MIL-T-960E(SHIPS)
21 June 1963
SUPERSEDING
MIL-T-960D(SHIPS)
8 September 1958

MILITARY SPECIFICATION

TRAPS, STEAM, INTERMITTENT DISCHARGE AND CONTINUOUS FLOW, NAVAL SHIPBOARD

1. SCOPE

1.1 Scope.- This specification covers steam traps for use in draining condensate from steam systems.

1.2 Classification.- Steam traps shall be of the following types and series, as specified (see 6.1):

Type I - Fluid level actuated (open bucket, inverted bucket, or ball float).
Type II - Pulsating element or bimetallic.
Type III - Continuous discharge, no moving parts.
Series 100 - Bronze body traps; up to and including 100 pounds per square inch (p.s.i.) working pressure, 425 degrees Fahrenheit (° F.) maximum temperature.
Series 150 - Steel body traps; from 101 to 150 p.s.i., inclusive, working pressure, 500° F. maximum temperature.
Series 300 - From 151 to 300 p.s.i., inclusive, working pressure; 775° F. maximum temperature.
Series 400 - From 301 to 400 p.s.i., inclusive, working pressure; 775° F. maximum temperature.
Series 600 - From 401 to 600 p.s.i., inclusive, working pressure at 975° F.
Series 1500 - From 601 to 1500 p.s.i., inclusive, working pressure at 975° F

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.

SPECIFICATIONS

FEDERAL

QQ-N-281 - Nickel-Copper Alloy (Monel and R-Monel), Bars, Plates, Rods, Sheets, Strips, Wire, Forgings and Structural and Special Shaped Sections.
QQ-S-763 - Steel Bars, Shapes and Forgings - Corrosion Resisting.
QQ-S-766 - Steel Plates, Sheets and Strip Corrosion Resisting.

MILITARY

MIL-B-857 - Bolts, Nuts and Studs.
MIL-D-963 - Drawings, Electrical, Hull and Mechanical Equipment for Naval Shipboard Use.
MIL-F-1183 - Fittings, Tube Cast, Bronze, Silver Brazing.
MIL-S-1222 - Studs, Continuous Thread (Bolt Studs); Nuts, Plain, Hexagon; and Steel Bars, Round - High Temperature.
MIL-S-2953 - Strainers, Steam (for Small Branch Lines).
MIL-R-17131 - Rods, Welding, Surfacing.
MIL-F-20042 - Flanges, Pipe, Bronze (Silver Brazing).
MIL-G-21032 - Gaskets, Metallic - Asbestos, Spiral Wound (for ASA Commercial Flanged Joints in Piping Systems) (Identification Symbol 2410).

STANDARDS

MILITARY

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

DRAWINGS

BUREAU OF SHIPS

B-104 - Flanged Composition, Pipe Fittings, 100 Pounds.

PUBLICATIONS

BUREAU OF SHIPS
NAVSHIPS 250-692-13 - Radiographic Standards for Steel Castings.

(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 SOCIETY FOR TESTING AND MATERIALS (ASTM)
A-105 - Forged or Rolled Steel Pipe Flanges, Forged Fittings and Valves and Parts for High-Temperature Service
A-182 - Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service.
A-216 - Carbon Steel Castings Suitable for Fusion Welding for High-Temperature Service.
A-217 - Alloy Steel Castings for Pressure Containing Parts Suitable for High-Temperature Service.
A-276 - Hot-Rolled and Cold Finished Corrosion-Resisting Steel Bars.
B-61 - Steam or Valve Bronze Castings.
B-143-2A - Tin Bronze and Leaded Tin Bronze Sand Castings.

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

AMERICAN STANDARDS ASSOCIATION (ASA)
B16.5 - Steel Pipe Flanges and Flanged Fittings.
B16.11 - Steel Socket-Welding Fittings.

(Application for copies should be addressed to the American Standards Association, Inc., 10 East 40th Street, New York 16, New York.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

OFFICIAL CLASSIFICATION COMMITTEE
Uniform Freight Classification Rules

(Application for copies should be addressed to the Official Classification Committee, 1 Park Avenue at 33rd Street, New York 16, New York.)

