

FF-S-88B  
June 29, 1977  
SUPERSEDING  
FF-S-88A  
June 24, 1966

## FEDERAL SPECIFICATION

### SCREW, EYE

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 a fastening device with one end formed in the shape of an eye and the other end threaded with a wood screw type of thread.

#### 1.2 Classification.

1.2.1 Classes and grades. Screw eyes covered by this specification shall be of the following classes and grades as specified (see 6.1).

Class 1 - Large eye, regular shank  
Class 2 - Medium eye, regular shank  
Class 3 - Small eye, regular shank  
Class 4 - Small eye, short shank

Grade A - Steel  
Grade B - Copper alloy

#### 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 the specification to the extent specified herein.

##### Federal Specifications:

QQ-P-416	-	Plating, Cadmium (Electrodeposited)
QQ-W-321	-	Wire Copper Alloy
QQ-Z-325	-	Zinc Coating, Electrodeposited, Requirements for
PPP-H-1581	-	Hardware (Fasteners and Related Items) Packaging and Packing for Shipment and Storage of

FSC 5305

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Federal Standards:

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

(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.

(Single copies of this specification and other Federal 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., Dallas, 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-F-495 - Finish, Chemical, Black, for Copper Alloys

Military Standards

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes

(Copies of Military Specifications and Standards required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Materials.

3.1.1 Carbon steel. Steel screw eyes shall be made of carbon steel wire conforming to AISI No. 1013 through 1022 of Fed. Std. No. 66.

3.1.2 Copper alloy. Copper alloy screw eyes shall be made of brass wire conforming to either composition 260 or 270, half hard temper, of QQ-W-321.

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### 3.2 Design and dimensions.

3.2.1 Design. Design of screw eyes shall conform to figure 1. The eye shall be virtually free from any opening at the shank. When the method of forming involves spring-back, an opening of 10 percent of the wire diameter will be permitted at the juncture of the eye with the shank.

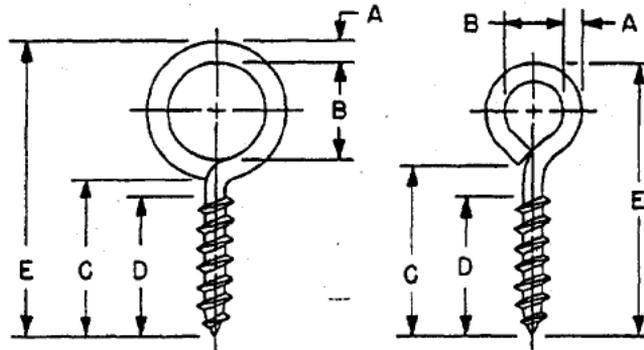


FIGURE 1

3.2.2 Point. Screw eyes shall have a grimlet point.

3.2.3 Threads. The shank shall have a wood screw type thread. The number of threads per inch shall be in accordance with commercial practice.

3.2.4 Dimensions. Dimensions of screw eyes shall conform to Table I. All dimensions are in inches (see 6.1).

3.3 Protective finishes. Unless otherwise specified (see 6.1), screw eyes shall be furnished uncoated. When cadmium, zinc, or black oxide coatings are specified, they shall conform to the following paragraphs (see 6.1).

