

COPPER ALLOY WASHERS, PLAIN AND LOCK



plain



external tooth



split lock

1. Foreword

1.1 Scope

This material standard covers the requirements for copper alloy, plain, external tooth and helical spring (split) lock washers.

1.2 Application

Copper alloy washers are used in conjunction with silicon bronze cap screws and nuts to make up electrical connections. Refer to Construction Guideline D14-4/NSV-20. Silicon bronze hardware is also used in situations where high-strength and corrosion-resistance is desired.

1.3 Industry Standards

Washers shall meet the applicable requirements of the following industry standards:

ASME B18.21.1-1999 - Lock Washers (Inch Series)

ASME B18.22.1-1965 (R2003) - Plain Washers

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

ASTM B96-1993 - Standard Specification for Copper-Silicon Alloy Plate, Sheet, Strip, and Rolled Bar for General Purposes and Pressure Vessels

ASTM B99-2001 - Standard Specification for Copper-Silicon Alloy Wire for General Applications

ASTM B591-1993 - Standard Specification for Copper-Zinc-Tin Alloys Plate, Sheet, Strip, and Rolled Bar

2. Fabrication

2.1 Common Requirements – Plain Washers

	Requirements	Reference
Product Name	plain washer	ASME B18.12, Section 3.3.1.13
Material	copper alloy UNS No. C65100 (general name, silicon bronze)	ASTM B96, Table 1
Dimensions	per reference	ASME B18.22.1, Type B, Table 2, Regular

STANDARDS COORDINATOR

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MATERIAL STANDARD

Copper Alloy Washers, Plain and Lock

STANDARD NUMBER: **7880.2**

PAGE: 2 of 2

SUPERSEDING: July 10, 2001

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2. Fabrication, continued**2.2 Common Requirements – External Tooth Lock Washers**

	Requirements	Reference
Product Name	external tooth lock washer	ASME B18.12, Section 3.3.1.17
Material	copper alloy UNS No. C42500	ASTM B591, Tables 1, 2, and 4
Dimensions	per reference	ASME B18.21.1, Type A, Table 8

2.3 Common Requirements – Helical Spring (Split) Washers

	Requirements	Reference
Product Name	helical spring lock washer	ASME B18.12, Section 3.3.1.10
Material	copper alloy UNS No. C65100	ASTM B99, Tables 1 and 2
Dimensions	per reference	ASME B18.21.1 Table 1 (for Regular) or Table 2 (for Heavy)

2.4 Detailed Requirements

Nominal Size, in.	Stock Number		
	Plain	External Tooth	Split Lock
1/4	788022	788101	788121
5/16	788025	788102	788122
3/8	788024	788103	788123
1/2	788026	788104	788125
5/8	788027	788105	788126
3/4	788028	–	788127

3. Packaging

Standard package quantity shall not exceed 100 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

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.