

# NORTHERN STRANDS

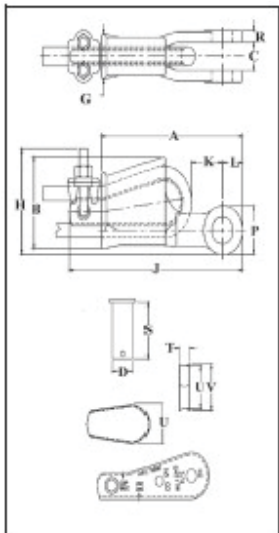
## S-421T



- Basket is cast steel.
- Wedge socket terminations have an efficiency rating of 80% based on the catalog strength of XXIP wire rope.
- Crosby products meet or exceed all the requirements of ASME B30.26 including identification, ductility, design factor, proof load and temperature requirements. Importantly, Crosby products meet other critical performance requirements including fatigue life, impact properties and material traceability, not addressed by ASME B20.26.
- Individually magnetic particle inspected.
- Pin diameter and jaw opening allows wedge and socket to be used in conjunction with open swage and spelter sockets.
- Secures the tail or "dead end" of the wire rope to the wedge, thus eliminates loss or "Punch out" of the wedge.
- Eliminates the need for an extra piece of rope, and is easily installed.
- The TERMINATOR™ wedge eliminates the potential breaking off of the tail due to fatigue.
- The tail, which is secured by the base of the clip and the wedge, is left undeformed and available for reuse.
- Incorporates Crosby's patented QUIC-CHECK® "Go" and "No-Go" feature cast into the wedge. The proper size rope is determined when the following criteria are met:
  - 1) The wire rope should pass thru the "Go" hole in the wedge.
  - 2) The wire rope should NOT pass thru the "No-Go" hole in the wedge.
- Utilizes standard Crosby Red-U-Bolt® wire rope clip.
- Standard S-421 wedge socket can be retrofitted with the new style TERMINATOR™ wedge.
- Available with Bolt, Nut, and Cotter Pin.
- U.S. patent 5,553,360 and foreign equivalents.

Wedge socks meet the performance requirements of Federal Specification RR-S-550D, Type C, except those provisions required of the contractor.

## S-421T Wedge Sockets



Wire Rope Dia. (in.)	S-421T Stock No.*	Weight Each (lbs.)	S-421 TW Stock No. Wedge Only	Wedge Only Weight Each (lbs.)	Optional G-4082 Bolt, Nut & Cotter	
					G-4082 Stock No.	Weight Each (lbs.)
3/8	1035000	3.18	1035555	.50	1092227	.38
1/2	1035009	6.15	1035564	1.05	1092236	.69
5/8	1035018	9.70	1035573	1.79	1092254	1.15
3/4	1035027	14.50	1035582	2.60	1092281	1.91
7/8	1035036	21.50	1035591	4.00	1092307	3.23
1	1035045	30.75	1035600	5.37	1092325	5.40
1-1/8	1035054	45.30	1035609	7.30	1092343	7.50
1-1/4	1035063	64.90	1035618	10.60	1092372	10.34

Wire Rope Dia. (in.)	S-421T Stock No.*	Dimensions (in.)														
		A	B	C	D	G	H	J**	K**	L	P	R	S	T	U	V
3/8	1035000	5.69	2.72	.81	.81	1.38	3.06	7.80	1.88	.88	1.56	.44	2.13	.44	1.25	1.38
1/2	1035009	6.88	3.47	1.00	1.00	1.62	3.76	8.91	1.26	1.06	1.94	.50	2.56	.53	1.75	1.88
5/8	1035018	8.25	4.30	1.25	1.19	2.12	4.47	10.75	1.99	1.22	2.25	.56	3.25	.69	2.00	2.19
3/4	1035027	9.88	5.12	1.50	1.38	2.44	5.28	12.36	2.41	1.40	2.63	.66	3.63	.78	2.34	2.56
7/8	1035036	11.25	5.85	1.75	1.63	2.69	6.16	14.37	2.48	1.67	3.13	.75	4.31	.88	2.69	2.94
1	1035045	12.81	6.32	2.00	2.00	2.94	6.96	16.29	3.04	2.00	3.75	.88	4.70	1.03	2.88	3.28
1-1/8	1035054	14.38	6.92	2.25	2.25	3.31	7.62	18.34	2.56	2.25	4.25	1.00	5.44	1.10	3.25	3.56
1-1/4	1035063	16.34	8.73	2.62	2.50	3.56	9.39	20.48	2.94	2.34	4.50	1.06	6.13	1.19	4.62	4.94

\* S-421T TERMINATOR™ Assembly includes Socket, Wedge, Pin and Wire Rope Clip.