3. REQUIREMENTS

3.1 Qualification - Steam traps (types I and II) furnished under this specification shall be a product which has been tested, and passed the qualification tests specified herein, and has been listed on or approved for listing on the applicable qualified products list.

3.2 Materials - Materials used in the construction of steam traps shall be in accordance with table I. Materials of those parts not specified in table I shall be suitable for the intended service as approved by the Bureau of Ships at time of qualification.

Table I. Materials of steam traps.

Parts	Series 100		Series 150		Series 300		Series 400		Series 600 and 1500	
	Material	Applicable documents	Material	Applicable documents	Material	Applicable documents	Material	Applicable documents	Material	Applicable documents
Bodies, bonnets	Bronze	ASTM B 61 B 143-2A	Steel	ASTM A-105, grade II A-216, grade WCB	Steel	ASTM A-105, grade II A-216, grade WCB	Steel	ASTM A-105, grade II A-216 grade WCB	Cr-Mo alloy steel	ASTM A 182-53 F11 or F12 A-276, type 410
Valves, valve seats orifices (see 3.2.1)	Ni-Cu alloy Cres	QQ-N-281 ASTM A-276	Hard facing on body Cres	MIL-R-17131 ASTM A-276, type 410	Hard facing on body Cres	MIL-R-17131 ASTM A-276, type 410	Hard facing on body Cres	MIL-R-17131 ASTM A-276, type 410	Hard facing on body Cres	MIL-R-17131 ASTM A-276, type 410
Bonnet gasket[2]	Asbestos sheet	Commercial	Asbestos sheet Spiral wound	Commercial MIL-G-21032	Spiral-wound Soft steel	MIL-G-21032, 50 Brinell maximum	Spiral-wound Soft steel	MIL-G-21032 50 Brinell maximum	Spiral-wound Monel	MIL-G-21032
Bonnet and body Bolts, nuts	Steel	MIL-B-857 type II	Steel	MIL-B-857, type II	Steel	MIL-S-1222, symbol B7 symbol H symbol 1	Steel	MIL-S-1222 symbol B7 symbol H symbol 1	Alloy steel	MIL-S-1222, symbol B16 symbol 4
Strainer element	Ni-Cu alloy Cres	QQ-N-281 QQ-S-763 or QQ-S-766	Cres	QQ-S-763 or QQ-S-766	Cres	QQ-S-763 or QQ-S-766	Cres	QQ-S-763 or QQ-S-766	Cres	QQ-S-763 or QQ-S-766

[1]Other materials which have demonstrated their suitability will be approved by the bureau or agency concerned.
[2]Reference to MIL-G-21032 is for construction and materials. Dimensions shall be made to suit joint. Commercial equivalent gaskets may be used

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3.2.1 Seat facing.- Hard facing material deposited on the body or on the seat ring shall have a minimum finished thickness of 3/32 inch for traps larger than 1-inch in size and a minimum finished thickness of 1/16 inch for traps 1-inch in size and smaller. Corrosion-resisting steel shall have a Brinell hardness of not less than 500.

3.2.2 Ball floats.- Ball floats shall be of copper, copper-nickel, nickel-copper, stainless steel or other alloy satisfactory to the bureau or agency concerned.

3.3 Design.- The traps shall be so designed that there is access for maintenance and replacement of renewable parts without disconnecting the trap from the pipe line. The trap shall contain an integral strainer. The trap shall be factory set. Design shall be such that the setting cannot be changed by personnel.

3.3.1 Face-to-face dimensions.- Flanged and union end traps of the same series and size shall be interchangeable in the pipe line. Overall dimensions (or laying lengths) shall be as specified in table II. The end connections shall be in line and on the horizontal axis. Within the laying length, there shall be the trap and a strainer either integral with the trap or assembled with the trap by nipples. The assembly shall be welded for all series, except the 100 series. The series 100 assembly may be brazed. Type III does not require a strainer.

Table II - Overall length[1] of traps.

