

Crosby® Shackles

SIDE LOADED RATING REDUCTION TABLE FOR 3/16" - 3" (120 METRIC TONS)

Angle loads must be applied in the plane of the bow.

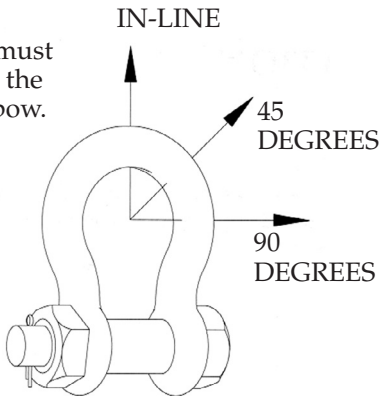
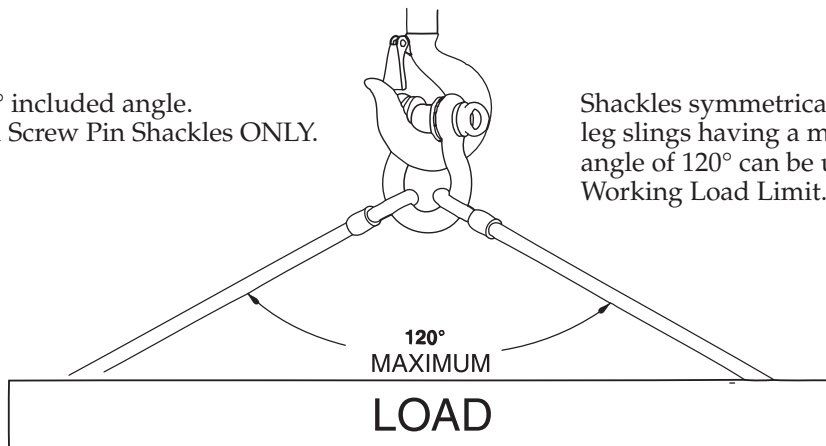


Table 1 Side Loading Reduction Chart for Screw Pin and Bolt Type Shackles Only+	
Angle of Side Load from Vertical In-Line of Shackle	Adjusted Working Load Limit
0° In-Line*	100% of Rated Working Load Limit
45° from In-Line*	70% of Rated Working Load Limit
90° from In-Line*	50% of Rated Working Load Limit

+ In-Line load is applied perpendicular to pin.
* DO NOT SIDE LOAD ROUND PIN SHACKLE.

For shackles larger than 125 metric tons, where the angle of the side load is greater than 5 degrees or when the included angle is greater than 90 degrees, contact Crosby Engineering.

Never exceed 120° included angle.
Use Bolt Type and Screw Pin Shackles ONLY.



Shackles symmetrically loaded with two leg slings having a maximum included angle of 120° can be utilized to full Working Load Limit.

WIRE ROPE SLINGS AND CONNECTIONS TO FITTINGS

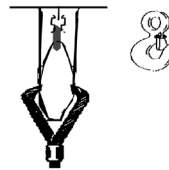


USE A THIMBLE TO PROTECT SLING AND TO INCREASE D/d

NEVER PLACE EYE OVER A FITTING SMALLER DIAMETER OR WIDTH THAN THE ROPE'S DIAMETER

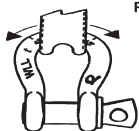
WIRE ROPE SLINGS AND CONNECTIONS TO FITTINGS

NEVER PLACE A SLING EYE OVER A FITTING WITH A DIAMETER OR WIDTH GREATER THAN ONE HALF THE NATURAL LENGTH OF THE EYE



SYNTHETIC SLINGS RATED LOAD

FOLDING, BUNCHING OR PINCHING OF SYNTHETIC SLINGS, WHICH OCCURS WHEN USED WITH SHACKLES, HOOKS OR OTHER APPLICATIONS WILL REDUCE THE RATED LOAD



BUNCHING



PINCHING

ANSI B30.9-1994

CHOKER HITCH FORMED

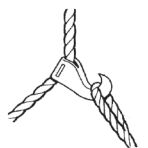


PLACE PIN IN EYE OF SLING

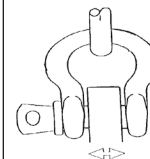
CORRECT!



WITH CHOKER HOOK



CROSBY SHACKLES POINT LOADING



POINT LOADING OF CROSBY SHACKLE PINS IS ACCEPTABLE AS LONG AS LOAD IS REASONABLY CENTERED ON THE PIN

ALTHOUGH POINT LOADING IS ACCEPTABLE, A PAD EYE WIDTH OF 80% OR MORE OF SHACKLE SPREAD IS BEST PRACTICE