pitting or corrosion
- Missing or illegible sling identification
- Makeshift fasteners, hooks, or links formed from bolts, rods, etc.
- Mechanical coupling links in the body of the chain
- Other damage that would cause a doubt as to the strength of the chain.

OPERATING PRACTICES

- The weight of the load must be known, calculated, estimated or measured. The loading on the slings will depend on where the center of gravity is located.
- Select sling having suitable characteristics for the type of load, hitch and environment.
- Slings shall not be loaded in excess of the rated capacity.
- Consideration shall be given to the sling load angle which affects rated capacity. (See load chart Table 4 for Grade 100 (SPECTRUM 10®) and Table 5 for Grade 80 (SPECTRUM 8®).
- Never rig a sling with an angle less than 30 degrees to horizontal.
- Slings in a basket hitch should have the load balanced to prevent slippage.
- The sling shall be hitched in a manner providing control of the load.
- Never side load, back load, or tip load a hook.
- Always make sure the hook supports the load. The latch must never support the load.
- Read and understand Crosby hook and hook latch Warnings and Application Instructions.
- For two legged slings with angles greater than 90 degrees, use an intermediate link such as a master link or bolt type shackle to collect the legs of the slings. The intermediate link can be placed over the hook to provide an in-line load on the hook. This approach must also be used when using slings with three or more legs.
- When using chain slings in choker applications, the Working Load Limit must be reduced by 20%. Crosby recommends a minimum angle of choke of 120 degrees (see Figure 1). Consult the manufacturer when planning to use an angle of choke less than 120 degrees. If Crosby A-1338 Cradle Grab hooks are used at the minimum angle of choke of 120 degrees, the full sling rated WLL can be utilized.
- When using chain slings in basket applications where the D/d (see figure 2) is less than 6, the rated load must be reduced by the values given in Table 1. This reduction does not eliminate the need to protect chain slings against damage caused by contact with edges, corners, or protrusions. Do not use a chain sling with a D/d that is less than two.



Figure 1

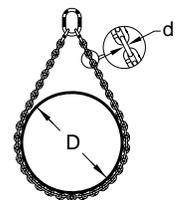


Figure 2

- In shortening applications, a 20% reduction of the Working Load Limit is required except when using the Crosby A-1338 Cradle Grab Hooks, S-1311 Chain Shortener Link, the A-1355 Chain Choker Hook in-conjunction with the S-1325 Chain Coupler Link, or the Crosby ELIMINATOR® shortener link. They can be used without any reduction to the Working Load Limit.

- Slings should always be protected from being damaged by sharp corners.
- Slings should not be dragged on the floor or over abrasive surface.
- Chain sling links should not be twisted or kinked.
- Slings should not be pulled from under loads if the load is nesting on the sling.
- Slings that appear to be damaged should not be used, unless inspected and accepted by designated person.
- Personnel, including portions of the human body, should be kept from between the sling and the load, and from between the sling and the crane hook or hoist hook.
- Personnel shall stand clear of the suspended load.
- Personnel shall not ride the sling.
- Shock loading should be avoided.
- Twisting or kinking the legs (branches) should be avoided.
- During lifting, with or without the load, personnel should be alert for possible snagging.
- When using a basket hitch, the legs of the sling should contain or support the load from the sides, above the center of gravity, so that the load remains under control.
- Sling shall be long enough so that the rated capacity of the sling is adequate when the angle of the legs (branches) is taken into consideration. (See Table 4 for Grade 100 Chain and Table 5 for Grade 80 Chain).

General Usage

It must be recognized that certain factors in the usage of chain and attachments can be abusive and lessen the load that the chain or attachments can withstand. Some examples are twisting of the chain; disfigurement; deterioration by straining, usage, weathering and corrosion; rapid application of load or jerking; applying excessive loads; sharp corner cutting, D/d, action and non-symmetrical loading effects.