\*\* Nominal

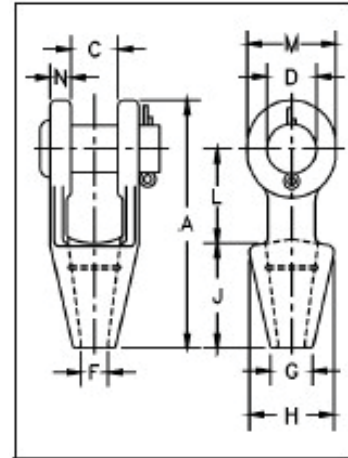
NOTE: For intermediate rope sizes, use next larger size socket.

# NORTHERN STRANDS

## G-416 / S-416



- Forged Steel Sockets thru 1 1/2", cast alloy steel 1-5/8" thru 4".
- Spelter socket terminations have an efficiency rating of 100%, based on the catalog strength of wire rope. Ratings are based on recommended use with 6 x 7, 6 x 19, or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope.



Open Grooved Sockets meet the performance requirements of Federal Specification RR-S-550D, Type A, except for those provisions required of the contractor.

### NOTICE:

All cast steel sockets 1-5/8" and larger are magnetic particle and ultrasonic inspected. Proof testing available on special order. Drawing illustrates on groove used on sockets 1/4" thru 3/4". Sizes 7/8" thru 1-1/2" use 2 grooves. Sizes 1-5/8" and larger use 3 grooves.

## G-416 / S-416 Open Spelter Sockets

Rope Dia. (in.)	Structural Strand Dia. (in.)	Stock No.		Weight Each (lbs.)	Dimensions (in.)									
		G-416 Galv.	S-416 S.C.		A	C	D	F	G	H	J	L	M	N
1/4	-	1039619	1039628	1.10	4.56	.75	.69	.38	.69	1.56	2.25	1.56	1.31	.36
5/16-3/8	-	1039637	1039646	1.30	4.84	.81	.81	.50	.81	1.69	2.25	1.75	1.50	.44
7/16-1/2	-	1039655	1039664	2.25	5.56	1.00	1.00	.56	.94	1.88	2.50	2.00	1.88	.50
9/16-5/8	1/2	1039673	1039682	3.60	6.75	1.25	1.19	.69	1.13	2.25	3.00	2.50	2.25	.56
3/4	9/16-5/8	1039691	1039708	5.83	7.94	1.50	1.38	.81	1.25	2.62	3.50	3.00	2.62	.62
7/8	11/16-3/4	1039717	1039726	9.65	9.25	1.75	1.63	.94	1.50	3.25	4.00	3.50	3.13	.80
1	13/16-7/8	1039735	1039744	15.50	10.56	2.00	2.00	1.13	1.75	3.75	4.50	4.00	3.75	.88
1-1/8	15/16-1	1039753	1039762	21.50	11.81	2.25	2.25	1.25	2.00	4.12	5.00	4.62	4.12	1.00
1-1/4 - 1-3/8	1-1/16 - 1-1/8	1039771	1039780	31.00	13.19	2.50	2.50	1.50	2.25	4.75	5.50	5.00	4.75	1.13
1-1/2	1-3/16 - 1-1/4	1039799	1039806	47.25	15.12	3.00	2.75	1.63	2.75	5.25	6.00	6.00	5.38	1.19
* 1-5/8	1-5/16 - 1-3/8	1039815	1039824	55.00	16.25	3.00	3.00	1.75	3.00	5.50	6.50	6.50	5.75	1.31
* 1-3/4 - 1-7/8	1-7/16 - 1-5/8	1039833	1039842	82.00	18.25	3.50	3.50	2.00	3.13	6.38	7.50	7.00	6.50	1.56
* 2 - 2-1/8	1-11/16 - 1-3/4	1039851	1039860	129.00	21.50	4.00	3.75	2.25	3.75	7.38	8.50	9.00	7.00	1.81
* 2-1/4 - 2-3/8	1-13/16 - 1-7/8	1039879	1039888	167.00	23.50	4.50	4.25	2.50	4.00	8.25	9.00	10.00	7.75	2.13
* 2-1/2 - 2-5/8	1-15/16 - 2-1/8	1041633	1041642	252.00	25.50	5.00	4.75	2.88	4.50	9.25	9.75	10.75	8.50	2.38
* 2-3/4 - 2-7/8	2-3/16 - 2-7/16	1041651	1041660	315.00	27.25	5.25	5.00	3.12	4.88	10.50	11.00	11.00	9.00	2.88
* 3 - 3-1/8	2-1/2 - 2-5/8	1041679	1041688	380.00	29.00	5.75	5.25	3.38	5.25	11.12	12.00	11.25	9.50	3.00
* 3-1/4 - 3-3/8	2-3/4 - 2-7/8	1041697	1041704	434.00	30.88	6.25	5.50	3.62	5.75	11.88	13.00	11.75	10.00	3.12
* 3-1/2 - 3-5/8	3 - 3-1/8	1041713	1041722	563.00	33.25	6.75	6.00	3.88	6.50	12.38	14.00	12.50	10.75	3.25
* 3-3/4 - 4	-	1041731	1041740	783.00	36.25	7.50	7.00	4.25	7.25	13.62	15.00	13.50	12.50	3.50

