

CHARPY IMPACT TEST

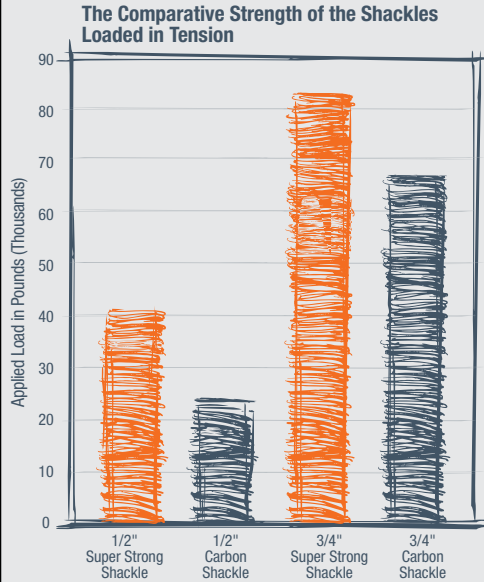
The Charpy V-Notch Test was developed during World War 2 to test the penetration resistance of steel armor. It has since evolved into a method to test for toughness of steel in critical structures such as buildings or bridges.

In this test, a bar is mounted horizontally with the notch facing away from an impact weight suspended on a pendulum. When the weight is released, it swings down and breaks through the bar. An indicator measures how far the pendulum continues to swing after breaking the bar. The momentum of the pendulum is then the measure of the resistance of the material to breaking or penetration.

CM Super Strong shackles, with the lower hardness values, will consistently pull more than a competitor's carbon shackles of the same diameter. CM Super Strong shackles were designed to improve overall load strength and ductility without an increase in shackle diameter.

CM alloy shackles will meet the Charpy Impact Test requirements. Results of this testing show that CM Super Strong shackles greatly exceed the minimum strength requirements.

RESULTS OF COMPARISON TESTING
CM SUPER STRONG SHACKLES VERSUS STANDARD CARBON SHACKLES



"Clearly the CM Big Orange[®] shackles exhibited superior strength and more ductility than the carbon steel shackles of the same nominal section size. While all of the shackles performed above their ratings, the CM Big Orange shackle performance was superior.

The CM Big Orange[®] shock test results indicated severe deformation occurred but no fracture was present. The carbon steel parts fractured in two tests and were severely cracked in a third test. These results indicate that the CM Big Orange shackle assembly is stronger and more ductile than the carbon steel shackle of the same size. For these reasons, the CM Big Orange shackle provides more extensive deformation prior to fracture. In conclusion, this test demonstrates the superiority of the CM Big Orange shackles when compared to the carbon steel shackles under the shock loaded conditions."

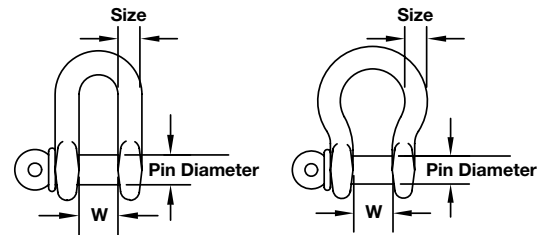
Verified by John Bloodsworth, P.E.
 Q.C. Metallurgical Laboratory, Inc.

* CM Big Orange[®] shackles are now referred to as CM Super Strong shackles.

SHACKLE SPECIFICATIONS

DIMENSIONS & WORKING LOAD LIMITS

CM shackles are available in different dimensions with varying working load limits depending on the material they are made of. See the charts below for sizes and working load limits of our alloy, carbon and super strong shackles.



