

## Crosby S-319 Shank Hooks with Optional Safety Latch - Range from 500kg to 30,000kg

### Crosby Hoist Shank Hooks.

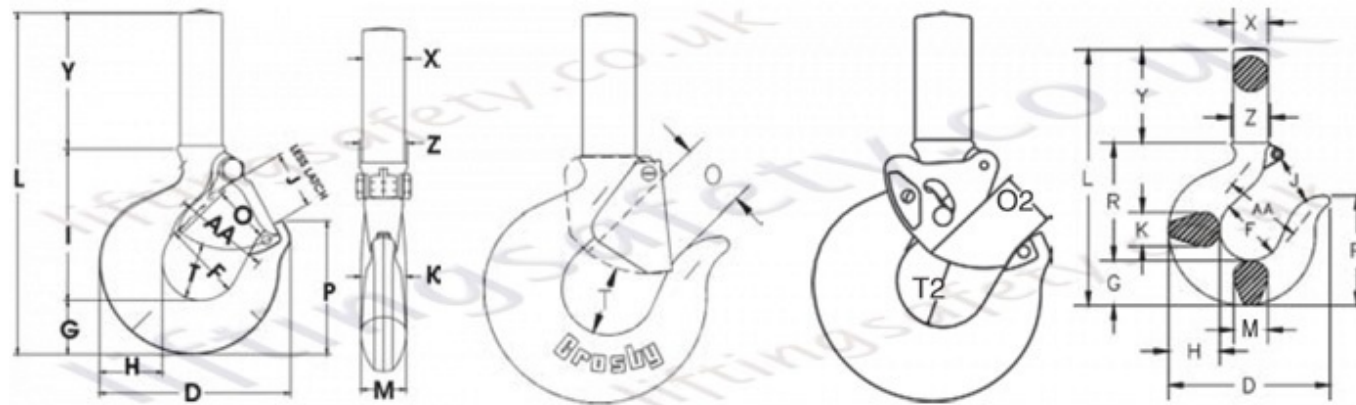
Model: Crosby S- 319 / CSH-2394



The Crosby S319 Hoist Shank Hooks from 500kg to 75 tonnes incorporate markings forged into the product which address two (2) QUIC-CHECK features. They are supplied designed with deformation Indicators -- Two strategically placed marks, one just below the shank or eye and the other on the hook up, 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 allowed between two (2) sling legs in the hook. These indicators also provide the opportunity to approximate other included angles between two sling legs.
- Chemical analysis and tensile tests performed on each PIC to verify chemistry and mechanical properties.
- Patented trademark indicates QUIC-CHECK product.





Dimensions (mm.)

Hook I.D. Code	D	F	G	H	J	K	L	M	O	O2	P	R	T	T2	X*	Y	Z	Deformation Indicator (AA)
D	72.5	31.8	18.5	20.6	23.6	16	131	16	†23.6	-	49.8	59.5	24.6	-	15	52.5	17.5	38.1
F	80.5	35.1	21.3	23.9	24.6	18	144	18	†24.6	-	56.5	66	24.6	-	16.8	57	19.8	50.8
G	91	38.1	25.4	29.5	26.9	22.4	161	22.4	†26.9	-	62	70	26.2	-	18.3	66	22.4	50.8
H	102	41.1	29	33.3	30.2	23.9	181	23.9	†29.5	-	70.5	80.5	29.5	-	22.4	72	25.4	50.8
I	123	51	36.6	41.4	38.1	33.3	219	28.7	†34.5	25.4	88	98	38.9	38.1	29.5	87.5	31.8	63.5
J	160	63.5	46.2	52.5	45.2	42.2	265	36.6	40.9	33.3	117	121	49.3	47.8	35.8	97.5	39.6	76.2
K	192	76	57.5	67	61	47.8	318	41.4	53	46	133	149	62.5	57.2	46	111	49.3	101
L	212	82.5	66	74.5	66.5	55.5	409	49.3	57.5	51	151	162	66	58.7	51	178	55.5	101
N	263	108	76.5	89	86.5	68.5	461	60.5	76.5	69.9	175	207	71.5	65	65	178	67	127
O	346	127	92	117	102	76	586	76	82.5	-	223	240	87.5	-	79	254	79	165
O	346	127	92	117	102	76	790	76	82.5	-	223	240	87.5	-	79	457	79	165
P	357	137	116	127	108	92	816	76	76	-	287	318	98.5	-	102	381	102	177
P	357	137	116	127	108	92	1044	76	76	-	287	318	98.5	-	102	610	102	177
S	392	152	129	140	121	94.5	867	82.5	86	-	319	356	121	-	106	381	106	203
S	392	152	129	140	121	94.5	1095	82.5	86	-	319	356	121	-	106	610	106	203
T	470	178	152	165	146	113	916	99.5	105	-	375	395	145	-	114	368	114	254
T	470	178	152	165	146	113	1208	99.5	105	-	375	395	145	-	114	660	114	254
U	524	197	170	184	165	133	1045	108	124	-	420	492	152	-	127	381	127	292
U	524	197	170	184	165	133	1249	108	124	-	420	492	152	-	127	584	127	292
W	584	173	218	251	149	140	1070	140	114	-	438	468	178	-	178	381	178	305
W	584	173	218	251	149	140	1222	140	114	-	438	468	178	-	178	533	178	305