Size inlet and outlet-iron pipe size (i.p.s.)	Series 100 union[2] ends	Series 100, 150 and 300 flanged	Series 400 and 600 flanged	Series 1500 flanged
Inches	Inches	Inches	Inches	Inches
1/2	8-7/8	8-3/8	8-7/8	10-3/4
3/4	9-1/8	8-5/8	9-1/8	11
1	9-7/8	9-3/8	9-7/8	11-1/4
1-1/4	10-5/8	10-1/8	10-5/8	13-1/4
1-1/2	11-1/2	11	11-1/2	13-7/8
2	12-3/4	12-1/4	12-3/4	14-3/8

[1]Tolerances on overall length is plus or minus 1/32 inch.
[2]The overall length of a trap with union ends is measured from the face of the thread piece, which is integral with the trap body.

3.3.2 End connections.- Traps shall be furnished with the same size inlet and outlet connections, expressed in i.p.s. End connections shall be either flanged, union end or socket welding ends, as specified (see 6.1). The following end connections apply to the series indicated.

(a) Series 100 - Union end or flanged (see 3.3.2.2 and 3.3.2.1).
(b) Series 150, 300, 400, 600 and 1500 - Socket welding or flanged (see 3.3.2.1 and 3.3.2.3).

3.3.2.1 Flanged ends.- Dimensions and bolting of flanged ends shall be in accordance with table III. Unless otherwise specified (see 6.1) flanges shall be finished on the face, spot faced on the back for nuts and bolt holes drilled.

Table III - Requirements for flange connections.

Series	Applicable document	
	Shape	Bolting
100	B-104	MIL-F-20042
150 300 400 600 1500	ASA B16.5	[1]ASA B16.5

[1]Except as modified herein.

3.3.2.1.1 The gasket seating face of non-ferrous flanges shall have a concentric, serrated or phonographic finishes of 125 to 1000 RHR produced by machining cuts of 30 to 80 serrations per inch of face width.

3.3.2.1.2 The gasket seating face of ferrous flanges shall have a circular lay (concentric or phonographic) having a roughness not exceeding 500 RHR produced by machining cuts 0.003 inch maximum depth with not less than 40 cuts per inch of face width.

3.3.2.2 Unions ends.- Union ends (series 100 traps only) shall be in accordance with MIL-F-1183. Traps with union ends shall be furnished complete with union nuts and tailpieces.

3.3.2.3 Socket welding ends.- Socket welding ends shall be in accordance with ASA B16.11 and shall be limited to the following sizes:

(a) Series 150, 300 and 400	2 inch maximum.
(b) Series 600 and 1500	1 inch maximum.

3.3.3 Fouling prevention.- The arrangement of parts and the trap internal design shall be such as to prevent fouling by sediment or scale.

3.3.4 Strainer.- The strainer shall be in accordance with MIL-S-2953 and shall be so installed that the flow enters the inside of the strainer element. The strainer element shall be removable for cleaning and draining without removal of the trap body from the pipe line.

3.3.4.1 Strainer design.- The free area through the strainer element shall be not less than twice the area of the inlet bore.

3.3.5 Valve seats or orifices.- Valve seats or orifices shall be of the renewable seat design. Seats of this design shall be designed to prevent leakage past the threads by means of a gasketed joint or other special design, all as approved by the bureau or agency concerned.

3.3.5.1 Replacement parts.- Replacement parts shall be of a design such that when they are installed in the trap, the trap will function as intended with no changes in adjustments required for pressure, temperature or loads.

3.4 Operation.- Each trap shall be capable of efficient operation at 15 percent over the maximum pressure specified for its series (see 6.1).

3.5 Inclined operating installation.- Traps shall be suitable for operation in a permanently inclined position up to 15 degrees in any direction from the normal horizontal; they shall also operate satisfactorily when supported on a moving platform rolled up to 17-1/2 degrees in any direction from the normal horizontal.

3.6 Rated discharge capacity.- The rated discharge capacity shall be marked on a permanently attached marking tag to indicate the capacity for the trap and the orifice furnished therewith (see 3.10).