CARBON

Size (in.)	WLL (tons)	WLL (lbs.)	Pin Dia. (in.)	W dim. (in.)
3/16	1/3	667	0.25	0.38
1/4	1/2	1,000	0.31	0.47
5/16	3/4	1,500	0.38	0.53
3/8	1	2,000	0.44	0.66
7/16	1-1/2	3,000	0.50	0.72
1/2	2	4,000	0.63	0.84
5/8	3-1/4	6,500	0.75	1.06
3/4	4-3/4	9,500	0.88	1.28
7/8	6-1/2	13,000	1.00	1.44
1	8-1/2	17,000	1.13	1.72
1-1/8	9-1/2	19,000	1.25	1.84
1-1/4	12	24,000	1.38	2.03
1-3/8	13-1/2	27,000	1.50	2.25
1-1/2	17	34,000	1.63	2.41
1-5/8	20	40,000	1.75	2.66
1-3/4	25	50,000	2.00	2.94
2	35	70,000	2.25	3.28

SUPER STRONG

Size (in.)	WLL (tons)	WLL (lbs.)	Pin Dia. (in.)	W dim. (in.)
3/16	1/2	1,000	0.25	0.38
1/4	3/4	1,500	0.31	0.47
5/16	1	2,000	0.38	0.53
3/8	1-1/2	3,000	0.44	0.66
7/16	2	4,000	0.50	0.72
1/2	3	6,000	0.63	0.84
5/8	4-1/2	9,000	0.75	1.06
3/4	6-1/2	13,000	0.88	1.28
7/8	8-1/2	17,000	1.00	1.44
1	10	20,000	1.13	1.72
1-1/8	12	24,000	1.25	1.84
1-1/4	14	28,000	1.38	2.03
1-3/8	17	34,000	1.50	2.25
1-1/2	20	40,000	1.63	2.41
1-5/8	24	48,000	1.75	2.66
1-3/4	30	60,000	2.00	2.94
2	35	70,000	2.25	3.28

ALLOY

Size (in.)	WLL (tons)	WLL (lbs.)	Pin Dia. (in.)	W dim. (in.)
3/8	2	4,000	0.44	0.66
7/16	2.6	5,200	0.50	0.72
1/2	3.3	6,600	0.63	0.84
5/8	5	10,000	0.75	1.06
3/4	7	14,000	0.88	1.28
7/8	9.5	19,000	1.00	1.44
1	12.5	25,000	1.13	1.72
1-1/8	15	30,000	1.25	1.84
1-1/4	18	36,000	1.38	2.03
1-3/8	21	42,000	1.50	2.25
1-1/2*	25	50,000	1.63	2.41
1-1/2**	30	60,000	1.63	2.41
1-5/8*	29	58,000	1.75	2.66
1-5/8**	35	70,000	1.75	2.66
1-3/4*	34	68,000	2.00	2.94
1-3/4**	40	80,000	2.00	2.94
2*	43	86,000	2.25	3.28
2**	50	100,000	2.25	3.28

* Screw Pin & Round Pin style only
 ** Bolt, Nut & Cotter style only



SUPER STRONG ANCHOR SHACKLES

WORKING LOAD LIMIT: 1/2 TO 35 TONS

CM Super Strong Shackles are carbon-type shackles with strength ratings that are 17 to 50% stronger than comparable-sized carbon shackles. As a result, these shackles are designed with a 6:1 design factor. Anchor shackles can be side loaded or used for multiple connections.

BENEFITS & FEATURES

- Manufactured from technically advanced domestic (U.S.A.) microalloy steel with optimal hardness for strength and ductility
- Shackles show major deformation before failure
- Working load limit and traceability codes shown as permanent markings on body
- All shackles have alloy quenched and tempered pins
- Available in sizes 3/16" to 2"
- Available finishes include powder coated, galvanized or self-colored
- Shackles meet dimensional requirements and exceed performance requirements of RR-C-271
- Special testing and certification is available if requested at the time of the order
- Note: Screw pin and bolt/nut/cotter shackles have a 6:1 design factor. All round pin shackles have a 5:1 design factor.
- Screw pin & bolt/nut/cotter shackles meet ASME B30.26



