

## 1. Scope

This Material Standard covers the requirements for inch-based, stainless steel hex head bolts, each assembled with one bronze hex nut.



## 2. Application

The bolts and nuts covered by this Material Standard will be used primarily in making up electrical connections where the applied load is primarily a tensile load.

## 3. Material ID Numbers

This Material Standard applies to the District Material ID Numbers listed in Table 1 on page 2 of this document.

## 4. Reference Standards

Unless otherwise stated, the bolts and nuts covered by this Material Standard shall comply with the latest revisions of the following industry standards:

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

**ASME B18.2.2** Nuts for General Applications: Machine Screw Nuts, Hex, Square, Hex Flange, and Coupling Nuts (Inch Series)

**ASTM F467** Standard Specification for Nonferrous Nuts for General Use

**ASTM F593** Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs

## 5. COMMON REQUIREMENTS

### 5.1 Bolts

- a. Material - Bolts shall be made from ASTM F593 Group 1 stainless steel alloy: 304, XM7.
- b. Dimensions - Bolts shall be dimensioned in accordance with ASME B18.2.1, Table 2. Thread lengths shall be full length for all bolts covered by this Material Standard.
- c. Threads - Bolt threads shall be machine-rolled; cut threads are unacceptable. Each bolt of the following nominal size shall have the following number of threads per inch:  
Nominal Bolt Size Number of Threads per Inch  
3/8" 16 UNC Class 2A  
1/2" 13 UNC Class 2A

### 5.2 Nuts

- a. Material - Nuts shall be made from silicon bronze alloy 651 per ASTM F467, Tables 1 and 2.
- b. Dimensions - Nuts shall be dimensioned in accordance with ASME B18.2.2, Table 4.
- c. Threads - Each nut of the following nominal size shall have the following number of threads per inch:  
Nominal Nut Size Number of Threads per Inch  
3/8" 16 UNC Class 2B  
1/2" 13 UNC Class 2B

## 6. Strength

Bolts shall meet the tensile and yield strength requirements specified in ASTM F593, Table 2.

## 7. Packaging

Bolt and nut assemblies shall be packaged in heavy-duty cardboard boxes.

### 7.1 Quantity

Standard package quantity shall conform to the requirements specified in Table 1 of this document.

### 7.2 Weight

Package weight shall not exceed 50 lb.

### 7.3 Package Marking

Each package shall be legibly marked with the following information:

- a. Manufacturer's identification
- b. Bolt size x length
- c. Quantity of bolts contained

## 8. Shipping

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

## 9. Inspection

The District reserves the right to inspect all products upon receipt. Bolts and nuts not conforming to this Material Standard, or damaged, will be rejected and returned at the Supplier's expense. Acceptance of delivery does not relieve the Supplier from meeting all of the requirements of this Material Standard.

Table 1  
Hex Head Bolts with Hex Nuts - Packaging  
Quantities

<b>Material ID</b>	<b>Nominal Size X Length</b>	<b>Qty Per Box</b>
103325	1/2" x 1"	100
103333	1/2" x 1-1/4"	20
103341	1/2" x 1-1/2"	50
103359	1/2" x 1-3/4"	100
103367	1/2" x 2"	50
103482	1/2" x 2-1/4"	50
103375	1/2" x 2-1/2"	50
1002670	1/2" x 2-3/4"	50
103383	1/2" x 3"	50
103391	1/2" x 3-1/2"	50
1002671	1/2" x 4"	50
103458	3/8" x 1/2"	50
103408	3/8" x 3/4"	50
103416	3/8" x 1"	20
103424	3/8" x 1-1/4"	20
103432	3/8" x 1-1/2"	20
103440	3/8" x 2"	50
103466	3/8" x 2-1/2"	50