X	619	171	232	278	152	152	1162	152	114	-	457	467	178	-	184	457	184	330
Y	678	191	248	300	168	178	1283	178	127	-	502	521	203	-	203	508	203	330
Z	765	241	270	329	203	184	1389	203	159	-	576	597	210	-	241	508	241	381
D	2.86	1.25	.73	.81	.93	.63	5.14	.63	.93	--	1.96	2.35	.97	--	.59	2.06	.69	1.50
F	3.16	1.38	.84	.94	.97	.71	5.68	.71	.97	--	2.22	2.59	.97	--	.66	2.25	.78	2.00
G	3.59	1.50	1.00	1.16	1.06	.88	6.35	.88	1.06	--	2.44	2.76	1.03	--	.72	2.59	.88	2.00
H	4.00	1.62	1.14	1.31	1.19	.94	7.14	.94	1.16	--	2.78	3.16	1.16	--	.88	2.84	1.00	2.00
I	4.84	2.00	1.44	1.63	1.50	1.31	8.63	1.13	1.36	1.00	3.47	3.85	1.53	1.50	1.16	3.44	1.25	2.50
J	6.28	2.50	1.82	2.06	1.78	1.66	10.43	1.44	1.61	1.31	4.59	4.77	1.96	1.88	1.41	3.84	1.56	3.00
K	7.54	3.00	2.26	2.63	2.41	1.88	12.52	1.63	2.08	1.81	5.25	5.88	2.47	2.25	1.81	4.38	1.94	4.00
L	8.34	3.25	2.60	2.94	2.62	2.19	13.47	1.94	2.27	2.00	5.96	6.37	2.62	2.31	2.00	4.50	2.19	4.00
N	10.34	4.25	3.01	3.50	3.41	2.69	16.65	2.38	3.02	2.75	6.88	8.14	2.83	2.56	2.56	5.50	2.63	5.00
O	13.62	5.00	3.62	4.62	4.00	3.00	23.09	3.00	3.25	--	8.78	9.44	3.44	--	3.12	10.00	3.12	6.50
O	13.62	5.00	3.62	4.62	4.00	3.00	31.09	3.00	3.25	--	8.78	9.44	3.44	--	3.12	18.00	3.12	6.50
P	14.06	5.38	4.56	5.00	4.25	3.62	32.12	3.00	3.00	--	11.31	12.50	3.88	--	4.00	15.00	4.00	7.00
P	14.06	5.38	4.56	5.00	4.25	3.62	41.12	3.00	3.00	--	11.31	12.50	3.88	--	4.00	24.00	4.00	7.00
S	15.44	6.00	5.06	5.50	4.75	3.72	34.12	3.25	3.38	--	12.56	14.00	4.75	--	4.19	15.00	4.19	8.00
S	15.44	6.00	5.06	5.50	4.75	3.72	43.12	3.25	3.38	--	12.56	14.00	4.75	--	4.19	24.00	4.19	8.00
T	18.50	7.00	6.00	6.50	5.75	4.44	36.06	3.91	4.12	--	14.75	15.56	5.69	--	4.50	14.50	4.50	10.00
T	18.50	7.00	6.00	6.50	5.75	4.44	47.56	3.91	4.12	--	14.75	15.56	5.69	--	4.50	26.00	4.50	10.00
U	20.62	7.75	6.69	7.25	6.50	5.25	41.16	4.25	4.88	--	16.53	19.38	6.00	--	5.00	15.00	5.00	11.50
U	20.62	7.75	6.69	7.25	6.50	5.25	49.16	4.25	4.88	--	16.53	19.38	6.00	--	5.00	23.00	5.00	11.50
W	23.00	6.81	8.59	9.88	5.88	5.50	42.12	5.50	4.50	--	17.25	18.41	7.00	--	7.00	15.00	7.00	12.00
W	23.00	6.81	8.59	9.88	5.88	5.50	48.12	5.50	4.50	--	17.25	18.41	7.00	--	7.00	21.00	7.00	12.00
X	24.38	6.75	9.12	10.94	6.00	6.00	45.75	6.00	4.50	--	18.00	18.38	7.00	--	7.25	18.00	7.25	13.00
Y	26.69	7.50	9.75	11.81	6.60	7.00	50.50	7.00	5.00	--	19.75	20.50	8.00	--	8.00	20.00	8.00	13.00
Z	30.12	9.50	10.62	12.94	8.00	7.25	54.69	8.00	6.25	--	22.69	23.50	8.25	--	9.50	20.00	9.50	15.00