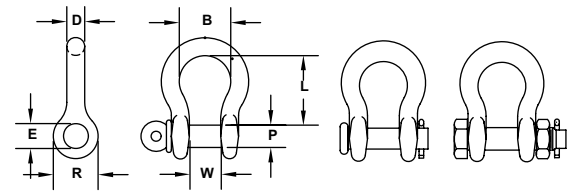
Screw Pin



Round Pin



Bolt, Nut & Cotter



STYLES: Screw Pin, Round Pin, Bolt/Nut/Cotter
FINISHES: Self Colored, Galvanized, Orange Powder Coated

Size D (in.)	Working Load Limit (Ton)	Std. Pkg.	Weight (lbs.)	Product Code									Dimensions (in.)					
				Screw Pin			Round Pin			Bolt, Nut & Cotter			P	E	W	R	L	B (min.)
				Self Colored	Galva-nized	Orange Powder Coated	Self Colored	Galva-nized	Orange Powder Coated	Self Colored	Galva-nized	Orange Powder Coated						
3/16	1/2	50	0.06	-	M645G	-	-	M345G	-	-	-	-	0.25	0.29	0.38	0.57	0.88	0.58
1/4	3/4	50	0.12	M646	M646G	M646P	M346	M346G	M346P	M846	M846G	M846P	0.31	0.36	0.47	0.75	1.13	0.75
5/16	1	50	0.20	M647	M647G	M647P	M347	M347G	M347P	M847	M847G	M847P	0.38	0.45	0.53	0.84	1.25	0.81
3/8	1-1/2	50	0.30	M648	M648G	M648P	M348	M348G	M348P	M848	M848G	M848P	0.44	0.52	0.66	1.00	1.40	1.00
7/16	2	50	0.50	M649	M649G	M649P	M349	M349G	M349P	M849	M849G	M849P	0.50	0.58	0.72	1.15	1.69	1.19
1/2	3	50	0.75	M650	M650G	M650P	M350	M350G	M350P	M850	M850G	M850P	0.63	0.70	0.84	1.34	1.94	1.38
5/8	4-1/2	25	1.30	M651	M651G	M651P	M351	M351G	M351P	M851	M851G	M851P	0.75	0.83	1.06	1.66	2.41	1.63
3/4	6-1/2	10	2.30	M652	M652G	M652P	M352	M352G	M352P	M852	M852G	M852P	0.88	0.95	1.28	1.94	2.84	1.89
7/8	8-1/2	10	3.50	M653	M653G	M653P	M353	M353G	M353P	M853	M853G	M853P	1.00	1.09	1.44	2.14	3.31	2.06
1	10	5	5.00	M654	M654G	M654P	M354	M354G	M354P	M854	M854G	M854P	1.13	1.22	1.72	2.44	3.75	2.52
1-1/8	12	Bulk	7.00	M655	M655G	M655P	M355	M355G	M355P	M855	M855G	M855P	1.25	1.36	1.84	2.66	4.02	2.69
1-1/4	14	Bulk	9.50	M656	M656G	M656P	M356	M356G	M356P	M856	M856G	M856P	1.38	1.52	2.03	3.15	4.63	2.88
1-3/8	17	Bulk	12.50	M666	M666G	M666P	M366	M366G	M366P	M866	M866G	M866P	1.50	1.65	2.25	3.25	5.19	3.25
1-1/2	20	Bulk	17.20	M657	M657G	M657P	M357	M357G	M357P	M857	M857G	M857P	1.63	1.77	2.41	3.50	5.63	3.50
1-5/8	24	Bulk	23.50	M685	M685G	M685P	M385	M385G	M385P	M885	M885G	M885P	1.75	1.88	2.66	3.91	6.13	4.13
1-3/4	30	Bulk	27.70	M677	M677G	M677P	M377	M377G	M377P	M877	M877G	M877P	2.00	2.13	2.94	4.06	6.97	4.75
2	35	Bulk	39.00	M658	M658G	M658P	M358	M358G	M358P	M858	M858G	M858P	2.25	2.38	3.28	4.51	7.44	5.50



SUPER STRONG CHAIN SHACKLES

WORKING LOAD LIMIT: 3/4 TO 35 TONS

CM Super Strong Shackles are carbon-type shackles with strength ratings that are 17 to 50% stronger than comparable-sized carbon shackles. As a result, these shackles are designed with a 6:1 design factor. Chain shackles are best suited for straight-line pulls.

