

NOTICE OF INACTIVATION  
FOR NEW DESIGN

INCH-POUND

FF-S-111D  
NOTICE 1  
4 December 2000

FEDERAL SPECIFICATION

SCREW, WOOD

This notice should be filed in front of FF-S-111D, dated 27 August 1974.

FF-S-111D is inactive for new design and is no longer used except for replacement purposes.

Custodians:  
Army - AR  
Navy - YD  
Air Force - 99  
DLA-IS

Preparing activity  
DLA - IS

(Project 5305 – 2532)

AMSC N/A  
DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited. FSC 5305

FEDERAL SPECIFICATION

SCREW, WOOD

This amendment, which forms a part of Federal Specification FF-S-111D, dated August 27, 1974 is approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal Agencies

Page 2

Paragraph 2.1, Federal Specifications

DELETE: "QQ-S-631 - Steel Bar, Carbon, Hot Rolled (Special Quality)."

DELETE: "QQ-S-634 - Steel Bar, Carbon, Cold Finished (Standard Quality)."

DELETE: "QQ-S-637 - Steel Bar, Carbon, Cold Finished (Standard Quality, Free Machining)."

"DELETE: "QQ-W-405 - Wire Steel, Carbon and Alloy (For Cold Heading and Cold Forging)".

DELETE: "QQ-Z-325 - Zinc Coating, Electrodeposited, Requirements For".

Paragraph 2.1, Federal Standards

DELETE: "Fed. Std. No. 66 - Steel Chemical Composition and Hardenability

Page 3

Paragraph 2.2, Other Publications

ADD: "ASTM A108 - Steel Bars, Carbon, Cold Finished Standard Quality  
ASTM A545 - Wire, Steel, Carbon, Cold Heading Quality for Machine Screws  
ASTM A546 - Wire, Steel, Medium High Carbon, Cold Heading Quality for Hexagon Head Bolts  
ASTM A547 - Steel Wire, Alloy, Cold Heading Quality, For Hexagon Head Bolts  
ASTM A548 - Steel Wire, Carbon, Cold Heading Quality, For Tapping or Sheet Metal Screws  
ASTM A549 - Steel Wire, Carbon, Cold Heading Quality, For Wood Screws  
ASTM B633 - Zinc On Iron and Steel, Electrodeposited Coatings of"

1 of 2

AMSC N/A

FSC 5305

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

FF-S-111D  
AMENDMENT 1

Paragraph 3.1.1

DELETE AND SUBSTITUTE: "3.1.1 Carbon steel. Carbon steel shall be grades 1010 (UNS G10100) thru 1022 (UNS G10220) or grades 1108 (UNS G11080) thru 1118 (UNS G11180) in accordance with ASTM A108, ASTM A545, ASTM A546, ASTM A547, ASTM A548 or ASTM A549 as applicable. Minimum ultimate tensile strength shall be 55,000 psi."

Paragraph 3.1.2

DELETE AND SUBSTITUTE: "3.1.2 Corrosion-resistant steel. Corrosion-resistant steel shall be types 302 (UNS S30200), 303 (UNS S30300), 304 (UNS S30400), 305 (UNS S30500), 316 (UNS S31600) or 384 (UNS S38400) as applicable. Minimum ultimate tensile strength shall be 70,000 psi."

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Paragraph 3.2.4

DELETE AND SUBSTITUTE: "3.2.4 Zinc coating. When specified (see 6.1), carbon steel wood screws shall be electrodeposited zinc coated in accordance with ASTM B633, FeZn5, Type II or mechanically deposited zinc coated in accordance with MIL-C-81562, Type II, Class 3."

MILITARY INTERESTS:

CIVIL AGENCY COORDINATING ACTIVITIES:

Custodians:

GSA-FSS  
COM-NIST

Army - AR  
Navy - YD  
Air Force - 99

PREPARING ACTIVITY:  
Army - AR

Review Activities:

DOD Project 5305-1758

Army - EA, ME  
Navy - OS, SH  
Air Force - 82  
DLA - IS

User Activities:

Army - CE, MI  
Navy - MC

FF-S-111D  
August 27, 1974  
SUPERSEDING  
FF-S-111C  
October 24, 1966

## FEDERAL SPECIFICATION

### SCREW, WOOD

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal Agencies.

#### 1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers single and double-threaded wood screws with round, flat countersunk and oval countersunk heads having slotted or cross-recessed drives.

