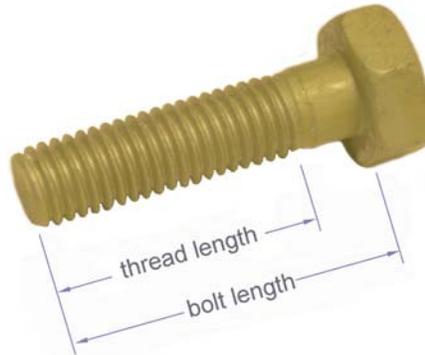


**MATERIAL STANDARD****ALUMINUM HEX HEAD CAP SCREW, HEAVY****1. Foreword****1.1 Scope**

This material standard covers the requirements for aluminum, heavy hex cap screws.

**1.2 Application**

Aluminum hardware is used to make up bolted aluminum-to-aluminum and aluminum-to-copper electrical connections. Refer to Construction Guideline D14-4/NSV-20. This includes connections to integral web channel bus (IWCB) in the Network, transformer and bus terminals, and aluminum lugs in stations and elsewhere.

Aluminum fasteners are anodized and lubricated for corrosion resistance and to prevent galling and seizing.

Refer to ASTM F468, Table 2 for tensile strength values.

**1.3 Industry Standards**

Cap screws shall meet the applicable requirements of the following industry standards:

**ASME B18.2.1-1996** - Square and Hex Bolts and Screws (Inch Series)

**ASTM F468-03a** - Standard Specification for Nonferrous Bolts, Hex Cap Screws, and Studs for General Use

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

**2. Fabrication****2.1 Common Requirements**

	<b>Requirements</b>	<b>Reference</b>
<b>Product Name</b>	heavy hex cap screw	ASME B18.12, Section 3.1.2
<b>Material</b>	aluminum alloy 2024-T4	ASTM F468, Tables 1 and 2
<b>Dimensions</b>	per reference	ASME B18.2.1, Table 6
<b>Threads</b>	standard series UNC Class 2A	ASME B18.2.1, Table 6, Note (12)
<b>Minimum Thread Length</b>	per reference	ASME B18.2.1, Table 6, Note (9)

Cap screws shall be anodized and coated with Aluminite 205.

STANDARDS COORDINATOR

John Shipek

STANDARDS SUPERVISOR

John Barnett

UNIT DIRECTOR

Hardev Juj

**MATERIAL STANDARD**

Aluminum Hex Head Cap Screw, Heavy

**2.2 Marking**

Cap screw heads shall be marked according to ASME B18.2.1, Section 2.8.

**2.3 Detailed Requirements**

Nominal Size, in.	Threads per in.	Length, in.	Stock Number
1/2	13	2	781809
5/8	11	1	781819
		2	781813
		2-1/2	781815
		3	781817

**3. Packaging**

Cap screw standard packaging shall be as follows:

Nominal Size, in.	Length, in.	Quantity per Box
1/2	all	50
5/8	all	25

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

**4. Shipping**

Product shall be shipped to the address specified on the Purchase Order.

**5. Issuance**

Stock Unit: EA

**6. Approved Manufacturers**

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