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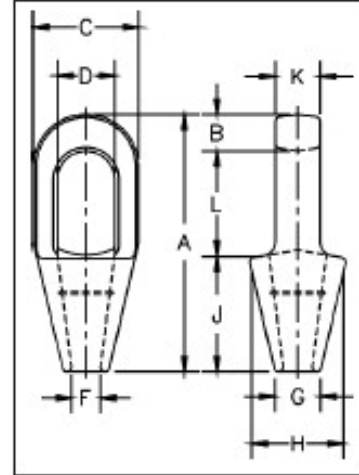
# NORTHERN STRANDS

## G-417 / S-417



- Forged Steel Sockets thru 1 1/2", cast alloy steel 1-5/8" thru 4".
- Spelter socket terminations have an efficiency rating of 100%, based on the catalog strength of wire rope. Ratings are based on recommended use with 6 x 7, 6 x 19, or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope.

Open Grooved Sockets meet the performance requirements of Federal Specification RR-S-550D, Type B, except for those provisions required of the contractor.



### NOTICE:

All cast steel sockets 1-5/8" and larger are magnetic particle and ultrasonic inspected. Proof testing available on special order. Drawing illustrates on groove used on sockets 1/4" thru 3/4". Sizes 7/8" thru 1-1/2" use 2 grooves. Sizes 1-5/8" and larger use 3 grooves.

