

WW-H-171E

June 10, 1977

SUPERSEDING

Fed. Spec. WW-H-171D

October 19, 1970

## FEDERAL SPECIFICATION

### HANGERS AND SUPPORTS, PIPE

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 pipe hangers, brackets, saddles, clamps, and pipe rolls for all types of piping systems.

#### 1.2 Classification.

1.2.1 Types. The hangers and supports shall be one of the types defined by MSS SP-58 and SP-69 or NFPA Nos. 11 through 17 as specified (see 6.2).

#### 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 Standard:

Fed. Std. No. 123 - Marking for Shipment (Civil Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks 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, US Government Printing Office, Washington, DC 20402.

(Single copies of this specification and other Federal Specifications required by activities outside of the Federal Government for bidding purposes are available without charge from Business Service Centers 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.

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

Military Specification:

MIL-P-12808 - Plumbing Fixtures and Accessories, Packaging of.

Military Standards:

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

MIL-STD-129 - Marking for Shipment and Storage.

(Copies of Military Specification 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.)

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.

Manufacturers Standardization Society of the Valve and Fittings Industry (MSS):

SP-58 - Pipe Hangers and Supports, Materials Design and Manufacture.

SP-69 - Pipe Hangers and Supports, Selection and Application.

(Application for copies should be addressed to the Manufacturers Standardization Society of the Valve and Fittings Industry, 1815 N. Fort Myer Drive, Arlington, VA 22209.)

National Fire Protection Association (NFPA):

No. 11 - For Foam Extinguishing Systems.

No. 12 - For Carbon Dioxide Systems.

No. 13 - For Installation of Sprinkler Systems.

No. 14 - For Standpipe and Hose Systems.

No. 15 - For Water Spray Systems.

No. 16 - For Foam Water Systems.

No. 17 - For Dry Chemical Extinguishing Systems.

(Application for copies should be addressed to the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.)

National Motor Freight Traffic Association:

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Associations, Inc., Traffic Department, 1616 P Street, N.W., Washington, DC 20036.)

Uniform Classification Committee:

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, Tariff Publishing Officer, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

3. REQUIREMENTS

3.1 Design and construction. Pipe hangers and supports shall be designed and constructed to meet the requirements of MSS SP-58 and SP-69 except that, in accordance with MSS SP-69, hangers and supports for fire protection systems shall conform to the standards published by NFPA in the National Fire Codes for fixed extinguishing equipment. These NFPA standards are NFPA Nos. 11 through 17 as applicable.

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, the supplier may utilize his own facilities or any commercial laboratory acceptable to 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 of materials and components. In accordance with 4.1, the supplier is responsible for insuring that materials and components used were manufactured, examined, and tested to the extent specified, in accordance with the requirements of referenced subsidiary specifications and standards, if any.

4.2 Sampling. Sampling for inspection shall be in accordance with MIL-STD-105.

4.2.1 Sampling for dimensional and visual examination. Sampling of hangers or supports for dimensional and visual examination shall be in accordance with inspection level II. The Acceptable Quality Level (AQL) shall be 2.5 percent defective.

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4.2.2 Sampling for load carrying test. Sampling for test shall be in accordance with level S-2. The AQL for test shall be 4.0 percent defective.

4.3 Visual and dimensional examination. The hangers or supports selected in accordance with 4.2.1 shall be visually and dimensionally examined for conformance with the requirements of this document.

4.4 Load carrying test. Unless otherwise specified (see 6.2), samples selected in accordance with 4.2.2 shall be tested for load-carrying capacities as stipulated in table 3 of MSS SP-58. When specified (see 6.2), individual component parts shall be tested at room temperature.

4.5 Inspection of preparation for delivery. The preservation, packaging, packing, and marking of the items shall be subject to inspection to determine compliance with the requirements of Section 5 of this specification.

## 5. PREPARATION FOR DELIVERY

5.1 Preservation and packaging. Preservation and packaging shall be level A or C, as specified (see 6.2).

5.1.1 Level A. Hangers and supports shall be preserved and packaged in accordance with the applicable level A requirements of MIL-P-12808.

5.1.2 Level C. Hangers and supports shall be preserved and packaged in accordance with the supplier's standard practice.

5.2 Packing. Packing shall be level A, B, or C as specified (see 6.2).

5.2.1 Level A. Preserved and packaged hangers and supports shall be packed in accordance with the applicable level A requirements of MIL-P-12808.

5.2.2 Level B. Preserved and packaged hangers and supports shall be packed in accordance with the applicable level B requirements of MIL-P-12808.