3.3.1 Cadmium plating. Cadmium plating shall conform to type II, class 3 of QQ-P-416.

3.3.2 Zinc, electrodeposited. Electrodeposited zinc coating shall conform to type II, class 3 of QQ-Z-325.

3.3.3 Black chemical finish. Black chemical finish shall conform to MIL-F-495.

3.4 Workmanship. Screw eyes shall be free from rust, burrs, fins, and sharp edges.

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TABLE I. Dimensions

Wire diameter and gage No. <sup>1</sup>	Eye, inside diameter	Shank length	Thread length	Length overall	
A ± 0.005	B ± 0.03	C ± 0.06	D ± 0.12	E ± 0.12	
Class 1, large eye, regular shank					
000	0.362	1.12	2.06	1.75	3.88
0	.306	0.81	1.56	1.19	2.94
2	.262	.72	1.31	1.06	2.62
4	.225	.61	1.12	0.88	2.25
6	.192	.53	0.97	.75	1.94
8	.162	.47	.81	.62	1.62
9	.148	.44	.75	.56	1.56
10	.134	.41	.69	.53	1.38
12	.105	.38	.58	.44	1.19
14	.080	.34	.50	.31	1.06
Class 2, medium eye, regular shank					
4	0.225	0.48	1.12	0.88	2.06
6	.192	.44	.97	.75	1.81
8	.162	.39	.81	.62	1.56
10	.134	.31	.69	.53	1.31
12	.105	.28	.58	.44	1.12
14	.080	.25	.50	.31	.94
Class 3, small eye, regular shank					
4	0.225	0.30	1.12	0.88	1.94
6	.192	.27	.97	.75	1.62
8	.162	.23	.81	.62	1.38
10	.134	.22	.69	.53	1.19
12	.105	.19	.58	.44	.94
14	.080	.16	.50	.31	.81
16	.062	.14	.44	.31	.69
Class 4, small eye, short shank					
14	0.080	0.16	0.38	0.22	0.69
16	.062	.14	.22	.19	.50

<sup>1</sup>Dimensions are American Wire Gage Standard.

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#### 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 that supplies and services conform to prescribed requirements.

4.1.1 Inspection lot. All screw eyes of the same class, material, and protective finish offered for delivery at any one time shall be considered a lot for purposes of inspection.

#### 4.2 Sampling.

4.2.1 Sampling for visual and dimensional examination. A random sample of screw eyes shall be taken from each lot in accordance with MIL-STD-105, inspection level S4. The acceptable quality level (AQL) shall be in accordance with table II herein. The AQL shall apply to each individual defect, not to a group of defects.

4.2.2 Sampling for protective finish test. Sampling for tests of protective finishes shall be in accordance with the applicable specifications referenced in 3.3.1 thru 3.3.3.

4.2.3 Sampling for packaging. Sampling for packaging shall be in accordance with PPP-H-1581.

#### 4.3 Examination.

4.3.1 Visual and dimensional. Screw eyes taken as specified in 4.2.1 shall be examined to verify conformance with this specification. Examination shall be conducted in accordance with table II.

4.3.2 Protective finish test. Test of protective finishes shall be conducted in accordance with the applicable specification referenced in 3.3.1 thru 3.3.3.

4.3.3 Packaging. Examination and tests of packaging shall be in accordance with PPP-H-1581.

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TABLE II. Classification of Defects

Categories	Defects	Inspection Method
Critical:	None defined	
Major:	AQL = 4.0 percent	
101	Eye, inside diameter	SIE*
102	Wire diameter	SIE
103	Protective finish, if required, missing, or of wrong type (see 4.3.2 for test)	SIE
Minor:	AQL = 6.5 percent	
201	Shank length	SIE
202	Thread length	SIE
203	Overall length	SIE
204	Workmanship	Visual

\* Standard inspection equipment.

#### 5. PREPARATION FOR DELIVERY

5.1 Packaging, packing, and marking. The packaging, packing and marking shall be in accordance with PPP-H-1581. The level of packaging shall be A or C, the level of packing shall be A, B, or C, and the marking shall be civil or military as specified (see 6.1).

#### 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. Class, grade, and wire diameter of screw eye (see 1.2.1 and 3.2.4).
- c. Protective finish, when required (see 3.3.1, 3.3.2 and 3.3.3).
- d. Level of packaging and packing required (see 5.1).
- e. Whether civil or military marking is required (see 5.1).

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6.2 Military procurement. Items procured under this specification for military use should be limited to the variety shown on MS 35646.

Custodians:

Army - WC  
Air Force - 99

Preparing activity:

Army - WC

Review activities:

Army - AT, FA  
DISC - M  
DSA - IS  
NSA

Project No.

5305-1156

Civil Agency Coordinating Activity:

GSA - FSS

User activities:

Army - AV, ME, PA, WV  
Navy - MC