## G-417 / S-417

### Closed Spelter Sockets

Rope Dia. (in.)**	Structural Strand Dia. (in.)	Stock No.		Weight Each (lbs.)	Dimensions (in.)									
		G-417 Galv.	S-417 S.C.		A	B	C	D*	F	G	H	J	K	L
1/4	-	1039897	1039904	.50	4.50	.50	1.50	.88	.38	.69	1.56	2.25	.50	1.75
5/16 - 3/8	-	1039913	1039922	.75	4.88	.62	1.69	.97	.50	.81	1.69	2.25	.69	2.00
7/16 - 1/2	-	1039931	1039940	1.50	5.44	.69	2.00	1.16	.56	.94	1.88	2.50	.88	2.25
9/16 - 5/8	1/2	1039959	1039968	2.50	6.31	.81	2.63	1.41	.69	1.12	2.38	3.00	1.00	2.50
3/4	9/16 - 5/8	1039977	1039986	4.25	7.56	1.06	3.00	1.66	.81	1.25	2.75	3.56	1.25	3.00
7/8	11/16 - 3/4	1039995	1040000	7.25	8.75	1.25	3.63	1.88	.94	1.50	3.25	4.00	1.50	3.50
1	13/16 - 7/8	1040019	1040028	10.50	9.88	1.38	4.13	2.30	1.13	1.75	3.75	4.44	1.75	4.00
1-1/8	15/16 - 1	1040037	1040046	14.25	11.00	1.50	4.50	2.56	1.25	2.00	4.13	5.00	2.00	4.50
1-1/4 - 1-3/8	1-1/16 - 1-1/8	1040055	1040064	19.75	12.12	1.63	5.30	2.81	1.50	2.25	4.75	5.50	2.25	5.00
1-1/2	1-3/16 - 1-1/4	1040073	1040082	29.20	13.94	1.94	5.33	3.19	1.63	2.75	5.25	6.00	2.50	6.00
** 1-5/8	1-5/16 - 1-3/8	1040091	1040108	36.00	15.13	2.13	5.75	3.25	1.75	3.00	5.50	6.50	2.75	6.50
** 1-3/4 - 1-7/8	1-7/16 - 1-5/8	1040117	1040126	57.25	17.25	2.19	6.75	3.75	2.00	3.13	6.38	7.50	3.00	7.56
** 2 - 2-1/8	1-11/16 - 1-3/4	1040135	1040144	79.00	19.50	2.44	7.63	4.38	2.25	3.75	7.38	8.50	3.25	8.56
** 2-1/4 - 2-3/8	1-13/16 - 1-7/8	1040153	1040162	105.00	21.13	2.63	8.50	5.00	2.50	4.00	8.25	9.00	3.63	9.50
** 2-1/2 - 25/8	1-15/16 - 2-1/8	1041759	1041768	140.00	23.50	3.12	9.50	5.50	2.88	4.50	9.25	9.75	4.00	10.62
** 2-3/4 - 2-7/8	2-3/16 - 2-7/16	1041777	1041786	220.00	25.38	3.12	10.75	6.25	3.12	4.88	10.19	11.00	4.88	11.25
** 3 - 3-1/8	2-1/2 - 2-5/8	1041795	1041802	276.00	27.00	3.25	11.50	6.75	3.38	5.25	11.50	12.00	5.25	11.75
** 3-1/4 - 3-3/8	2-3/4 - 2-7/8	1041811	1041820	313.00	29.25	4.00	12.25	7.25	3.62	5.75	12.25	13.00	5.75	12.25
** 3-1/2 - 3-5/8	3 - 3-1/8	1041839	1041848	400.00	31.00	4.00	13.00	7.75	3.88	6.50	13.00	14.00	6.25	13.00
** 3-3/4 - 4	-	1041857	1041866	542.00	33.25	4.25	14.25	8.50	4.25	7.25	14.25	15.00	7.00	14.00

\* Diameter of pin must not exceed pin used on companion 416 socket. Reference adjacent page "D" dimension.

\*\*Cast Alloy Steel.

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CROSBY® CLOSED SPELTER SOCKETS

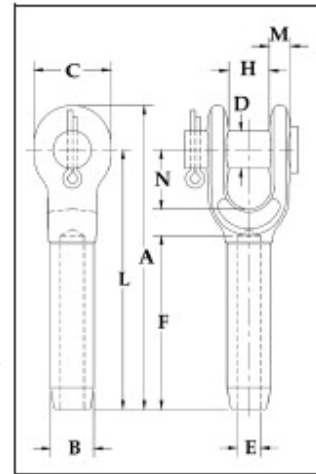
# NORTHERN STRANDS

## S-501



Open Grooved Sockets meet the performance requirements of Federal Specification RR-S-550D, Type B, except for those provisions required of the contractor.

- Forged from special bar quality carbon steel, suitable for cold forming.
- Swage Socket terminations have an efficiency rating of 100% based on the catalog strength of wire rope.
- Hardness controlled by spheroidize annealing.
- Stamp for identification after swaging without concern for fractures (as per directions in National Swaging Brochure).
- Swage sockets incorporate a reduced machined area of the shank which is equivalent to the proper "After Swage" dimension. Before swaging, this provides for an obvious visual difference in the shank diameter. After swaging, a uniform shank diameter is created allowing for a **QUIC CHECK®** and permanent visual inspection opportunity.
- Designed to quickly determine whether the socket has been through the swaging operation and assist in field inspections, it does not eliminate the need to perform standard production inspections which include gauging for the proper "After Swage" dimensions or proof loading.
- U.S. Patent 5,152,630 and foreign equivalents.