Environmental Effects

- Excessive high or low temperatures or exposure to chemically active environments such as acid or corrosive liquids or fumes can reduce the performance of the chain and components.
- Extreme temperature will reduce the performance of alloy steel chain slings.
- Normal operating temperature is -40°F to 400°F (-40°C to 204°C).
- Reference temperature exposure chart to determine reduction of WLL due to operating at, and after exposure to, elevated temperatures (see Table 1 for Grade 80 Chain and Table 2 for Grade 100 chain).
- Chemically active environments can have detrimental effects on the performance of chain. The effects can be both visible loss of material and undetectable material degradation causing significant loss of strength.

Special Surface Coating/Plating/Galvanizing

- Chain should not be subjected to galvanizing, or any plating process. If it is suspected the chain has been exposed to chemically active environment, remove from service.

D/d	Reduction of Basket Hitch Rated Load
2	40%
3	30%
4	20%
5	10%
6 and above	none

Temperature of Chain		Temporary Reduction of Rated Load at Elevated Temperature	Permanent Reduction of Rated Load After Exposure to Temperature**
(F°)	(C°)		
Below 400	Below 204	None	None
400	204	10%	None
500	260	15%	None
600	316	20%	5%
700	371	30%	10%
800	427	40%	15%
900	482	50%	20%
1000	538	60%	25%
Over 1000	Over 538	OSHA 1910.184 requires all slings exposed to temperatures over 1000° F to be removed from service.	

* Crosby does not recommend the use of Alloy Chain at temperatures above 800° F.
** When chain is used at room temperature after being heated to temperatures shown in the first column.

Temperature		Temporary Reduction of Rated Load at Elevated Temperature*	Permanent Reduction of Rated Load After Exposure to Temperature**
(F°)	(C°)		
Below 400	Below 204	None	None
400	204	15%	None
500	260	25%	5%
600	316	30%	15%
700	371	40%	20%
800	427	50%	25%
900	482	60%	30%
1000	538	70%	35%
Over 1000	Over 538	OSHA 1910.184 requires all slings exposed to temperatures over 1000 F to be removed from service.	

* Crosby does not recommend the use of Alloy Chain at temperatures above 800° F.
** When chain is used at room temperature after being heated to temperatures shown in the first column.

CHAIN INSPECTION INSPECTION AND REMOVAL FROM SERVICE PER ASME B30.9

Refer to ASME B30.9-1.9 for further information

Frequent Inspection

- A visual inspection for damage shall be performed by the user or designated person each day the sling is used.
- Conditions such as those listed in ASME B30.9-1.9.4 Removal Criteria, or any other condition that may result in a hazard, shall cause the sling to be removed from service. Slings shall not be returned to service until approved by a qualified person.
- Written records are not required for frequent inspections.

Periodic Inspection

- A complete inspection for damage of sling shall be periodically performed by a designated person. Each link and component shall be examined individually, taking care to expose and examine all surfaces including the inner link surface. The sling shall be examined for conditions such as those listed in ASME B30.9-1.9.4 Removal Criteria, and a determination made as to whether they constitute a hazard.
- Periodic Inspection Frequency: Periodic inspection intervals shall not exceed one year. The frequency of periodic inspections should be based on:
 - Frequency of sling use
 - Severity of service conditions
 - Nature of lifts being made
 - Experience gained on the service life of slings used in similar circumstances.

Guidelines for the interval are:

1. Normal Service – yearly
 2. Severe Service – monthly to quarterly
 3. Special Service – as recommended by a qualified person
- c. Written records of the most recent periodic inspection shall be maintained, and shall include the condition of the sling.

Removal Criteria

An alloy sling chain shall be removed from service if conditions such as the following are present:

- a. Missing or illegible sling identification.
- b. Cracks or breaks
- c. Excessive wear, nicks, or gouges. Minimum thickness on chain link shall not be below the values listed in Table 6.
- d. Stretched chain links or components.
- e. Bent, twisted, or deformed chain links or components
- f. Evidence of heat damage.
- g. Excessive pitting or corrosion.
- h. Lack of ability of chain or components to hinge (articulate) freely.
- i. Weld spatter.
- j. For hooks, removal criteria as stated in ASME B30.10
- k. Other conditions, including visible damage, that cause doubt as to the continued use of the sling.

Repair

- a. Slings shall be repaired only by the sling manufacturer or a qualified person.
- b. A repaired sling shall be marked to identify the repairing agency per ASME B30.9 Section 9-1.7.

