

ANCHOR SHACKLES, SCREW PIN**1. Scope**

This material standard covers the requirements for Class 2 anchor shackles with screw pins.

This material standard applies to the following Seattle City Light Stock Numbers:

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

Class 1 anchor shackles with round pins and Class 3 safety anchor shackles are outside the scope of this standard.

Anchor shackles used for construction are specified in Material Standard 6966.15.

2. 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.

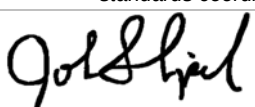
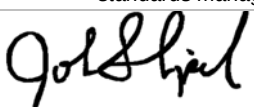
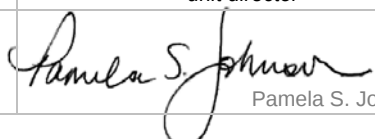
3. Industry Standard

Anchor shackles shall be manufactured according to the following industry standards:

Federal Specification RR-C-271D; "Chains and Attachments, Welded and Weldless"; September 25, 1990

Federal Specification RR-C-271D; "Chains and Attachments, Welded and Weldless"; Amendment 1; November 29, 1995

ASTM A153-2005; "Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware"; 2005

standards coordinator	standards manager	unit director
 John Shipek	 John Shipek	 Pamela S. Johnson

MATERIAL STANDARD

Anchor Shackles, Screw Pin

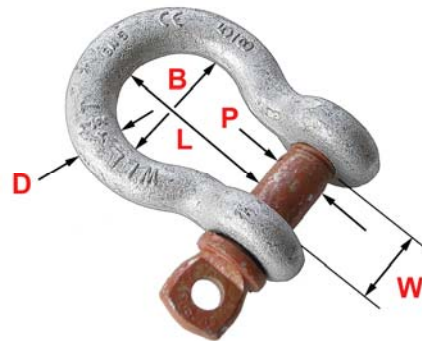
standard number: **6966.17**superseding: new
effective date: October 1, 2010
page: 2 of 2**4. Requirements and Attributes**

Anchor shackles shall meet the requirements of Federal Specification RR-C-271D as clarified below:

Anchor shackles shall be Type IVA, Grade A, regular, Class 1.

Anchor shackles and pins shall be hot-dipped galvanized according to ASTM A153.

Anchor shackles shall be provided with screw pin installed.



Stock number	Body diameter, nominal, in	Pin diameter, nominal, in	Width between eyes, nominal, in	Length inside, nominal, in	Bow width, min., in	Weight per 100 shackles, approx., lb	Ultimate strength, min., lb
	D	P	W	L	B		
696620	1/4	5/16	15/32	1-1/8	3/4	12	5,000
696621	3/8	7/16	21/32	1-7/16	15/16	30	10,000
696622	7/16	1/2	23/32	1-11/16	1-1/16	49	15,000
696623	1/2	5/8	13/16	1-7/8	1-3/16	74	20,000
696624	5/8	3/4	1-1/16	2-13/32	1-1/2	144	32,500
696625	3/4	7/8	1-1/4	2-27/32	1-3/4	216	47,500
696626	7/8	1	1-7/16	3-5/16	2	337	65,000
696627	1	1-1/8	1-11/16	3-3/4	2-5/16	530	85,000

5. Testing

Test data that establishes compliance with the requirements of Federal Specification RR-C-271D shall be provided upon request.

6. Marking

Each anchor shackle body shall be permanently and legibly marked in raised or stamped letters on the side of the shackle bow according to the requirements of Federal Specification RR-C-271D, Section 3.5.3.1.6. Marking shall include but not be limited to the following information:

- Manufacturer's name or symbol
- Size (body diameter)
- Working load limit (WLL), safe working load (SWL), or ultimate strength

7. Packaging

Anchor shackles shall be packaged to prevent damage during shipping, handling and storage.

Individual packages shall be legibly marked with:

- Manufacturer's name
- Manufacturer's catalog number
- Product description
- Seattle City Light's Stock Number

Shipping containers shall be legibly marked with:

- Seattle City Light's Purchase Order Number
- Seattle City Light's Stock Number

8. Issuance

Stock Unit: EA

9. Approved Manufacturer

Stock Number	Body Diameter, Nominal, in	Catalog number
		Crosby
696620	1/4	1018375
696621	3/8	1018419
696622	7/16	1018437
696623	1/2	1018455
696624	5/8	1018473
696625	3/4	1018491
696626	7/8	1018516
696627	1	1018534

10. References

6966.1; "Shackles – Anchor and Chain" (canceled); Material Standard; SCL

6966.15, "Anchor Shackles, Round Pin"; Material Standard; SCL

Ng, Sharon; subject matter expert;
(sharon.ng@seattle.gov)

Shipek, John; SCL Standards Engineer, subject matter expert and originator of 6966.17
(john.shipek@seattle.gov)

www.thecrosbygroup.com