5.2.3 Level C. Pipe hanger shall be packed in a manner which will insure arrival at destination in satisfactory condition and be acceptable to the carrier at lowest rates. Containers and packing shall comply with Uniform Freight Classification rules or with National Motor Freight Classification rules.

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5.3 Marking (see 6.2).

5.3.1 Civil agencies. In addition to any special marking required by the contract or order, interior packages and shipping containers shall be marked in accordance with Fed. Std. No. 123. In addition, each interior package shall be marked with the National Stock Number, nomenclature, and quantity.

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

## 6. NOTES

6.1 Intended use. Pipe hangers and supports covered by this specification are intended for use with all types of piping systems.

6.2 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) Type of hanger required and subsidiary document which defines the type (see 1.2.1).
- (c) When load carrying test is not required (see 4.4).
- (d) When individual component parts shall be tested at room temperature (see 4.4).
- (e) Level of preservation and packaging and level of packing required (see 5.1 and 5.2).
- (f) Marking required (see 5.3).

6.3 Cross reference of types:

MSS	SP-58	NFPA 13	WW-H-171D	Noun description
	1	H	1	Adjustable steel clevis.
	2		2	Alloy steel pipe clamp.
	3		3	Carbon or alloy steel double bolt pipe clamp.
	4		4	Steel pipe clamp.
	6	E, F	5	Adjustable swivel pipe ring solid ring type.
	6		6	Adjustable swivel pipe ring split ring type.
	7	G	7	Adjustable steel band hanger.
	8		8	External pipe or riser clamp.
	9	G	9	Adjustable band hanger.
	10	E, F	10	Adjustable swivel ring hanger.
	11		11	Split pipe ring w/wo turnbuckle adjustment.

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MSS	SP-58	NFPA 13	WW-H-171D	Noun description - continued
		H	12	Light duty clevis hanger.
13			13	Steel turnbuckle.
14			14	Steel clevis.
15			15	Adjustable turnbuckle/swivel turnbuckle.
16			16	Malleable iron socket only for split ring.
17			17	Steel weldless eye nut.
18		O	18	Malleable concrete insert.
18			19	Steel concrete insert.
20		J, K	20	Side beam clamp for channel or I-beam.
21		M	21	Center I-beam clamp.
22			22	Welded attachment.
23		P	23	C-clamp.
24			24	U-bolt.
12			25	External split pipe clamp.
26			26	Long clip.
			27	Offset J-hook.
28			28	I-beam clamp w/eye nut.
29			29	Steel wide flange clamp w/eye nut.
			30	I-beam clamp w/swing nut.
			31	Wide flange clamp w/links and swing nut.
31			32	Light welded steel bracket.
32			33	Medium welded steel bracket.
33			34	Heavy welded steel bracket.
34		D	35	Side beam bracket.
			36	Saddle support w/base.
36			37	Pipe saddle support.
37			38	Pipe stanchion saddle.
38			39	Adjustable pipe saddle support.
39			40A	Steel pipe covering protection saddle.
39			40B	Steel pipe covering protection saddle.
40			41	Insulation protection shield.
41			42	Single pipe roll.
43			43	Adjustable roller hanger, w/wo swivel.
43			44	Adjustable roller hanger, w/wo swivel.
44			45	Pipe roll complete.
45			46	Pipe roll and plate.
46			47	Adjustable pipe roll and base.
			48	Adjustable pipe roll.
48			49	Spring cushion hanger.

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MSS SP-58	NFPA 13	WW-H-171D	Noun description - continued
49		50	Spring cushion hanger w/roll.
51		51	Variable spring cushion hanger.
54, 55		52	Constant support spring hanger horizontal or vertical type.
25	N	53	Top I-beam clamp.
27		54	Side I-beam clamp.
50		55	Spring sway brace.
52		56	Variable spring base support.
53		57	Variable spring trapeze hanger.
55		58	Constant support vertical type.
56		59	Constant support trapeze type.
		60	Split-ring type.
5			Pipe hanger.
19			Top beam C-clamp.
30			Malleable beam clamp w/extension piece.
35			Pipe slide and slide plate.
42			Carbon or alloy steel riser clamp.
47			Restraint control device.
57			Plate lug.
58			Horizontal traveler.
	A		U-type hanger for branch lines.
	B		U-type hanger for cross mains and feed mains.
	C		Adjustable clip for branch lines.
	I		Cantilever bracket.
	L		C-type clamp w/restraining strap.
	R		Wrap around U-hook.

Military custodians:

Navy - YD  
Air Force - 99

User activities:

Army - CE, ME  
Navy - MC

Civil Agency Coordinating Activities:

GSA - FSS  
FHA

Preparing activity:

Navy - YD  
Project No. 5340-1173

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