### Important Notes

- Proof load is 2 times Working Load Limit.
- All carbon hooks designed with a 5/1 design factor.
- All alloy hooks 1-22t designed with a 4.5/1 safety factor.

- All alloy hooks 30t and larger designed with a 4/1 safety factor.
- All bronze hooks designed with a 4/1 safety factor.

As advertised in **Crosby General Catalogue 2009 Page 92**, and previously in **Crosby General Catalogue 2006 Page 88**.

General

Glossary

Limited Warranty

Common Symbols

Crosby Quality

Product Identification

Heat Treatment

Material Properties

## General Information

Show all Crosby Lifting and Rigging Equipment (</category/crosby-lifting-and-rigging-350.html>).

All products manufactured by The Crosby Group Inc. are sold with the express understanding that the purchaser is thoroughly familiar with the safe and proper use and application of the product. Responsibility for the use and application of the products rests with the user. The Crosby Group disseminates products warnings and end user application information through various channels. In addition, Crosby provides formal product training seminars and our engineering personnel are readily available to answer your technical questions. For more information read the Crosby General Catalog, available from SELS on 01977684600.

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

Ratings shown in Crosby Group literature are applicable only to new or "in as new" condition products.

Load Limit ratings indicate the greatest force or load a product can carry under usual environmental conditions. Shock loading and extraordinary conditions must be taken into account when selecting products for use in a system. In general, the products displayed in Crosby Group literature are used as parts of a system being employed to accomplish a task. Therefore, we can only recommend within the Working Load Limits, or other stated limitations, the use of products for this purpose.

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

### Facts. Notes and Warninns

- Crosby Group products generally are intended for tension or pull. Side loading must be avoided, as it exerts additional force or loading which the product is not designed to accommodate.
- Welding Crosby load support parts or products can be hazardous. Knowledge of materials, heat treatment, and welding procedures are necessary for proper welding. Crosby Group should be consulted for information.
- The assigned Ultimate Load Rating of Crosby Group products for the reeving of wire, manila, or synthetic rope is based upon design; the catalog ultimate strength for

