# SHACKLE AND LINK HARDWARE

## SHACKLES, Anchor, Round Pin

**Description:** galvanized
**SCL Matl. Std.:** 6966.15
**Stock Unit:** EA
**Application:** Anchor shackles with round pins are for constructing permanent assemblies, such as attaching a high-voltage insulator to a steel tower.

Anchor shackles with round pins can be used in tie down, towing, suspension or lifting applications where the load is strictly applied in-line. Round pin shackles should never be used in rigging applications to gather multiple sling legs, or where side loading conditions may occur.

Working load limit (WWL) values are calculated by dividing a shackle's ultimate strength (also known as breaking load rating) by a safety factor. Working load limit is also known as safe working load (SWL).

Seattle City Light transmission line engineers commonly employ a safety factor of four. Federal Specification RR-C-271D calculates working load limits based on a safety factor of five.

If a shackle is marked with a working load limit (WWL) or safe working load (SWL) value, the ultimate strength or breaking load is (probably) five times higher. If a shackle is marked with an ultimate strength, the working load limit is calculated as either four or fives times less, depending on the user's choice of safety factor.

An anchor shackle should never be applied above its working load limit.

| Stock Number | Body Diameter, Nominal, in | Ultimate Strength, Minimum, lbs |
|---|---|---|
| 696603 | 1/2 | 20,000 |
| 696604 | 5/8 | 32,500 |
| 696605 | 3/4 (wide bow) | 47,500 |
| 696618 | 3/4 | 47,500 |

## SHACKLES, Anchor, Screw Pin

**Description:** galvanized
**SCL Matl. Std.:** 6966.17
**Stock Unit:** EA
**Application:** Anchor shackles with screw pins are for pick and place applications.

Anchor shackles with screw pins can be used in side-loading situations; however users should be aware that this reduces effective working load limits.

There are many dos and don'ts to rigging. Inexperienced users should not attempt rigging without consulting someone who is.

Working load limit (WWL) values are calculated by dividing a shackles' ultimate strength (also known as breaking load rating) by a safety factor. Working load limit is also known as safe working load (SWL).

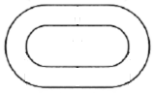
Federal Specification RR-C-271D calculates working load limits based on a safety factor of five.

An anchor shackle should never be applied above its working load limit.

| Stock Number | Body Diameter, Nominal, in | Ultimate Strength, Minimum, lbs |
|---|---|---|
| 696620 E | 1/4 | 05,000 |
| 696621 E | 3/8 | 10,000 |
| 696622 E | 7/16 | 15,000 |
| 696623 E | 1/2 | 20,000 |
| 696624 | 5/8 | 32,500 |
| 696625 | 3/4 | 47,500 |
| 696626 | 7/8 | 65,000 |
| 696627 | 1 | 85,000 |

## CHAIN LINKS

**Description:** galvanized
**Application:** connecting line hardware and insulators
**SCL Matl. Std.:** none
**Stock Unit:** EA



| | | | Approved Manufacturers | | |
|---|---|---|---|---|---|
| Stock Number | Ultimate Strength, lbs | Nominal Dimensions, in | Hubbell/ Anderson | Lindsey | MacLean |
| 696195 | 40,000 | 5/8 x 1 x 3-1/4 | 79272-2000 | 3403 | CL5 |
| 696200 | 60,000 | 3/4 x 1 x 3-1/2 | LK60 | 3405 | CL6 |