SHUTTERLOCK®

Crosby®

CROSBY® G450 CLIP - WARNINGS & APPLICATION INSTRUCTIONS

G-450
(Red-U-Bolt)

WARNING

- Failure to read, understand, and follow these instructions may cause death or serious injury
- Read and understand these instructions before using clips
- Match the same size clip to the same size wire rope
- Prepare wire rope end termination only as instructed
- Do not use with plastic coated wire rope
- Apply first load to test the assembly. This load should be of equal or greater weight than loads expected in use. Next, check and re-tighten nuts to recommended torque (See table)

Efficiency rating for wire rope end terminations are based upon the minimum breaking force of wire rope. The efficiency rating of a properly prepared loop or thimble-eye termination for clip sizes 32mm through 22mm is 80%, and for sizes 25.5mm through 88.9mm is 90%.

The number of clips shown (see Table 1) is based upon using RRL or RLL wire rope, 6x19 or 6x37 Class, FC or IWRC; IPS or XIP, XXIP. If Seale construction or similar large outer wire type construction in the 6x19 Class is to be used for sizes 1 inch and larger, add one additional clip. If a pulley (sheave) is used for turning back the wire rope, add one additional clip.

The number of clips shown also applies to rotation - resistant RRL wire rope, 8x19 Class, IPS, IP, XXIP sizes 1-1/2 inch and smaller; and to rotation-resistant RRL wire rope, 19x7 Class, IPS, XIP, XXIP sizes 1-3/4 inch and smaller

For other classic of wire rope not mentioned above, we recommend contacting Shutterlock

For elevator, personnel hoist, and scaffold applications, refer to ANSI A17.1 and ANSI A10.4. These standards do not recommend U-Bolt style wire rope clip terminations. The style wire rope termination used for any application is the obligation of the user.

For OSHA (Construction) application, see OSHA 1926.251.

Figure 1

1. Refer to Table 1 in following these instructions. Turn back specified amount of rope from thimble or loop. Apply first clip one base width from dead end of rope. Apply U-Bolt over dead end of wire rope - live ends rest in saddle (Never saddle a dead horse!) Tighten nuts evenly, alternate from one nut to the other until reaching the recommended torque.

Figure 2

2. When two clips are required, apply the second clip as near the loop or thimble as possible. Use torque wrench to tighten nut evenly, alternating until reaching the recommended torque. When more than two clips are required, apply the second clip as near the loop or thimble as possible, turn nuts on second clip firmly, but do not tighten.

Figure 3

3. When three or more clips are required, space additional clips equally between first two - take up rope slack - use torque wrench to tighten nuts on each U-Bolt evenly, alternating from one nut to the other until reaching recommended torque.

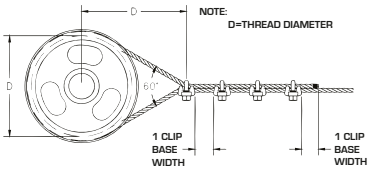

Figure 4

4. If a pulley (sheave) is used in place of a thimble, add one additional clip. Clip spacing should be as shown.

5. WIRE ROPE SPLICING PROCEDURES:

The preferred method of splicing two wire ropes together is to use inter-locking turnback eyes with thimbles, using the recommended number of lips on each eye. (See Figure 5).

Figure 5

An alternate method is to use twice the number of clips as used for a turnback termination. The rope ends are placed parallel to each other, overlapping by twice the turnback amount shown in the application instructions. The minimum number of clips should be installed on each dead end (See Figure 6). Spacing, installation torque, and other instruction still apply.

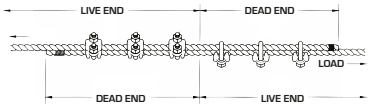

Figure 6

6. IMPORTANT

Apply first load to test the assembly. This load should be of equal or greater weight to loads expected in use. Next, check and re-tighten nuts to recommend torque. In accordance with good rigging and maintenance practices, the wire rope end termination should be inspected periodically for wear, abuse and general adequacy.

TABLE 1

CLIP SIZE (in.)	ROPE SIZE (mm)	MINIMUM NO. OF CLIPS	AMOUNT OF ROPE TO TURN BACK IN mm	*TORQUE IN Nm
1/8	3-4	2	85	6.1
3/16	5	2	95	10.2
1/4	6-7	2	120	20.3
5/16	8	2	133	40.7
3/8	9-10	2	165	61.0
7/16	11-12	2	178	68
1/2	13	3	292	88
9/16	14-15	3	305	129
5/8	16	3	305	129
3/4	18-20	4	460	176
7/8	22	4	480	305
1	24-25	5	660	305
1-1/8	28-30	6	860	305
1-1/4	33-34	7	1120	488
1-3/8	36	7	1120	488
1-1/2	38-40	8	1370	488
1-5/8	41-42	8	1470	583
1-3/4	44-46	8	1550	800
2	48-52	8	1800	1017
2-1/4	56-28	8	1850	1017
2-1/2	62-65	9	2130	1017
2-3/4	68-72	10	2540	1017
3	75-78	10	2690	1627
3-1/2	85-90	12	3780	1627

If a pulley (sheave) is used for turning back the wire rope, add one additional clip. See Figure 4.

If a greater number of clips are used than shown in the table, the amount of turn-back should be increased proportionately.

*The tightening torque values shown are based upon the threads being clean, dry, and free of lubrication.