3.6.1 Method of rating trap capacity.- Based upon the continuous discharge capacities of the trap at a temperature depression of 10°, 20° and 30° F. as determined by the laboratory or by laboratory confirmed data submitted by the contractor, the trap shall be rated as follows: The rated discharge capacity shall be selected as the continuous discharge capacity at the highest pressure in the series and, for 1/2 inch traps shall meet the minimum requirements specified in table IV.

Table IV - Minimum requirements for continuous discharge capacities of 1/2 inch traps at specified temperature depressions with constant back pressure of 30 p.s.i.

Trap series	Inlet pressure	Minimum capacity pounds per hour		
		10° F. depression	20° F. depression	30° F. depression
		Type I		
100	100	800	900	1000
150	150	800	900	1000
300	300	800	900	1000
400	400	1400	1500	1600
600	600	2600	2800	3000

Table IV - Minimum requirements for continuous discharge capacities of 1/2 inch traps at specified temperature depressions with constant back pressure of 30 p.s.i. (Cont'd)

Trap series	Inlet pressure	Minimum capacity pounds per hour		
		10° F. depression	20° F. depression	30° F. depression
		Type II		
100	100	1000	1100	1300
150	150	1000	1100	1300
300	300	1000	1100	1300
400	400	1000	1100	1300
600	600	1000	1100	1300
1500	1400	2000	2500	3000

3.7 Steam loss.- Traps shall be designed to have a minimum loss or leakage of steam. When supplied with dry steam at the highest pressure for the trap series, the trap shall not pass more than 20 pounds of steam per hour.

3.8 Detail requirements.-

3.8.1 Type I traps.-

3.8.1.1 Series.- Open bucket and inverted bucket traps may be furnished in all series. Ball float traps shall be furnished in series 100 and 150 only.

3.8.1.2 Air cock.- Ball float traps shall be fitted with an air cock for testing and to vent air from the trap.

3.8.2 Types II and III traps.- Types II and III traps may be furnished in all series.

3.9 Drawings.- Drawings shall be furnished in accordance with type I of MIL-D-963.

3.10 Markings.- Each trap shall be stamped or otherwise permanently marked with the following information in a manner which will not impair the serviceability of the trap. The data may be on a plate which shall be permanently secured to the trap body except for the direction of flow and body material, which shall be marked on the body directly.

(a) The i.p.s. of the inlet and outlet connections.
(b) Direction of flow (on the trap body).
(c) The specification number, type and series - example: "Specification MIL-T-960, type II, series 600."
(d) The name of the manufacturer.
(e) Material of body (on the trap body).
(f) Capacity at highest pressure in the series at a temperature depression of 30°F (see 3.6)
(g) Replacement seats or orifices shall be labeled to specify trap size and series.

3.11 Workmanship.- Workmanship shall be first class in all respects.

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 supplies and services conform to prescribed requirements.

4.2 Qualification tests[1].- Qualification tests shall be conducted at a laboratory satisfactory to the Bureau of Ships. Qualification tests shall consist of the tests specified in 4.2.1.

4.2.1 Sample traps for qualification tests (types I and II only).- Sample traps (types I and II only) shall be submitted as follows for the tests specified in 4.2.2 through 4.2.8:

(a) One 1/2 inch size trap of each type and series for which qualification is being sought.
(b) One trap of another size in the type offered for qualification approval shall be furnished for the test specified in 4.2.4 for confirmation of the flow capacities.

4.2.1.1 Additional information to be submitted.- The following information shall also be submitted to the Bureau of Ships with each sample trap submitted for qualification as specified in 4.2.1:

(a) The type of trap for which qualification is being sought.
(b) Actual flow data for the traps covering the lowest and highest pressure in the range for each series. The flow capacities shall be conducted with water at a temperature of 30 degrees below the saturation. The flow data shall cover each size and orifice being considered for qualification for the pressure concerned.
(c) A description of the test set-up by which the data specified herein was obtained.
(d) Three copies of the drawings specified in 3.9 for verification and certification of the tests performed. One certified copy of the drawings shall be furnished the Government inspector and shall be retained for use in checking traps submitted for inspection, one copy shall be furnished the Bureau of Ships, and one copy to the laboratory.

