

## Washers, Aluminum Alloy, Flat and Helical Spring



### 1. Scope

This standard covers the requirements for aluminum alloy, flat and helical spring washers.

This standard applies to the following Seattle City Light (SCL) stock numbers:

Stock No.	Size (in)	Description
788253	1/2	Flat washer
788273	"	Helical spring washer
788254	5/8	Flat washer
788274	"	Helical spring washer

### 2. Application

Aluminum alloy flat and helical spring washers are used to make up bolted aluminum-to-aluminum and aluminum-to-copper electrical connections in substations, network vaults, and elsewhere.

See SCL 7846.10 for aluminum alloy hex head cap screws and SCL 7846.15 for aluminum alloy hex nuts.



### 3. Industry Standards

Aluminum alloy flat and helical spring washers shall meet the applicable requirements of the following industry standards:

**ANSI B18.21.1-1999**; Lock Washers (Inch Series)

**ANSI B18.22.1-1965 (Reaffirmed 2003)**; Plain Washers

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

**ASTM F468-16**; Standard Specification for Nonferrous Bolts, Hex Cap Screws, Socket Head Cap Screws, and Studs for General Use

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### 4. Requirements

#### 4.1 Flat Washers

Flat washers shall be fabricated from 2024-T4 or -T6 aluminum alloy as defined in ASTM F468.

Flat washers shall meet the dimensional requirements of ANSI B18.22.1, Table 2, for type B, Plain, Regular.

#### 4.2 Helical Spring Washers

Helical spring washers shall be fabricated from 7075-T6 aluminum alloy as defined in ASTM F468.

Helical spring washers shall meet the dimensional requirements of ANSI B18.21.1, Table 2, Heavy Helical.

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### 5. Packaging

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

Individual packages shall be legibly marked with:

- Manufacturer name
- Manufacturer catalog number
- Product description
- SCL stock number

Shipping containers shall be legibly marked with:

- SCL purchase order number

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### 6. Issuance

Stock Unit: EA

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### 7. Approved Manufacturers

SCL Material Control personnel may identify and approve manufacturers of this group of stock numbers.

## 8. Sources

**SCL Stock Catalog page 78-23**; January 25, 2008

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