#### 1.2 Classification.

1.2.1 Type and style. Wood screws shall be of the following types and styles (see 6.1).

##### Type:

- I - Single thread
- II - Double thread

##### Style:

- 1s - Round head, slotted drive.
- 1c - Round head, cross-recessed drive.
- 2s - Flat countersunk head, slotted drive.
- 2c - Flat countersunk head, cross-recessed drive.
- 6s - Oval countersunk head, slotted drive.
- 6c - Oval countersunk head, cross-recessed drive.

1.2.2 Size. Wood screws shall be of the sizes specified in the applicable Military Standard (MS) and ANSI B18.6.1.

#### 2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

FSC 5305

Federal Specifications:

- QQ-B-613 - Brass, Leaded and Non-Leaded; Flat Products (Plate, Bar, Sheet and Strip).
- QQ-B-626 - Brass, Leaded and Non-Leaded; Rod, Shapes, Forgings and Flat Products with Finished Edges (Bar and Strip).
- QQ-C-591 - Copper-Silicon, Copper - Zinc - Silicon and Copper - Nickel - Silicon Alloys: Rod, Wire, Shapes, Forgings and Flat Products (Flat Wire, Strip, Sheet, Bar and Plate).
- QQ-P-35 - Passivation Treatments For Corrosion-Resisting Steel.
- QQ-P-416 - Plating, Cadmium (Electrodeposited).
- QQ-S-631 - Steel Bar, Carbon, Hot Rolled (Special Quality).
- QQ-S-634 - Steel Bar, Carbon, Cold Finished (Standard Quality).
- QQ-S-637 - Steel Bar, Carbon, Cold Finished (Standard Quality, Free Machining).
- QQ-W-321 - Wire, Copper Alloy.
- QQ-W-405 - Wire, Steel, Carbon and Alloy (For Cold Heading and Cold Forging).
- QQ-Z-325 - Zinc Coating, Electrodeposited, Requirements For
- PPP-H-1581 - Hardware (Fasteners and Related Items), Packaging and Packing For Shipment and Storage of.

Federal Standards:

- Fed. Std. No. 66 - Steel: Chemical Composition and Hardenability
- Fed. Std. No. 123 - Marking For Domestic Shipment (Civil Agencies)

(Activities outside the Federal Government may obtain copies of Federal Specifications and Standards as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, DC, Atlanta, Chicago, Kansas City, MO, Fort Worth, Denver, San Francisco, Los Angeles, and Seattle, WA.

(Federal Government activities may obtain copies of Federal Specifications and Standards and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specifications:

- MIL-C-81562 - Coatings, Cadmium, Tin-Cadmium and Zinc (Mechanically Deposited).

## Military Standards:

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.

(Copies of specifications, standards, drawings and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

## American National Standards Institute (ANSI) Standard:

ANSI B18.6.1 - Wood Screws

(Application for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York, N.Y. 10018.)

## American Society for Testing and Materials (ASTM) Standard:

ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pa. 19103.)

## 3. REQUIREMENTS

3.1 Material. Wood screws shall be made from the following materials, as specified (see 6.1).

3.1.1 Carbon steel. Carbon steel shall be 1010 thru 1022 or 1108 thru 1118 in accordance with QQ-S-631, QQ-S-634, QQ-S-637 or QQ-W-405. Minimum ultimate tensile strength shall be 55,000 PSI.

3.1.2 Corrosion-resisting steel. Corrosion-resisting steel shall be 302, 303, 304, 305, 316, or 384 in accordance with Fed. Std. No. 66. Minimum ultimate tensile strength shall be 70,000 PSI.

3.1.3 Brass. Brass shall be alloy no. 260 or 268, quarter-hard in accordance with QQ-B-613 or QQ-B-626; or alloy no. 260 or 270, quarter-hard in accordance with QQ-W-321. Minimum ultimate tensile strength shall be 50,000 PSI.

3.1.4 Copper-silicon alloy. Copper-silicon alloy shall be alloy no. 651 in accordance with QQ-C-591. Minimum ultimate tensile strength shall be 50,000 PSI.

3.2 Protective finish. Wood screws shall be furnished plain (uncoated), with a naturally bright finish, except as noted in 3.2.1 thru 3.2.4.

3.2.1 Calvanizing. Wood screws for pole-line use shall be galvanized in accordance with ASTM A153.

3.2.2 Passivation. Corrosion-resisting steel wood screws shall be passivated in accordance with QQ-P-35.

3.2.3 Cadmium plating. When specified (see 6.1), carbon steel wood screws shall be cadmium plated in accordance with Type II, Class 3 of QQ-P-416 or MIL-C-81562.