## Crosby Hooks information

DESIGN	COMPETITION	CROSBY
<p>The theoretical reserve capability of a hoist hook should be a minimum of 5 to 1 for carbon eye hooks, alloy eye hooks and carbon shank hooks and 4.5 to 1 for alloy shank hooks. 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 hooks is the selection of proper steel.</p>	<p><b>Ask:</b> What is the design factor? <b>Ask:</b> Is each production lot performance tested?</p>	<p>Crosby hoist hooks meet the design factor requirements of 5 to 1 for all carbon hooks, 5 to 1 for all alloy eye and swivel hooks and 4.5 to 1 for alloy shank hooks. Crosby's QC 1400 program determines the mechanical properties of each manufacturing lot of hoist hooks. In addition to the heat treat process, Crosby hooks are designed with a cross section that, when overloaded, allows uniform deformation and straightening before ultimate failure.</p>
<p><b>QUENCHED AND TEMPERED</b></p> <p>Quenching and tempering assures the uniformity of performance and maximizes the properties of the steel. This means that each hook meets its rated strength and other properties. This quenching and tempering process develops a tough material that reduces the risk of a brittle, catastrophic failure, thus improving impact and fatigue properties. As a result, if overloaded, the hook will deform before ultimate failure occurs, thus giving warn-ing. The requirements of your job demand this reliability and consistency. Quench and Tempering insures that not only is the working load limit met, but that ductility, fatigue and impact properties are appropriate.</p>	<p><b>Ask:</b> Are their hooks quenched and tempered? <b>Ask:</b> If overloaded, do their hooks deform, giving warning before ultimate failure? Some competitors normalize the hooks, and as a result, desired properties are not achieved. A few even provide hooks in an "as forged" condition, which can result in brittle failure.</p>	<p>Crosby hoist hooks are quenched and tempered. This heat treatment process assures a hook that will deform prior to ultimate failure. Impact and fatigue properties are superior with quenched and tempered hooks. Crosby's Quenched and Tempered carbon and alloy hoist hooks are recommended for all critical applications, including overhead lifting.</p>
<p><b>FULL LINE AND IDENTIFICATION</b></p> <p>The proper application of hoist hooks requires that the correct type, size, and working load capacity of hook be used. All hooks must be load rated (with either the working load or a cross reference code). In addition the traceability code, size, and manufacturer's name should be boldly marked on the product. Availability of a full line of eye, shank, and swivel hooks in carbon and alloy steel is essential when selecting the desired hook for the proper application.</p>	<p><b>Ask:</b> Do they have a traceability system? <b>Ask:</b> Does their traceability system tie into a comprehensive material testing program? <b>Ask:</b> Does their product offering cover the full range? Most competitors do not have the full line of hooks that Crosby produces. Most do not have a traceability system.</p>	<p>Crosby forges "Crosby" or "CG," the Product Identification Code (P.I.C.), and working load limit (or working load cross reference code) into its full line. Crosby's traceability system and P.I.C. are an integral part of the QC 1400 program.</p>
<p><b>APPLICATION INFORMATION</b></p> <p>Detailed application information will assist you in the proper selection and use of hoist hooks. This information is most effective when provided in supporting brochures and engineering information. A formal application and</p>	<p><b>Ask:</b> Do they provide hook application and warning information attached directly to the hook? <b>Ask:</b> What training support is provided? Most competitors do not have a</p>	<p>The Crosby Product Warnings System provides detailed application and warning information for hoist hooks. In addition, a video on hook maintenance is also available. Field inspection criteria and repair instructions are also available. Training seminars conducted by Crosby</p>




3/4	1	.5	D	1028505	1028701	1028900	Std.	.50	1096325	-	-
1	1.5	.6	F	1028514	1028710	1028909	Std.	.75	1096374	-	-
1-1/2	2	1	G	1028523	1028723	1028918	Std.	1.00	1096421	-	-
2	3	1.4	H	1028532	1028732	1028927	Std.	1.82	1096468	-	-
3	5	2	I	1028541	1028741	1028936	Std.	3.69	1096515	1092000	-
5	7	3.5	J	1028550	1028750	1028945	Std.	7.25	1096562	1092001	-
7-1/2	11	5	K	1028563	1028765	1028954	Std.	13.49	1096609	1092002	-
10	15	6.5	L	1028572	1028774	1028963	Std.	18.00	1096657	1092003	-
15	22	10	N	1028581	1028783	1028972	Std.	35.33	1096704	1092004	-
20	30	-	O	1024386	1024803	-	Std.	72.00	-	1093716	1090161
20	30	-	O	1024402	1024821	-	Long	85.50	-	1093716	1090161
25	37	-	P	1024420	1024849	-	Std.	134.00	-	1093717	1090189
25	37	-	P	1024448	1024867	-	Long	172.00	-	1093717	1090189
30	45	-	S	1024466	1024885	-	Std.	182.00	-	1093718	1090189
30	45	-	S	1024484	1024901	-	Long	214.00	-	1093718	1090189
40	60	-	T	1024509	1024929	-	Std.	268.00	-	1093719	1090205
40	60	-	T	1024545	1024965	-	Long	312.00	-	1093719	1090205
50	75	-	U	1024563	1024983	-	Std.	390.00	-	1093720	-
50	75	-	U	1024581	1025009	-	Long	426.00	-	1093720	-
-	100	-	W	-	1025027	-	Std.	610.00	-	1093721	-
-	100	-	W	-	1025045	-	Long	675.00	-	1093721	-
-	150	-	X	-	1025063	-	Std.	735.00	-	1093721	-
-	200	-	Y	-	1025081	-	Std.	1020.00	-	1093723	-
-	300	-	Z	-	1025090	-	Std.	1390.00	-	1093724	-

