



Technical Data Manual

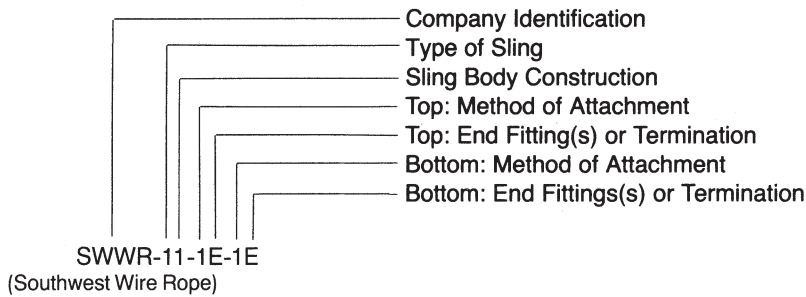
Wire Rope Slings





**SOUTHWEST
WIRE ROPE, INC.**

Sling Nomenclature and Identification



NOTE: Above example is a standard eye and eye sling, mechanically spliced.

TYPE OF SLING

1. Single Leg
2. Two-Leg Bridle
3. Three-Leg Bridle
4. Four-Leg Bridle
5. Grommet
6. Endless
- 7.
- 8.
- 9.
0. Other

SLING BODY CONSTRUCTION

1. Single Part
2. Cable Laid
3. Three Part
4. Four Part
5. Five Part
6. Six Part
7. Seven Part
8. Eight Part
9. Nine Part
0. Other

FITTINGS OR TERMINATION

- CS Closed Socket
- OS Open Socket
- E Eye
- F Ferrule
- OL Oblong Link
- PL Pear Link
- RL Ring
- EH Eye Hoist Hook
- FH Foundry Hook
- LH Ferrule Choker Hook
- PH Pipe Hook
- RH Swivel Hook
- SH Sorting Hook
- TH Sliding Choker Hook
- CT Crescent Thimble
- ET Equalizing Thimble
- HT Heavy Duty Thimble
- MT Hawser Thimble
- OT Slip-On Thimble
- ST Slip-Thru Thimble
- CP Closed Boom Pendant Thimble
- OP Open Boom Pendant Thimble
- SE Threaded Stub End
- X Undefined by Standard Nomenclature

METHOD OF ATTACHMENT

1. Mechanically Swaged
2. Hand Spliced
3. Poured
0. None

All Connections To Links and Hooks will contain a heavy duty thimble unless otherwise specified.



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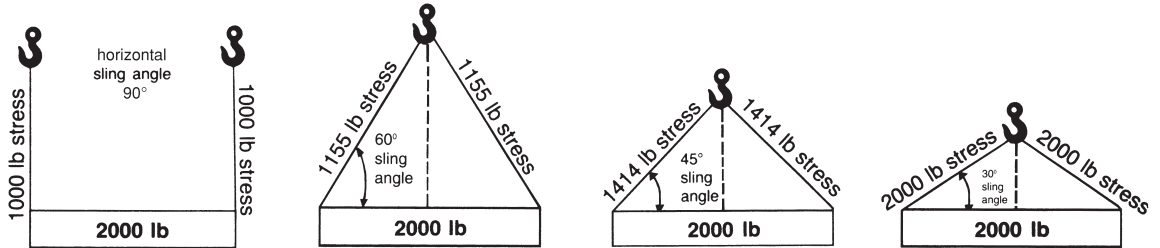
Attachment Efficiency

	Nominal Efficiency Percent of Catalog Rated Rope Strength %
Wire Rope Sockets	
Poured Attachments	
Spelter, Zinc or Resin	100
Fittings (Swaged or Pressed)	
Reg. Lay, IWRC	95-100
Reg. Lay, Fiber Core	92
Flemish-eye and Swaged (with or without thimble)	
$\frac{1}{4}$ " thru 1" (IWRC Rope)	95
$\frac{1}{4}$ " thru 1" (Fiber Core Rope)	92.5
$1\frac{1}{8}$ " thru $1\frac{7}{8}$ " (IWRC Rope)	92.5
$1\frac{1}{8}$ " thru $1\frac{7}{8}$ " (Fiber Core Rope)	90
2" and larger (IWRC Rope)	90
2" and larger (Fiber Core Rope)	87.5
Clips (U-Bolt and Twin-Base types)	
Number of Clips vary with rope size	80
Wedge Sockets	
Depending on design (consult manufacturer)	70-90
Spliced-in Thimbles:	
$\frac{1}{4}$ " and smaller	90
$\frac{5}{16}$ "	89
$\frac{3}{8}$ "	88
$\frac{7}{16}$ "	87
$\frac{1}{2}$ "	86
$\frac{5}{8}$ "	84
$\frac{3}{4}$ "	82
$\frac{7}{8}$ " thru $2\frac{1}{2}$ "	80
Safeline Clamps	85-90
Knot and Clip (Contractors Knot)	
<u>"Not Recommended"</u>	50 or less



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Effect Of Angles On Sling Capacities



The rated capacity of a multiple leg sling is directly affected by the angle of the sling leg with the horizontal. As this angle decreases, the stress on each leg increases with the same load. If the sling angle is known, the capacity can be readily determined by multiplying the sling's vertical capacity by the appropriate load angle factor from the table at right.

Horizontal Sling Angle	Load Angle Factor
90° (Vertical)	1,000
75°	.966
60°	.866
45°	.707
30°	.500
15°	.259

Example:

A multiple leg sling with a rated capacity of 2000 lb. will have a reduced capacity of 1000 lb. (2000 x .500) when sling legs are at an angle of 30° with horizontal.

Wire Rope Sling Inspection

Conditions such as the following should be sufficient reason for consideration of sling replacement:

- For strand laid and single part slings, six (6) randomly distributed broken wires in one rope lay, or three (3) broken wires in one strand in one rope lay.
- For cable laid and braided slings of less than 8 parts, twenty (20) randomly distributed broken wires in one lay or braid, or one (1) broken strand per sling.
- For braided slings of 8 parts or more, forty (40) randomly distributed broken wires in one braid, or two (2) broken strands per slings.
- Severe localized abrasion or scraping. Wear exceeding 1/3 original outside wire diameter.
- Kinking, crushing, birdcaging or any other damage resulting in distortion of the wire rope structure.
- Evidence of heat damage or if a wire rope sling having a fiber core is exposed to temperatures in excess of 200° F. or if a wire rope sling having a steel core is used at temperatures above 400° F or below minus 60° F.
- End attachments that are cracked, deformed, or worn.
- Hooks that have been opened more than 15% of the normal throat opening measured at the narrowest point or twisted more than 10° from the plane of the unbent hook.
- Corrosion of the rope or end attachments.
- Unlaying or opening up of a tucked splice.