

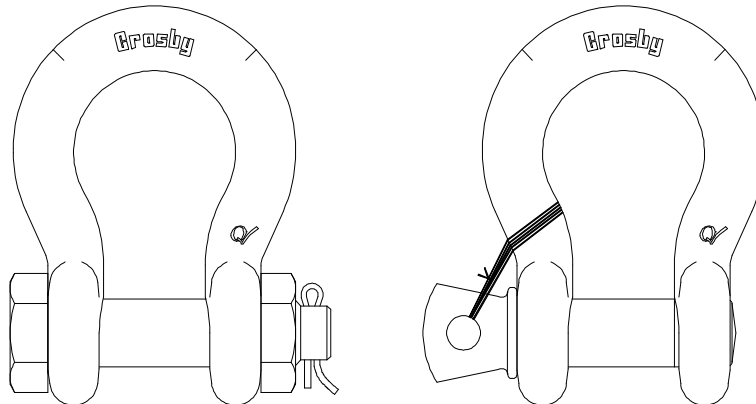
USE OF CROSBY PRODUCTS FOR HORIZONTAL LIFE LINES

- A. For horizontal life lines, refer to OSHA 1926.502 Subpart M. As a minimum, Subpart M requires that:
1. Horizontal life lines must have a minimum safety factor of 2.
 2. Anchorages must be capable of supporting at least 5,000 lbs. per attached person. (Please note that improperly designed systems can place a load greater than 5,000 lbs. per attached person.)
 3. "Horizontal Life Lines shall be designed, installed and used under the supervision of a qualified person."
- B. Crosby recommends that Crosby hardware, used as part of a properly designed Horizontal Life Line, be designed based on proof load, i.e., the design load must not exceed proof load.

When a "fall" occurs, all hardware must be inspected. Any evidence of deformation is cause for removal and replacement.

C. CROSBY HARDWARE RECOMMENDATIONS:

Crosby Shackles: Crosby recommends use of bolt-type shackles (G2130). If screw pin type shackles (G209) are used, provide secondary securement of the pin by use of soft wire.

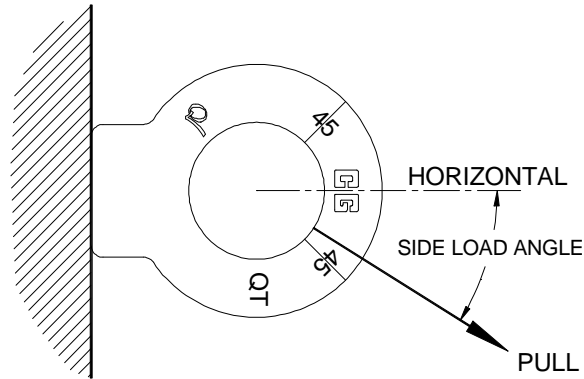


Crosby Eye Bolts: Crosby recommends use of shoulder type eye bolts (G277) only. The shoulder must be tight against the load and oriented properly. Refer to Crosby Warnings and Application Instructions for forged eye bolts. Eye Bolts placed in angular loading must derated.

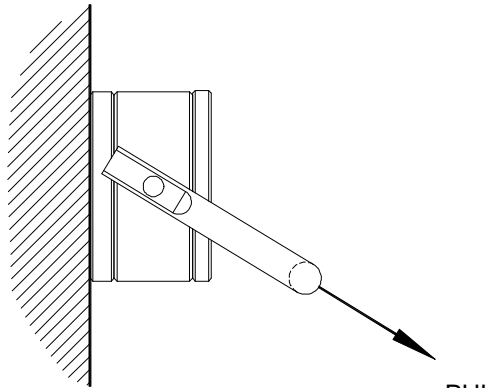
- at 90° side load factor = .25
- at 45° side load factor = .30
- at 30° side load factor = .65
- at 15° side load factor = .80

Adjusted Working Load Limit = "Side Load Factor" X Working Load Limit

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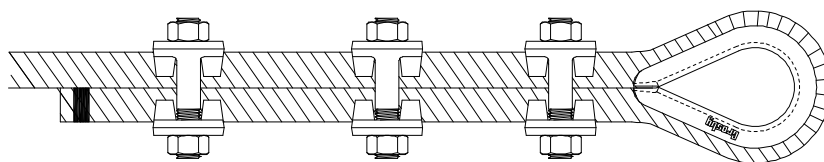
Crosby Hoist Rings: Crosby hoist rings (HR125) must be properly torqued and installed. Refer to Crosby Swivel Hoist Ring - Warnings and Application Instructions. Crosby hoist rings do not need to be derated as long as ring can align with the pull.



Turnbuckles: Crosby recommends use of eye or jaw turnbuckles (HG227, HG228, HG226).



Wire Rope Clips: Crosby recommends the use of Crosby Fist Grip Clips (G429) to form eyes in tie off systems. Always use a thimble in eye and use proper number of clips torqued to required values. Refer to Crosby Warnings and Application Instructions for Fist Grip Clips.



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Crosby Hardware Selection Guide

To OSHA 1926.502 Subpart M

**"Horizontal Life Lines Shall Be Designed, Installed and Used
Under the Supervision of a Qualified Person."**

Crosby Component	Recommended Type	5,000 Lb. Design Anchorage	10,000 Lb. Design Anchorage
		Size Hardware Recommended	Size Hardware Recommended
SHACKLE	S/G 2130 Bolt Type	1/2" Nominal Size	5/8" Nominal Size
	S/G 209 Screw Pin	1/2" Nominal Size Provide Secondary Securement By "Mousing"	5/8" Nominal Size Provide Secondary Securement By "Mousing"
EYE BOLT	G277 With Less Than 45 Degree Side Pull	5/8" Nominal Size	7/8" Nominal Size
HOIST RING	HR125 Hoist Ring At Any side Pull	1/2" Nominal Size	3/4" Nominal Size
TURNBUCKLES	Eye or Jaw Only DO NOT USE Hook End Fitting	5/8" Nominal Size	3/4" Nominal Size
WIRE ROPE CLIPS	G429 Fist Grip Clips Only	Wire Rope construction and size is the responsibility of the "Qualified Person."	

NOTE:

1. These recommendations are based on proof load, i.e., the design load must not exceed proof load.
2. When a "fall" occurs, all hardware must be inspected. Any evidence of deformation is cause for removal from service and replacement.

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