BENEFITS & FEATURES

- Manufactured from technically advanced domestic (U.S.A.) microalloy steel with optimal hardness for strength and ductility
- Shackles show major deformation before failure
- Working load limit and traceability codes shown as permanent markings on body
- All shackles have alloy quenched and tempered pins
- Available in sizes 1/4" to 2"
- Available finishes: galvanized
- Carbon industrial/government rated chain shackles available through special quote
- Shackles meet dimensional requirements and exceed performance requirements of RR-C-271
- Special testing and certification is available if requested at the time of the order
- Note: Screw pin and bolt/nut/cotter shackles have a 6:1 design factor. Round pin shackles have a 5:1 design factor.
- Screw pin & bolt/nut/cotter shackles meet ASME B30.26

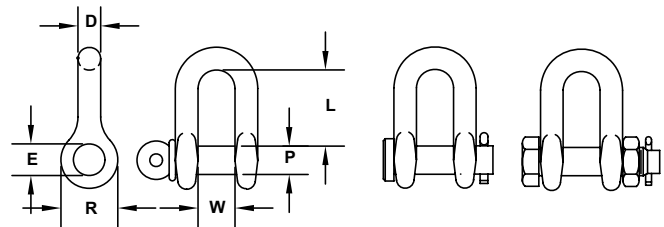


Round Pin



Screw Pin

Bolt, Nut & Cotter



STYLES: Screw Pin, Round Pin, Bolt/Nut/Cotter
FINISHES: Galvanized

Size D (in.)	Working Load Limit (Ton)	Std. Pkg.	Weight (lbs.)	Product Code			Dimensions (in.)				
				Screw Pin	Round Pin	Bolt, Nut & Cotter	P	E	W	R	L
				Galvanized	Galvanized	Galvanized					
1/4	3/4	50	0.12	M746G	M546G	M946G	0.31	0.36	0.47	0.75	0.88
5/16	1	50	0.20	M747G	M547G	M947G	0.38	0.46	0.56	0.84	1.03
3/8	1-1/2	50	0.30	M748G	M548G	M948G	0.44	0.52	0.66	0.99	1.25
1/2	3	50	0.75	M750G	M550G	M950G	0.63	0.70	0.84	1.25	1.69
5/8	4-1/2	25	1.30	M751G	M551G	M951G	0.75	0.83	1.09	1.58	2.00
3/4	6-1/2	10	2.30	M752G	M552G	M952G	0.88	0.95	1.25	1.89	2.38
7/8	8-1/2	10	3.50	M753G	M553G	M953G	1.00	1.09	1.44	2.14	2.88
1	10	5	5.00	M754G	M554G	M954G	1.13	1.22	1.72	2.41	3.19
1-1/8	12	Bulk	7.00	M755G	M555G	M955G	1.25	1.34	1.81	2.69	3.56
1-1/4	14	Bulk	9.50	M756G	M556G	M956G	1.38	1.50	2.03	3.13	3.94
1-3/8	17	Bulk	12.50	M766G	M566G	M966G	1.50	1.63	2.25	3.32	4.44
1-1/2	20	Bulk	17.20	M757G	M557G	M957G	1.63	1.78	2.38	3.57	4.88
1-5/8	24	Bulk	23.50	M785G	M585G	M985G	1.75	1.88	2.63	3.94	5.25
1-3/4	30	Bulk	27.70	M777G	M577G	M977G	2.00	2.13	2.88	4.06	5.75
2	35	Bulk	39.00	M758G	M558G	M958G	2.25	2.38	3.28	4.53	6.75

SHACKLES



CARBON ANCHOR SHACKLES (INDUSTRIAL/GOVERNMENT-RATED)

WORKING LOAD LIMIT: 1/3 TO 35 TONS

CM Industrial/Government-Rated Carbon Shackles are designed with a 6:1 design factor. Anchor shackles can be side loaded or used for multiple connections.