## Dimensions

Dimensions (in.)																		
Hook I.D. Code	D	F	G	H	J	K	L	M	O	O2	P	R	T	T2	X*	Y	Z	Deformation Indicator (AA)
D	2.86	1.25	.73	.81	.93	.63	5.14	.63	.93	--	1.96	2.35	.97	--	.59	2.06	.69	1.50
F	3.16	1.38	.84	.94	.97	.71	5.68	.71	.97	--	2.22	2.59	.97	--	.66	2.25	.78	2.00
G	3.59	1.50	1.00	1.16	1.06	.88	6.35	.88	1.06	--	2.44	2.76	1.03	--	.72	2.59	.88	2.00
H	4.00	1.62	1.14	1.31	1.19	.94	7.14	.94	1.16	--	2.78	3.16	1.16	--	.88	2.84	1.00	2.00




I	4.84	2.00	1.44	1.63	1.50	1.31	8.63	1.13	1.36	1.00	3.47	3.85	1.53	1.50	1.16	3.44	1.25	2.50
J	6.28	2.50	1.82	2.06	1.78	1.66	10.43	1.44	1.61	1.31	4.59	4.77	1.96	1.88	1.41	3.84	1.56	3.00
K	7.54	3.00	2.26	2.63	2.41	1.88	12.52	1.63	2.08	1.81	5.25	5.88	2.47	2.25	1.81	4.38	1.94	4.00
L	8.34	3.25	2.60	2.94	2.62	2.19	13.47	1.94	2.27	2.00	5.96	6.37	2.62	2.31	2.00	4.50	2.19	4.00
N	10.34	4.25	3.01	3.50	3.41	2.69	16.65	2.38	3.02	2.75	6.88	8.14	2.83	2.56	2.56	5.50	2.63	5.00
O	13.62	5.00	3.62	4.62	4.00	3.00	23.09	3.00	3.25	--	8.78	9.44	3.44	--	3.12	10.00	3.12	6.50
O	13.62	5.00	3.62	4.62	4.00	3.00	31.09	3.00	3.25	--	8.78	9.44	3.44	--	3.12	18.00	3.12	6.50
P	14.06	5.38	4.56	5.00	4.25	3.62	32.12	3.00	3.00	--	11.31	12.50	3.88	--	4.00	15.00	4.00	7.00
P	14.06	5.38	4.56	5.00	4.25	3.62	41.12	3.00	3.00	--	11.31	12.50	3.88	--	4.00	24.00	4.00	7.00
S	15.44	6.00	5.06	5.50	4.75	3.72	34.12	3.25	3.38	--	12.56	14.00	4.75	--	4.19	15.00	4.19	8.00
S	15.44	6.00	5.06	5.50	4.75	3.72	43.12	3.25	3.38	--	12.56	14.00	4.75	--	4.19	24.00	4.19	8.00
T	18.50	7.00	6.00	6.50	5.75	4.44	36.06	3.91	4.12	--	14.75	15.56	5.69	--	4.50	14.50	4.50	10.00
T	18.50	7.00	6.00	6.50	5.75	4.44	47.56	3.91	4.12	--	14.75	15.56	5.69	--	4.50	26.00	4.50	10.00
U	20.62	7.75	6.69	7.25	6.50	5.25	41.16	4.25	4.88	--	16.53	19.38	6.00	--	5.00	15.00	5.00	11.50
U	20.62	7.75	6.69	7.25	6.50	5.25	49.16	4.25	4.88	--	16.53	19.38	6.00	--	5.00	23.00	5.00	11.50
W	23.00	6.81	8.59	9.88	5.88	5.50	42.12	5.50	4.50	--	17.25	18.41	7.00	--	7.00	15.00	7.00	12.00
W	23.00	6.81	8.59	9.88	5.88	5.50	48.12	5.50	4.50	--	17.25	18.41	7.00	--	7.00	21.00	7.00	12.00
X	24.38	6.75	9.12	10.94	6.00	6.00	45.75	6.00	4.50	--	18.00	18.38	7.00	--	7.25	18.00	7.25	13.00
Y	26.69	7.50	9.75	11.81	6.60	7.00	50.50	7.00	5.00	--	19.75	20.50	8.00	--	8.00	20.00	8.00	13.00
Z	30.12	9.50	10.62	12.94	8.00	7.25	54.69	8.00	6.25	--	22.69	23.50	8.25	--	9.50	20.00	9.50	15.00

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### Product Warnings

PDF containing all warning information relevant to the safe use of this product (approx. 0.3Mb)

✉ [sales@liftingsafety.co.uk](mailto:sales@liftingsafety.co.uk) (mailto:sales@liftingsafety.co.uk)

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