4.2.1.2 Traps of the 1/2 inch size of the type and series which have successfully passed the qualification tests specified herein will qualify all other sizes and series of the same type.

4.2.2 Operational test.- Operational test shall be conducted with flow of steam and hot water at various rates described below. The ability of the trap to function automatically and regularly at pressures and flow rates throughout the range indicated for the trap series shall be observed. Back pressures of 15 and 30 p.s.i. shall be maintained throughout the test. The quantity of hot water in the steam shall be gradually increased until condensate backs up in the drop leg to the trap to a height of 30 inches above the trap. The capacity measured under this condition shall meet the minimum requirements specified in table V. The quantity of water in the steam shall then be decreased and increased at varying rates with the height of condensate not to exceed 30 inches above the trap. The trap shall operate continuously under these varying conditions for 24 hours without malfunctioning.

Table V - Minimum capacity requirements under operational test conditions of 1/2 inch traps with 30 p.s.i. back pressure. Level of water in drop leg before trap—30 inches.

Trap series	Inlet pressure p.s.i.	Minimum capacity pounds per hour
Type I		
100	100	600
150	150	600
300	300	600
400	400	600
600	600	400
Type II		
100	100	150
150	150	150
300	300	180
400	400	300
600	600	300
1500	1400	350

[1]Application for Qualification tests shall be made in accordance with "Provisions Governing Qualification" (see 6.2 and 6.3).

4.2.3 Steam leakage (measured).-

Each sample trap shall be tested to insure that steam leakage past the trap does not exceed 20 pounds per hour. The test shall be conducted at the highest pressure denoted by the trap series with dry steam at saturated temperature and with 5° and 10° F. superheated steam being supplied to the trap. During the test a 30 p.s.i. back pressure shall be maintained in the discharge line for the series 150 traps and above. The steam leakage past the trap shall be condensed and weighed.

4.2.4 Flow capacity test.- The continuous discharge flow capacity of traps shall be determined at a water temperature of 10°, 20° and 30° F. below the saturation temperature corresponding to the water pressure. During the test, the water pressure and temperature conditions shall be maintained constant and a 30 p.s.i. back pressure shall be maintained in the discharge line for the series 150 traps and above. Capacities shall be determined at the lowest pressure and highest pressure in the trap series as well as any intermediate pressures required by the laboratory (for series 100, the lowest pressure shall be 50 p.s.i.).

4.2.5 Tilt tests.- Tilt tests shall be conducted at the discretion of the Bureau of Ships or laboratory. The tilt test shall be conducted while the trap is operating at pressure within its series when permanently inclined as follows:

(a) 15 degrees to either side
(b) 15 degrees up or down from the normal horizontal positon of the centerline of the end connections.

Observation shall be made to determine if the steam leakage conforms to the requirements specified in 3.5 and the ability of the trap to function properly.

4.2.6 Hydrostatic test.- Prior to and after completion of the tilt test, (see 4.2.5) the trap shall be tested hydrostatically for strength and porosity to the applicable test pressure specified in table VI and examined for visible distortion or porosity.

Table VI - Hydrostatic test pressures.

Series	Hydrostatic test pressure
100	200
150	300
300	600
400	800
600	1500
1500	3750

4.2.7 Examination after 24 hour operational test.- At the conclusion of the test specified in 4.2.2, the trap shall be disassembled and all parts examined for signs of wear, weakness or potential failure of function.

4.2.8 One year life test.- At the conclusion of all tests specified in 4.2.2 through 4.2.7, a one year life test for series 600 and 1500 traps shall be conducted. During the life test, a 30 p.s.i. back pressure shall be maintained in the discharge line of the trap. Periodic performance checks of the trap shall be made throughout the life test to determine that the trap continues to function properly.