BENEFITS & FEATURES

- Manufactured from technically advanced domestic (U.S.A.) microalloy steel with optimal hardness for strength and ductility
- All shackles have alloy quenched and tempered pins
- Working load limit and traceability codes shown as permanent markings on body
- Available in sizes 3/16" to 2"
- Available finishes include powder coated, self-colored or galvanized per ASTM A153
- All bolt, nut & cotter shackles have thread-protected ends
- Shackles meet dimensional, marking and performance requirements of RR-C-271
- Standard industry tolerances apply
- Design factor 6:1
- Screw pin & bolt/nut/cotter shackles meet ASME B30.26

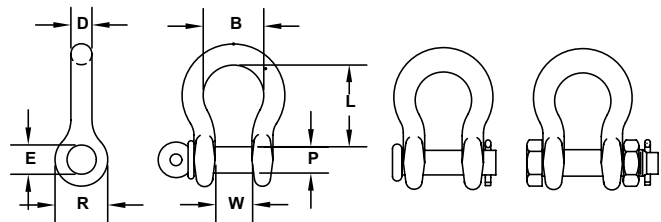


Screw Pin



Round Pin

Bolt, Nut & Cotter



SHACKLES

▶ DID YOU KNOW?

CM INDUSTRIAL/GOVERNMENT VS. CM SUPER STRONG SHACKLES

An Industrial/Government shackle is a Super Strong shackle de-rated to meet, not exceed, the Federal Specification RR-C-271.

That means it has the same dimensions and performance characteristics as a Super Strong shackle but is marked with specifications to meet government requirements.

Example:

- 1" Super Strong shackle will be marked 10 Ton WLL

For more information, visit us at WWW.CMCO.COM

STYLES: Screw Pin, Round Pin, Bolt/Nut/Cotter
FINISHES: Galvanized, Orange Powder Coated

Size D (in.)	Working Load Limit (Ton)	Std. Pkg.	Weight (lbs.)	Product Code				Dimensions (in.)					
				Screw Pin		Round Pin	Bolt, Nut & Cotter	P	E	W	R	L	B (min.)
				Galvanized	Orange Powder Coated	Galvanized	Galvanized						
3/16	1/3	50	0.06	MC645G	-	MC345G	-	0.25	0.29	0.38	0.57	0.88	0.58
1/4	1/2	50	0.12	MC646G	MC646P	MC346G	MC846G	0.31	0.36	0.47	0.75	1.13	0.75
5/16	3/4	50	0.20	MC647G	MC647P	MC347G	MC847G	0.38	0.45	0.53	0.84	1.25	0.81
3/8	1	50	0.30	MC648G	MC648P	MC348G	MC848G	0.44	0.52	0.66	1.00	1.40	1.00
7/16	1-1/2	50	0.50	MC649G	MC649P	MC349G	MC849G	0.50	0.58	0.72	1.15	1.69	1.19
1/2	2	50	0.75	MC650G	MC650P	MC350G	MC850G	0.63	0.70	0.84	1.34	1.94	1.38
5/8	3-1/4	25	1.30	MC651G	MC651P	MC351G	MC851G	0.75	0.83	1.06	1.66	2.41	1.63
3/4	4-3/4	10	2.25	MC652G	MC652P	MC352G	MC852G	0.88	0.95	1.28	1.94	2.84	1.89
7/8	6-1/2	10	3.50	MC653G	MC653P	MC353G	MC853G	1.00	1.09	1.44	2.14	3.31	2.06
1	8-1/2	5	5.00	MC654G	MC654P	MC354G	MC854G	1.13	1.22	1.72	2.44	3.75	2.52
1-1/8	9-1/2	Bulk	7.00	MC655G	-	MC355G	MC855G	1.25	1.36	1.84	2.66	4.02	2.69
1-1/4	12	Bulk	9.00	MC656G	-	MC356G	MC856G	1.38	1.52	2.03	3.15	4.63	2.88
1-3/8	13-1/2	Bulk	12.50	MC666G	-	MC366G	MC866G	1.50	1.65	2.25	3.25	5.19	3.25
1-1/2	17	Bulk	17.20	MC657G	-	MC357G	MC857G	1.63	1.77	2.41	3.50	5.63	3.50
1-5/8	20	Bulk	23.50	MC685G	-	MC385G	MC885G	1.75	1.88	2.66	3.91	6.97	4.75
1-3/4	25	Bulk	227.70	MC677G	-	MC377G	MC877G	2.00	2.13	2.94	4.51	7.44	5.50
2	35	Bulk	39.00	M658G	M658P	M358GG	-	2.25	2.38	3.28	4.51	7.44	5.50