NOTE: S-501 Swage Sockets are recommended for use with 6 x 19 or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope. Before using any National Swage fitting with any other type lay, construction or grade of wire rope, it is recommended that the termination be destructive tested and documented to prove the adequacy of the assembly to be manufactured. In accordance with ANSI B30.9, all slings terminated with swage sockets shall be proof loaded.\*

## S-501 Open Swage Sockets

S-501 Open Socket Specifications														Press/ Die Data					
S-501 Stock No.	Rope Size (in.)	Weight Each (lbs.)	Before Swage Dimensions											Max. After Swage Dim. (in.)	Die Description	Stock No.			
			A	B	C	D	E	F	H	L	M	N	500 Ton 1000Ton 1500 Ton 5x7			1500 Ton 3000Ton 6x12	1500 Ton 6x12	3000 Ton 6x12	
1039021	1/4	.52	4.81	.50	1.38	.69	.27	2.13	.69	4.00	.38	1.50	.46	1/4 Socket	1192845	-	-	-	
1039049	5/16	1.12	6.25	.77	1.62	.81	.34	3.19	.81	5.31	.47	1.75	.71	5/16-3/8 Socket	1192863	-	-	-	
1039067	3/8	1.30	6.25	.77	1.62	.81	.41	3.19	.81	5.31	.47	1.75	.71	5/16-3/8 Socket	1192863	-	-	-	
1039085	7/16	2.08	7.81	.98	2.00	1.00	.48	4.25	1.00	6.69	.56	2.00	.91	7/16-1/2 Socket	1192881	-	-	-	
1039101	1/2	2.08	7.81	.98	2.00	1.00	.55	4.25	1.00	6.69	.56	2.00	.91	7/16-1/2 Socket	1192881	-	-	-	
1039129	9/16	4.67	9.50	1.25	2.38	1.19	.61	5.31	1.25	8.13	.68	2.25	1.16	9/16-5/8 Socket	1192907	-	-	-	
1039147	5/8	4.51	9.50	1.25	2.38	1.19	.67	5.31	1.25	8.13	.68	2.25	1.16	9/16-5/8 Socket	1192907	-	-	-	
1039165	3/4	7.97	11.56	1.55	2.75	1.38	.80	6.38	1.50	10.00	.78	2.75	1.42	3/4 Socket	1192925	-	-	-	
1039183	7/8	11.52	13.41	1.70	3.13	1.62	.94	7.44	1.75	11.63	.94	3.25	1.55	7/8 Socket	1192949	-	-	-	
1039209	1	17.80	15.47	1.98	3.69	2.00	1.06	8.50	2.00	13.38	1.06	3.75	1.80	1 Socket	1192961	-	-	-	
1039227	1-1/8	25.25	17.31	2.25	4.06	2.25	1.19	9.56	2.25	15.00	1.19	4.25	2.05	1-1/8 Socket	1192989	-	-	-	
1039245	1-1/4	35.56	19.06	2.53	4.50	2.50	1.33	10.63	2.50	16.50	1.22	4.75	2.30	1-1/4 Socket	1193005	-	-	-	
1039263	1-3/8	43.75	20.94	2.80	5.00	2.50	1.45	11.69	2.50	18.13	1.38	5.25	2.56	1-3/8 Socket	1193023	-	-	-	
1039281	1-1/2	58.50	22.88	3.08	5.50	2.75	1.58	12.75	3.00	19.75	1.69	5.75	2.81	1-1/2 Socket	1193041	1191267	1195355	1195192	
1039307	1-3/4	88.75	26.63	3.39	6.69	3.50	1.86	14.88	3.50	23.00	2.11	6.75	3.06	1-3/4 Socket	1193069	1191276	1195367	1195209	
1042767	2	146.25	31.44	3.94	8.00	3.75	2.11	17.00	4.00	26.88	2.37	8.00	3.56	2 Socket	1193087	1191294	1195379	1195218	

\* Maximum Proof Load shall not exceed 50% of XXIP rope catalog breaking strength.

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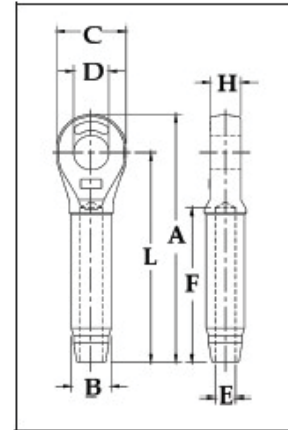
# NORTHERN STRANDS

## S-502



Open Grooved Sockets meet the performance requirements of Federal Specification RR-S-550D, Type B, except for those provisions required of the contractor.

