

Carriage Bolts, High Strength



1. Scope

This standard covers the requirements for high strength, zinc-coated, steel carriage bolts.

<u>Stock No.</u>	<u>Nominal Size (in)</u>
013487	7/16 x 8-1/2

2. Application

High strength carriage bolts are used with overhead travelers for installation of overhead conductors.

An ASTM A449 steel carriage bolt is equivalent in strength to an SAE Grade 5 fastener.
Refer to SCL 7804.1 for general use carriage bolts.

3. Industry Standards

Carriage bolts shall meet the applicable requirements of the following industry standards:

ASME B18.12-2001 - Glossary of Terms for Mechanical Fasteners


ASME B18.5-1990 (R2003) - Round Head Bolts (Inch Series)

ASTM A449-1993 - Standard Specification for Quenched and Tempered Steel Bolts and Studs

ASTM B695-2004 - Standard Specification for Coatings of Zinc Mechanically Deposited on Iron and Steel

ASTM F1941/F1941A - Standard Specification for Electrodeposited Coatings on Threaded Fasteners

SAE J429 - Mechanical and Material Requirements for Externally Threaded Fasteners Specification



4. Fabrication

4.1 Common Requirements

Table 4.1. Fabrication Requirements

	Requirements	Reference
Product Name	Round Head Square Neck Bolt	ASME B18.12, Section 3.1.1.6.5
Material and Mechanical Properties	Type 1 or Type 2 Steel or Medium Carbon Steel (Grade 5)	ASTM A449 or SAE J429
Dimensions	Per Reference	ASME B18.5, Table 2
Threads	Standard Series UNC Class 2A	ASME B18.5, Section 2.5
Minimum Thread Length	Per Reference	ASME B18.5, Section 2.6.2
Corrosion Protection	Zinc-Coated (Fe/Zn 3AT)	ASTM A449, Section 5.1.3, ASTM B695, Class 50 or ASTM F1941

4.2 Marking

Carriage bolt heads shall be marked according to ASME B18.2.1, Section 2.8, ASTM A449 Section 15 or SAE J429.

Figure 4.2. Carriage Bolt Head Marking, Example



4.3 Detailed Requirements

Table 4.3. Detailed Requirements

Stock No.	Nominal Size (in)	Threads per in	Thread Length (in)	Bolt Length (in)
013487	7/16	14	5-1/2	8-1/2

5. Packaging

Standard package quantity shall not exceed 50 per box.

Each standard package shall be legibly marked with the following information:

- Manufacturer's identification
- Product description
- Seattle City Light's stock number
- Quantity contained.

Each shipping container shall be legibly marked with the following information:

- Manufacturer's identification
- Country of origin
- Product description
- Seattle City Light's purchase order number
- Seattle City Light's stock number.

6. Issuance

Stock Unit: EA

8. Approved Manufacturers

Seattle City Light Material Control personnel will identify and approve distributors, and hence manufacturers, for this group of stock numbers.

9. References

SCL Material Standard 7804.1; "Carriage Bolt With Nut," June 2006

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