ALLOY ANCHOR SHACKLES

WORKING LOAD LIMIT: 2 TO 50 TONS

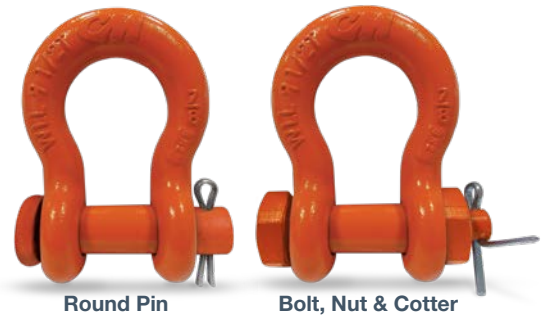
CM Alloy Shackles are designed with a 5:1 design factor and have a strength rating approximately 50% higher than a comparable-sized carbon shackle and about 25% stronger than super strong shackles. Anchor shackles can be side loaded or used for multiple connections.

BENEFITS & FEATURES

- 3/8" to 2" sizes made in the U.S.A. from domestic (U.S.A.) Special Bar Quality (SBQ) steel having fine grain, reduced sulfur and phosphorus.
- Shackles show major deformation before failure
- Working load limit and traceability codes shown as permanent markings on body
- All shackles have alloy quenched and tempered pins
- Available in sizes 3/8" to 2"
- Available finishes include powder coated, galvanized or self-colored
- Shackles meet dimensional, marking and performance requirements of RR-C-271
- Special testing and certification is available if requested at the time of the order
- Design factor 5:1
- Screw pin & bolt/nut/cotter shackles meet ASME B30.26

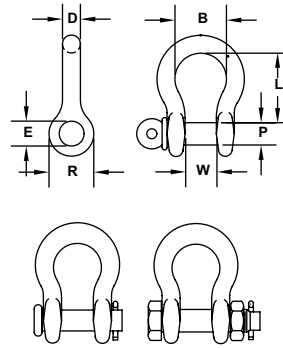


Screw Pin



Round Pin

Bolt, Nut & Cotter



STYLES: Screw Pin, Round Pin, Bolt/Nut/Cotter
FINISHES: Self Colored, Galvanized, Orange Powder Coated