- Forged from special bar quality carbon steel, suitable for cold forming.
- Swage Socket terminations have an efficiency rating of 100% based on the catalog strength of wire rope.
- Hardness controlled by spheroidize annealing.
- Stamp for identification after swaging without concern for fractures (as per directions in National Swaging Brochure).
- Swage sockets incorporate a reduced machined area of the shank which is equivalent to the proper "After Swage" dimension. Before swaging, this provides for an obvious visual difference in the shank diameter. After swaging, a uniform shank diameter is created allowing for a **QUIC CHECK®** and permanent visual inspection opportunity.
- Designed to quickly determine whether the socket has been through the swaging operation and assist in field inspections, it does not eliminate the need to perform standard production inspections which include gauging for the proper "After Swage" dimensions or proof loading.
- U.S. Patent 5,152,630 and foreign equivalents.



NOTE: S-502 Swage Sockets are recommended for use with 6 x 19 or 6 x 37, IPS or XIP (EIP), XXIP (EEIP), RRL, FC or IWRC wire rope. Before using any National Swage fitting with any other type lay, construction or grade of wire rope, it is recommended that the termination be destructive tested and documented to prove the adequacy of the assembly to be manufactured. In accordance with ANSI B30.9, all slings terminated with swage sockets shall be proof loaded.\*

## S-502 Closed Swage Sockets

S-502 Closed Socket Specifications											Press/ Die Data					
S-502 Stock No.	Rope Size (in.)	Weight Each (lbs.)	Before Swage Dimensions								Max. After Swage Dim. (in.)	Die Description	Stock No.		Side Load	
			A	B	C	D	E	F	H	L			500 Ton 1000 Ton 1500 Ton 5x7	1500 Ton 3000 Ton 6x12	1500 Ton 6x12	3000 Ton 6x12
1039325	1/4	.33	4.31	.50	1.38	.75	.27	2.12	.50	3.50	.46	1/4 SOCKET	1192845	-	-	-
1039343	5/16	.75	5.44	.77	1.62	.88	.34	3.19	.67	4.50	.71	5/16 - 3/8 SOCKET	1192863	-	-	-
1039361	3/8	.72	5.44	.77	1.62	.88	.41	3.19	.67	4.50	.71	5/16 - 3/8 SOCKET	1192863	-	-	-
1039389	7/16	1.42	6.91	.98	2.00	1.06	.48	4.25	.86	5.75	.91	7/16 - 1/2 SOCKET	1192881	-	-	-
1039405	1/2	1.42	6.91	.98	2.00	1.06	.55	4.25	.86	5.75	.91	7/16 - 1/2 SOCKET	1192881	-	-	-
1039423	9/16	2.92	8.66	1.25	2.38	1.25	.61	5.31	1.13	7.25	1.16	9/16 - 5/8 SOCKET	1192907	-	-	-
1039441	5/8	2.85	8.66	1.25	2.38	1.25	.67	5.31	1.13	7.25	1.16	9/16 - 5/8 SOCKET	1192907	-	-	-
1039469	3/4	5.00	10.28	1.55	2.88	1.44	.80	6.38	1.31	8.63	1.42	3/4 SOCKET	1192925	-	-	-
1039487	7/8	6.80	11.94	1.70	3.12	1.69	.94	7.44	1.50	10.13	1.55	7/8 SOCKET	1192949	-	-	-
1039502	1	10.40	13.56	1.98	3.63	2.06	1.06	8.50	1.75	11.50	1.80	1 SOCKET	1192961	-	-	-
1039520	1-1/8	14.82	15.03	2.25	4.00	2.31	1.19	9.56	2.00	12.75	2.05	1-1/8 SOCKET	1192989	-	-	-
1039548	1-1/4	21.57	16.94	2.53	4.50	2.56	1.33	10.63	2.25	14.38	2.30	1-1/4 SOCKET	1193005	-	-	-
1039566	1-3/8	28.54	18.63	2.80	5.00	2.56	1.45	11.69	2.25	15.75	2.56	1-3/8 SOCKET	1193023	-	-	-
1039584	1-1/2	38.06	20.12	3.08	5.50	2.81	1.58	12.75	2.50	17.00	2.81	1-1/2 SOCKET	1193041	1191267	1193355	1195192
1039600	1-3/4	51.00	23.56	3.39	6.25	3.56	1.86	14.88	3.00	20.00	3.06	1-3/4 SOCKET	1193069	1191276	1195367	1195209
1042589	2	89.25	27.62	3.94	7.25	3.81	2.11	17.00	3.25	23.00	3.56	2 SOCKET	1193087	1191294	1195379	1195218

\* Maximum Proof Load shall not exceed 50% of XXIP rope catalog breaking strength.

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