4.3 Comparison inspection.- At least once every two years or at any time when, in the inspector's opinion, the quality is not being maintained, one trap of the type(s) for which qualification approval was granted shall be selected and forwarded to a laboratory satisfactory to the Bureau of Ships for comparison inspection for all the tests specified herein, deemed necessary by the inspector. If any sample trap fails in any test, the Bureau of Ships shall be notified so that corrective action may be taken on the Qualified Products List.

4.4 Sampling for quality conformance inspection.-

4.4.1 Lot.- All steam traps of the same type, series and size presented for delivery at one time shall be considered a lot.

4.4.2 Sampling for visual and dimensional examination and for hydrostatic test.- A random sample of traps shall be selected from each lot for the visual and dimensional examination specified in 4.5.1 and the hydrostatic test specified in 4.5.2 to determine conformance to the requirements specified herein with quality conformance based on the sampling requirements of MIL-STD-105 at inspection level III. The acceptable quality level is 1.5 percent defective. Any trap in the sample containing one or more visual or dimensional defects or failing to pass the hydrostatic test shall be rejected and if the number of defective traps in any sample exceeds the acceptance number for that sample, the lot represented by the sample shall be rejected.

4.5 Examination and tests.-

4.5.1 Visual and dimensional examination.- Each of the sample traps selected in accordance with 4.4.2 shall be visually and dimensionally examined to determine conformance with the requirements of this specification not involving tests. Examination shall be conducted as specified in table VII.

Table VII - Classification of defects in accordance with MIL-STD-105.

Categories	Defects
Critical:	
1	None defined.
Major:	
101	Type, series and sizes of steam trap not as specified; orifice size not as required.
102	Steam trap incomplete; parts missing or improperly assembled.
103	Materials (body, bonnet, valve seats, bolts, nuts, and so forth) defective or not as specified; evidence of (cracks, deep pits, blow holes) shrinkage defects, porosity, or heavy scale.
104	Inlet and outlet connections not in a horizontal plane.
105	Not fitted with an air cock for testing and venting air (type I only).
106	Inlet and outlet connections not as indicated by the series.
107	Union connections (if required) defective or not as specified; threads stripped, torn, crossed or not perfect full threads.
108	Flanges (if applicable) not smoothly machined, outside diameter or thickness of flanges not as specified.
109	Marking, manufacturer's name or trademark missing, illegible, incorrect, incomplete, or not permanent.
Minor:	
201	None defined.

4.5.2 Hydrostatic test - Each of the sample traps selected in accordance with 4.4.2 shall be hydrostatically tested as specified in 4.2.6.

4.6 Possible test failures.- Possible test failures shall be determined as follows:

(a) Hydrostatic pressure:

(1) Evidence of leakage when the specific hydrostatic pressure (cold water) is applied to trap.

5. PREPARATION FOR DELIVERY

5.1 Domestic shipment and early equipment installation and for storage of onboard repair parts.-

5.1.1 Steam traps.-

(c) National Stock Number (NSN) when specified (see 6.2).

5.1.1.1 Preservation and packaging.- Preservation and packaging shall be sufficient to afford adequate rotection against corrosion, deterioration and physical damage during shipment from the supply source to the sing activity and until early installation and may conform to the suppliers commercial practice when such ieets these requirements.

5.1.1.2 Packing.- Packing shall be accomplished in a manner which will insure acceptance by common arrier at the lowest rate and will afford protection against physical or mechanical damage during direct ship- ient from the supply source to the using activity for early installation. The shipping containers or method of acking shall conform to the Uniform Freight Classification Rules and Regulations or other carrier regula- ons as applicable to the mode of transportation and may conform to the suppliers commercial practice when uch meets these requirements.

5.1.1.3 Marking.- Shipment marking information shall be provided on interior packages and exterior hipping containers in accordance with the contractor's commercial practice. The information shall include omenclature, Federal stock number or manufacturer's part number, contract or order number, contractor's ame and destination.

5.2 Domestic shipment and storage or overseas shipment requirements.- The requirements and levels f preservation, packaging, packing and marking for shipment shall be specified by the procuring activity see 6.1).