Size D (in.)	Working Load Limit (Ton)	Std. Pkg.	Weight (lbs.)	Product Code									Dimensions (in.)					
				Screw Pin			Round Pin			Bolt, Nut & Cotter			P	E	W	R	L	B min
				Self Colored	Galva-nized	Orange Powder Coated	Self Colored	Galva-nized	Orange Powder Coated	Self Colored	Galva-nized	Orange Powder Coated						
3/8	2	50	0.30	M648A	M648AG	M648AP	-	-	-	M848A	M848AG	M848AP	0.44	0.52	0.66	1.00	1.40	1.00
7/16	2.6	50	0.50	M649A	M649AG	M649AP	-	-	-	M849A	M849AG	M849AP	0.50	0.58	0.72	1.15	1.69	1.19
1/2	3.3	50	0.75	M650A	M650AG	M650AP	M350A	M350AG	M350AP	M850A	M850AG	M850AP	0.63	0.70	0.84	1.34	1.94	1.38
5/8	5	25	1.30	M651A	M651AG	M651AP	M351A	M351AG	M351AP	M851A	M851AG	M851AP	0.75	0.83	1.06	1.66	2.41	1.63
3/4	7	10	2.30	M652A	M652AG	M652AP	M352A	M352AG	M352AP	M852A	M852AG	M852AP	0.88	0.95	1.28	1.94	2.84	1.89
7/8	9.5	10	3.50	M653A	M653AG	M653AP	M353A	M353AG	M353AP	M853A	M853AG	M853AP	1.00	1.09	1.44	2.14	3.31	2.06
1	12.5	5	5.00	M654A	M654AG	M654AP	M354A	M354AG	M354AP	M854A	M854AG	M854AP	1.13	1.22	1.72	2.44	3.75	2.52
1-1/8	15	Bulk	7.00	M655A	M655AG	M655AP	M355A	M355AG	M355AP	M855A	M855AG	M855AP	1.25	1.36	1.84	2.66	4.02	2.69
1-1/4	18	Bulk	9.50	M656A	M656AG	M656AP	M356A	M356AG	M356AP	M856A	M856AG	M856AP	1.38	1.52	2.03	3.15	4.63	2.88
1-3/8	21	Bulk	12.50	M666A	M666AG	M666AP	M366A	M366AG	M366AP	M866A	M866AG	M866AP	1.50	1.65	2.25	3.25	5.19	3.25
1-1/2	25	Bulk	17.20	M657A	M657AG	M657AP	M357A	M357AG	M357AP	-	-	-	1.63	1.77	2.41	3.50	5.63	3.50
1-1/2	30	Bulk	17.20	-	-	-	-	-	-	M857A	M857AG	M857AP	1.63	1.77	2.41	3.50	5.63	3.50
1-5/8	29	Bulk	23.50	M685A	M685AG	M685AP	M385A	M385AG	M385AP	-	-	-	1.75	1.88	2.66	3.91	6.13	4.13
1-5/8	35	Bulk	23.50	-	-	-	-	-	-	M885A	M885AG	M885AP	1.75	1.88	2.66	3.91	6.13	4.13
1-3/4	34	Bulk	27.70	M677A	M677AG	M677AP	M377A	M377AG	M377AP	-	-	-	2.00	2.13	2.94	4.06	6.97	4.75
1-3/4	40	Bulk	27.70	-	-	-	-	-	-	M877A	M877AG	M877AP	2.00	2.13	2.94	4.06	6.97	4.75
2	43	Bulk	39.00	M658A	M658AG	M658AP	M358A	M358AG	M358AP	-	-	-	2.25	2.38	3.28	4.51	7.44	5.50
2	50	Bulk	39.00	-	-	-	-	-	-	M858A	M858AG	M858AP	2.25	2.38	3.28	4.51	7.44	5.50

SHACKLES





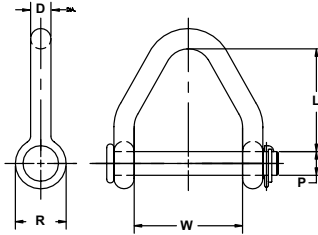
CARBON WEB SLING SHACKLE

WORKING LOAD LIMIT: 8,000 TO 23,500 LBS.

Web sling shackles are designed to connect synthetic slings to other lifting hardware.

BENEFITS & FEATURES

- Design factor 4:1
- Web Sling Shackles can be used on web slings from 2 to 6 inches in width
- Shackle body: carbon steel, heat treated
- Shackle pin: alloy steel, heat treated
- Finish: hot dip galvanized
- Zinc-plated linch pin comes standard. Cotter or hairpin available on special order.
- Do not point load. The load should be evenly distributed over the entire pin to achieve full working load limit.