- c. Chain and components used for sling repair shall comply with the provisions of ASME B30.9.
- d. Repair of hooks shall comply with ASME B30.10.
- e. Cracked, broken or bent chain links or components other than hooks shall not be repaired; they shall be replaced.
- f. Mechanical coupling links shall not be used within the body of an alloy chain sling to connect two pieces of chain.
- g. Modifications or alterations to the sling or components shall be considered as repairs and shall conform to all other provisions of ASME B30.9.
- h. All repairs shall comply with the proof test requirements of ASME B30.9 Section 9-1.6.

Nominal Chain Size		Minimum Thickness	
(in.)	(mm)	(in.)	(mm)
7/32	5.5	0.189	4.80
9/32	7	0.239	6.07
5/16	8	0.273	6.93
3/8	10	0.342	8.69
1/2	13	0.443	11.26
5/8	16	0.546	13.87
3/4	20	0.687	17.45
7/8	22	0.750	19.05
1	26	0.887	22.53
1-1/4	32	1.091	27.71

Refer to ASME B30.9

Table 4
Grade 100 (Spectrum 10®) Alloy Chain Working Load Limit – 4 to 1 Design Factor

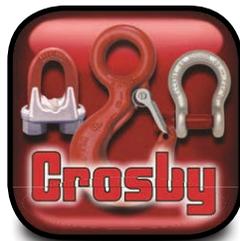
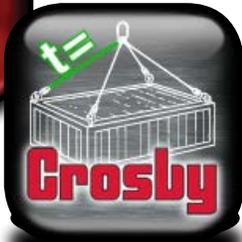
Spectrum 10® Alloy Chain Size		90°	60°	45°	30°	60°	45°	30°
(in.)	(mm)	Single Leg	Double Leg / Single Basket		Triple and Quad Leg / Double Basket			
—	6	3200	5500	4500	3200	8300	6800	4800
1/4 (9/32)	7	4300	7400	6100	4300	11200	9100	6400
5/16	8	5700	9900	8100	5700	14800	12100	8500
3/8	10	8800	15200	12400	8800	22900	18700	13200
1/2	13	15000	26000	21200	15000	39000	31800	22500
5/8	16	22600	39100	32000	22600	58700	47900	33900
3/4	20	35300	61100	49900	35300	91700	74900	52950
7/8	22	42700	74000	60400	42700	110900	90600	64000
1	26	59700	103400	84400	59700	155100	12600	89550
1-1/4	32	90400	156600	127800	90400	234900	191700	135600

* For choker applications, the Working Load Limit must be reduced by 20%. The Crosby A-1338 cradle grab hook and S1311N chain shortener link do not require any reduction of the Working Load Limit. The design factor of 4 to 1 on Spectrum® 10 Alloy Chain agrees with the design factor used by the International Standards Organization (I.S.O.) and ANSI B30.9 and is the preferred set of Working Load Limit values to be used. Do not use sling angles of less than 30°.

Table 5
Grade 80 (Spectrum 8®) Alloy Chain Working Load Limit – 4 to 1 Design Factor

Spectrum 8® Alloy Chain Size		90°	60°	45°	30°	60°	45°	30°
(in.)	(mm)	Single Leg	Double Leg / Single Basket		Triple and Quad Leg / Double Basket			
—	6	2500	3600	3000	2500	6500	5300	3750
1/4 (9/32)	7	3500	6100	4900	3500	9100	7400	5200
5/16	8	4500	7800	6400	4500	11700	9500	6800
3/8	10	7100	12300	10000	7100	18400	15100	10600
1/2	13	12000	20800	17000	12000	31200	25500	18000
5/8	16	18100	31300	25600	18100	47000	38400	27100
3/4	20	28300	49000	40000	28300	73500	60000	42400
7/8	22	34200	59200	48400	34200	88900	72500	51300
1	26	47700	82600	67400	47700	123900	101200	71500
1-1/4	32	72300	125200	102200	72300	187800	153400	108400

* For choker applications, the Working Load Limit must be reduced by 20%. The Crosby A-1338 cradle grab hook and S1311N chain shortener link do not require any reduction of the Working Load Limit. The design factor of 4 to 1 on Spectrum® 8 Alloy Chain agrees with the design factor used by the International Standards Organization (I.S.O.) and ANSI B30.9 and is the preferred set of Working Load Limit values to be used. Do not use sling angles of less than 30°.