3.2.4 Zinc coating. When specified (see 6.1), carbon steel wood screws shall be zinc coated in accordance with Type II, Class 3 of QQ-P-416 or MIL-C-81562.

### 3.3 Dimensions.

3.3.1 Type I screws. Dimensions of type I, single-thread screws shall be in accordance with the applicable Military Standard (MS) and ANSI B18.6.1.

3.3.2 Type II screws. Thread and shank diameters and threads per inch for type II, double-threaded screws shall be in accordance with Table I. Other dimensions shall be in accordance with ANSI B18.6.1.

TABLE I

Dimensions (in inches) of type II double-thread screws

Nominal Size	Threads Per Inch	Outside Diameter of Thread	Diameter of unthreaded shank
		+ .004 - .007	+ .010 - .000
2	28	.086	.066
3	26	.099	.081
4	24	.112	.090
5	22	.125	.102
6	20	.138	.111
7	18	.151	.122
8	18	.164	.131
9	16	.177	.141
10	15	.190	.152
12	13	.216	.171
14	12	.242	.196
16	10	.268	.209
18	10	.294	.232

3.4 Workmanship. Screws shall be free from fins, burrs, sharp edges, cracks and surface contamination.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Lot. A lot shall consist of all screws of the same material, type, style, size and protective finish, produced under the same conditions and offered for acceptance at one time.

4.3 Sampling for examination. A random sample of screws shall be selected from each lot in accordance with MIL-STD-105, Inspection Level S-4. The Acceptable Quality Level (AQL) shall be as specified in Table II.

4.4 Examination. Each screw taken as specified in 4.3 shall be examined to verify conformance with this specification. Examination shall be conducted in accordance with Table II. Any screw in the sample containing one or more defects shall be rejected, and if the number of defective screws in any category exceeds the acceptance number for that category, the lot represented by the sample shall be rejected.

TABLE II  
Classification of Defects

<u>Category</u>	<u>Defect</u>	<u>Inspection Method</u>
Critical	None defined	
Major	AQL = 4.0 percent defective	
101	Size (1.2.2)	SIE*
102	Length (3.3)	SIE
103	Slot or recess dimensions (3.3)	SIE
104	Thread (3.3)	SIE
Minor	AQL = 6.5 percent defective	
201	Other dimensions (3.3)	SIE
202	Protective finish, missing or incomplete (3.2)	Visual
203	Workmanship (3.4)	Visual

\*SIE = Standard Inspection Equipment



4.5 Physical test. Normally no physical tests will be required. When physical tests are required, they shall be conducted in accordance with the method specified (see 6.1).

4.6 Protective finish. Examination and test of protective finishes shall be in accordance with the applicable specification of 3.2.

4.7 Preparation for delivery. Examination and test of preparation for delivery shall be in accordance with PPP-H-1581, to verify conformance with Section 5.

## 5. PREPARATION FOR DELIVERY

5.1 Packaging and packing. Packaging shall be Level A or C and packing shall be Level A, B or C in accordance with PPP-H-1581, as specified (see 6.1).

### 5.2 Marking.

5.2.1 Civil agencies. In addition to marking required by the contract or order, all interior packages and shipping containers shall be marked in accordance with Fed. Std. No. 123.

5.2.2 Military agencies. In addition to marking required by the contract or order, all interior packages and shipping containers shall be marked in accordance with MIL-STD-129.

## 6. NOTES

6.1 Ordering data. Purchasers should exercise any desired options offered herein, and procurement documents should specify the following:

- (a) Title, number and date of this specification.
- (b) Type, style and size (1.2).
- (c) Material (3.1).
- (d) Protection finish (3.2).
- (e) Tests, if required (4.5).
- (f) Selection of applicable level of packaging and packing (5.1).
- (g) Applicable MS part number.

6.2 Military procurement. Items procured under this specification for military use are to be limited wherever possible, to the variety shown on the applicable Military Standard (MS).

6.3 This specification includes the requirements of MIL-S-971 (Ships), dated August 12, 1956, which was canceled December 31, 1963.

Military Custodians:

Army - WC  
Navy - YD  
Air Force - 82

Preparing Activity:

Army - WC

Project No. 5305-1248

Reviewer Activities:

Army - AV, EA  
Navy - None  
Air Force - None  
DSA - IS

Civil Agency Interest:

GSA-FSS  
COM-NBS

User Activities:

Army - CE, ME, MU, PA, WT  
Navy - MC, OS, SH  
Air Force - None

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Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain copies and other documents referenced herein. Price 30 cents each.