

FF-T-305C
May 8, 1974
SUPERSEDING
Fed. Spec. FF-T-305B
March 4, 1968

FEDERAL SPECIFICATION

THUMBSCREW

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

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers shouldered thumbscrews.

1.2 Classification. Thumbscrews shall be classified according to size by the nominal sizes specified in MS21316.

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.

Federal Specifications:

QQ-P-416 - Plating, Cadmium (Electrodeposited).
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).
Fed. Test Method Std. No. 151 - Metals; Test Methods.

(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, DC 20402.

FSC 5305

FF-T-305C

(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, Atlanta, Chicago, Kansas City, MO, Dallas, Denver, San Francisco, Los Angeles, Seattle and Washington, DC.

(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-13924 - Coating, Oxide. Black, For Ferrous Metals.
- MIL-C-81562 - Coating, 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.
- MIL-STD-1312 - Fasteners, Test Methods.
- MS21316 - Thumbscrew (Shouldered), Flat Point, Carbon Steel, Cadmium Plated, UNC-2A.

(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.

National Bureau of Standards Handbook

- Handbook H28 - Screw-Thread Standards for Federal Services

(Application for copies should be addressed to the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402.)

3. REQUIREMENTS

3.1 Material. Unless otherwise specified (see 6.1), thumbscrews shall be made from carbon steel in accordance with Fed. Std. No. 66, having a minimum ultimate tensile strength of 48,000 PSI. When specified (see 6.1), steel for case-hardened thumbscrews shall be low carbon steel,

FF-T-305C

0.05 to 0.25 percent carbon. The total depth of case shall be not less than 0.003 inch, and the case hardness shall be a minimum of 50 on the Rockwell 45-T scale.

3.2 Protective finish. Unless otherwise specified, thumbscrews shall have a plain finish. When specified (see 6.1), thumbscrews shall be cadmium plated or black oxide coated.

3.2.1 Cadmium plating. Cadmium plating shall be in accordance with QQ-P-416, Type II, Class 3 or MIL-C-91562, Type II, Class 3.

3.2.2 Black oxide coating. Black oxide coating shall be in accordance with MIL-C-13924, Class 1.

3.3 Design.

3.3.1 Dimensions. Thumbscrews shall conform to the dimensions specified in MS21316.

3.3.2 Threads. Threads shall be unified thread form, Class 2A in accordance with Handbook H28.

3.4 Workmanship. Thumbscrews 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 thumbscrews of the same material, size and protective finish, produced under the same conditions and offered for acceptance at one time.

4.3 Sampling.

4.3.1 Sampling for examination. A random sample of thumbscrews shall be selected from each lot in accordance with MIL-STD-105, inspection level I. The Acceptable Quality Level (AQL) shall be as specified in Table I.

FF-T-305C

4.3.2 Sampling for test. A random sample of thumbscrews shall be selected from each lot in accordance with MIL-STD-105, inspection level S-1. The AQL shall be 4.0 percent defective.

4.4 Examination. Each thumbscrew taken as specified in 4.3.1 shall be examined to verify conformance with this specification. Examination shall be conducted in accordance with Table I. Any thumbscrew in the sample containing one or more defects shall be rejected, and if the number of defective thumbscrews in any category exceeds the acceptance number for that category, the lot represented by the sample shall be rejected.

TABLE I

Classification of Defects

<u>Category</u>	<u>Defect</u>	<u>Inspection Method</u>
Critical	None defined	
Major	AQL = 2.5 percent defective	
101	Threads (3.3.1 and 3.3.2)	SIE*
102	Thread length (3.3.1)	SIE
Minor	AQL = 4.0 percent defective	
201	Other dimensions (3.3.1)	SIE
202	Protective finish, missing or incomplete (3.2)	Visual
203	Workmanship	Visual

* SIE = Standard Inspection Equipment

4.5 Tests.

4.5.1 Hardness. Samples selected in accordance with 4.3.2 (case-hardened thumbscrews only) shall be subjected to a hardness test conducted in accordance with Test No. 6 of MIL-STD-1312.

4.5.2 Chemical composition. When specified (see 6.1), samples selected in accordance with 4.3.2 shall be subjected to a chemical analysis conducted in accordance with Method 111.2 of Fed. Test Method Std. No. 151.

4.5.3 Protective finish. Tests for protective finishes shall be in accordance with the applicable specification of 3.2.

4.5.4 Preparation for delivery. Tests for preparation for delivery shall be in accordance with PPP-H-1581, to verify conformance with Section 5.

FF-T-305C

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 select the preferred options permitted herein and include the following information in procurement documents:

- (a) Title, number and date of this specification.
- (b) Applicable military standard part number.
- (c) Size and length required (1.2 and 3.3.1).
- (d) Case-hardening, when required (3.1).
- (e) Protective finish (3.2).
- (f) Chemical analysis, when required (4.5.2).
- (g) Selection of applicable level of packaging and packing (5.1).

Military Custodians:

Army - WC
Navy - YD
Air Force - 82

Preparing Activity:

Army - WC

Project No. 5305-1271

Reviewer Activities:

Army - AV
Navy - None
Air Force - None
DSA - IS
NS

CIVIL AGENCY COORDINATING ACTIVITY:

GSA

User Activities:

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

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 10 cents each.

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL*(See Instructions - Reverse Side)*

1. DOCUMENT NUMBER

2. DOCUMENT TITLE

3. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION *(Mark one)* VENDOR USER MANUFACTURER OTHER *(Specify):* _____b. ADDRESS *(Street, City, State, ZIP Code)*

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI) - Optional*b. WORK TELEPHONE NUMBER *(Include Area Code) - Optional*c. MAILING ADDRESS *(Street, City, State, ZIP Code) - Optional*8. DATE OF SUBMISSION *(YYMMDD)*