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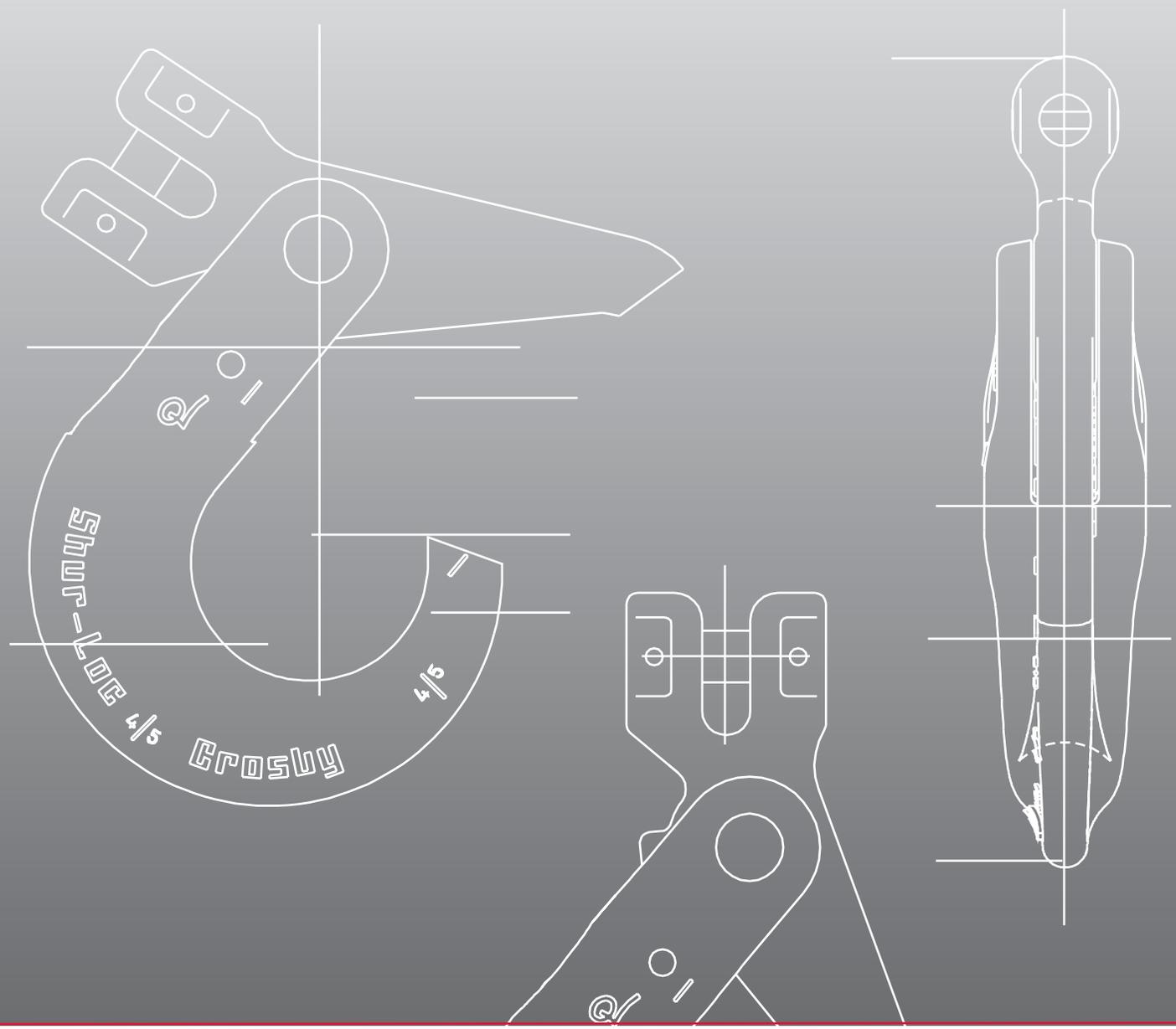


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