Product Code	Pin Number	Linch Pin Number	Working Load Limit (lbs.)	Dimensions (in.)					Weight (lbs.)
				P	D	L	W	R	
M702	2X702	35480	8,000	0.75	0.63	2.25	2.00	1.63	1.70
M703	2X703	35480	13,000	0.88	0.75	3.25	3.00	1.88	2.86
M704	2X704	35480	11,000	0.88	0.75	3.75	4.00	1.88	3.15
M705	2X705	5511	18,000	1.00	0.88	4.25	5.00	2.13	4.75
M706	2X706	5511	18,000	1.13	1.00	4.75	6.00	2.38	6.75
M706H	2X706H	5511	23,500	1.25	1.13	4.75	6.00	2.63	9.80

SHACKLES

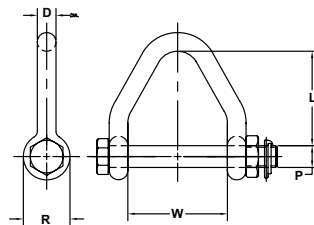
ALLOY WEB SLING SHACKLE

WORKING LOAD LIMIT: 13,500 TO 22,500 LBS.

Web sling shackles are designed to connect synthetic slings to lifting hardware.

BENEFITS & FEATURES

- Design factor 6:1
- Web Sling Shackles can be used on web slings from 3 to 6 inches in width
- Utilize a bolt and nut with linchpin to secure the assembly in place
- All shackles are galvanized for longer life
- Marked with working load limit (WLL) and size
- Do not point load. The load should be evenly distributed over the entire pin to achieve full working load limit



Product Code	Pin Number	Linch Pin Number	Working Load Limit (lbs.)	Dimensions (in.)					Weight (lbs.)
				P	D	L	W	R	
M703A	2X8703A	35480	13,500	0.88	0.75	3.25	3.00	1.88	3.01
M704A	2X8704A	35480	14,500	0.88	0.75	3.75	4.00	1.88	3.16
M705A	2X8705A	5511	19,000	1.00	1.00	4.25	5.00	2.38	6.04
M706A	2X8706A	5511	22,500	1.13	1.13	4.75	6.00	2.63	9.02





LONG-REACH SHACKLE

WORKING LOAD LIMIT: 7,000 TO 50,000 LBS.

As one of the only manufacturers of long-reach shackles, we designed these shackles for use in construction applications where a longer reach is needed to attach to pick points.

BENEFITS & FEATURES

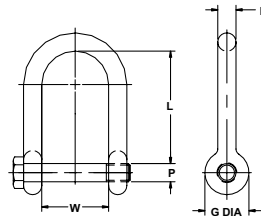
- Design factor of 5:1
- Meets the requirements of ASME B30.26, but must not be side loaded
- Alloy steel
- WLL forged on body
- Offered in self-colored or durable orange powder coated finish
- Do not point load. The load should be evenly distributed over the entire pin to achieve full working load limit.
- Do not side load long-reach shackles
- 80% of bolt/pin must be covered to obtain full working load limit



Screw Pin



Bolt, Nut & Cotter



STYLES: Screw Pin, Bolt/Nut/Cotter
FINISHES: Self Colored, Orange Powder Coated

Size (in.)	Working Load Limit (lbs.)	Screw Pin			Bolt, Nut & Cotter			Dimensions (in.)				
		Product Code		Weight (lbs.)	Product Code		Weight (lbs.)	P	D	L	W	G
		Self Colored	Painted		Self Colored	Painted						
5/8	7,000	M7151	M7151P	1.80	M9151	M9151P	1.95	0.75	0.63	4.00	2.25	1.57
3/4	10,000	M7152	M7152P	2.72	M9152	M9152P	3.21	0.88	0.75	4.53	2.75	1.81
1	19,000	M7154	M7154P	5.86	M9154	M9154P	6.31	1.00	1.00	5.50	3.25	2.38
1-1/4	28,000	M7156	M7156P	11.90	M9156	M9156P	12.90	1.38	1.25	6.19	3.88	3.06
1-1/2	34,000	M7157	M7157P	19.60	M9157	M9157P	20.70	1.625	1.50	7.00	4.50	3.50
1-3/4	50,000	M7177	M7177P	30.70	M9177	M9177P	33.30	2.00	1.75	8.00	5.25	4.00