(5.2.1 The following provides various levels of protection during domestic shipment and storage or over- eas shipment which may be specified when procurement is made.

5.2.1.1 Preservation and packaging -

5.2.1.1.1 Level A.- Traps shall be preserved and packaged in accordance with method I of MIL-P-116, sing type P-2 preservative. Inlet and outlet connections shall be sealed to prevent entrance of foreign matter

5.2.1.2 Packing.-

5.2.1.2.1 Level A.- Traps, packaged as specified, shall be packed in cleated plywood (overseas type), ailed wood (class 2) or wire-bound (class 2 or 3) boxes conforming to PPP-B-601, PPP-B-621 or PPP-B-85, respectively. The gross weight of the boxes shall not exceed 200 pounds. Boxes shall be lined with ealed caseliners conforming to MIL-L-10547.

5.2.1.2.2 Level B.- Traps, packaged as specified, shall be packed in domestic type snug fitting wood leated fiberboard, cleated plywood, nailed wood, wirebound, or fiber boxes (class 2) conforming to PPP-B-91 PPP-B-601, PPP-B-621, PPP-B-585 or PPP-B-636, respectively. The gross weight of wood or wood leated boxes shall not exceed 200 pounds. Fiber boxes shall not exceed the weight limitation of the appli- able container specification.

5.2.1.2.3 For level A or B.- Where practicable, shipping containers shall be of uniform size and shall ontain the same number of items. Containers shall be designed to fit the contents in a compact manner. To ninimize shifting in transit and consequent damage to the material packed or to the container, contents shall e securely blocked or braced within the container, or unfilled space, resulting from unavoidable incomplete illing of the container, shall be completely filled with suitable cushioning material. Cushioning, bracing, and locking, where required, shall be in accordance with JAN-P-100.

5.2.1.3 Marking.- In addition to any special markings required in the contract or order, or herein, narking of the packages and shipping containers shall be in accordance with MIL-STD-129.)

6. NOTES

6.1 Ordering data.- Procurement documents should specify the following:

(a) Title, number and date of this specification.
(b) Type and series required (see 1.2).
(c) Type of welding ends required (see 3.3.2.1).
(d) Required trap capacity (see 3.4)
(e) Preservation, packaging, packing and marking requirements other than those required by 5.1 (see 5.2).

6.2 With respect to products requiring qualification, awards will be made only for such products as have, prior to the time set for opening of bids, been tested and approved for inclusion in Qualified Products List 960, whether or not such products have actually been so listed by that date. The attention of the suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification, in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. The activity responsible for the qualified products list is the Bureau of Ships, Department of the Navy, Washington 25, D. C., and information pertaining to qualification of products may be obtained from that activity. Application for Qualification tests shall be made in accordance with "Provisions Governing Qualification" (see 6.3).

6.3 Copies of "Provisions Governing Qualification" may be obtained upon application to Commanding Officer, Naval Supply Depot, 5801 Tabor Avenue, Philadelphia 20, Pennsylvania.

Preparing Activity:
Navy - Ships
(Project 4730-N065Sh)

SPECIFICATION ANALYSIS SHEET
NAVSHIPS-4863 (8-61)

INSTRUCTIONS

BUDGET BU. NO. 45-R309

This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Bureau of Ships.

This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost.

Comments and the return of this form will be appreciated.

Fold on dotted lines on reverse side, staple in corner, and send to Bureau of Ships, Specifications and Standardization Branch, Washington 25, D.C.

SPECIFICATION

ORGANIZATION	CITY	STATE

CONTRACT NO	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT
		$

MATERIAL PROCURED UNDER A DIRECT GOVERNMENT CONTRACT ☐ OR A SUBCONTRACT ☐

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?
   a. GIVE PARAGRAPH NUMBER AND WORDING

   b. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE? ☐ YES ☐ NO — IF THE ANSWER IS "YES," IN WHAT WAY?

4. REMARKS (Attach any pertinent data which may be of use in improving this specification. FOLD THIS FORM AND PAPER IN AN ENVELOPE AND SEND TO THE BUREAU)

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