Designation: F 1431 – 92 (Reapproved 1998)

An American National Standard

Standard Specification for Water Trap for Diesel Exhaust[1]

This standard is issued under the fixed designation F 1431; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers the material, dimensions, and construction of diesel exhaust water traps, which shall be required whenever the exhaust is to be expelled through the hull of the vessel.

1.2 The traps are designed to prevent sea backwash from entering the diesel exhaust system.

1.3 The values stated in SI (metric) units shall be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 *ASTM Standards:*

B 443 Specification for Nickel-Chromium-Molybdenum-Columbium Alloy (UNS NO6625) Plate, Sheet, and Strip[2]

F 104 Classification System for Nonmetallic Gasket Materials[3]

2.2 *Military Standard:*

MIL-S-901 Requirements for Shock Tests, High Impact, Shipboard Machinery, Equipment and Systems[4]

2.3 *Other Documents:*

American Bureau of Shipping Rules for Building and Classing Steel Vessels[5]

American Welding Society Publication AWS D1.1 Structural Welding Code[6]

3. Ordering Information

3.1 Water traps ordered under this specification shall include the following information:

3.1.1 ASTM designation, title and date of this specification,

3.1.2 Quantity,

3.1.3 Size,

3.1.4 Shock test and grade (see Supplementary Requirement S1),

3.1.5 Handhole shall be at 45° unless otherwise specified, and

3.1.6 Flange dimensions shall be indicated for gaskets.

4. Materials and Manufacture

4.1 *Materials*:

4.1.1 The tank and baffles shall be of nickel-chromium-molybdenum-columbium alloy and tested in accordance with Specification B 443.

4.1.2 *Gaskets*—Gaskets shall be ASTM Classification F 104 (F712100–A9B4–E22K5M6) and shall withstand temperatures of 650°C (1200°F).

4.2 *Manufacture*:

4.2.1 Construction of the water traps shall be in accordance with this specification and Fig. 1.

4.2.2 Welding shall be in accordance with the American Bureau of Shipping Rules for Building and Classing Steel Vessels or the American Welding Society Publication AWS D1.1.

5. Requirements

5.1 Water traps for diesel exhaust systems shall be designed for maximum temperatures of 650°C (1200°F).

5.2 *Baffles*:

5.2.1 No less than three baffles shall be installed. The bottom baffle shall not extend below the top of the outlet pipe, as shown in Fig. 1.

5.2.2 The inlet may be rotated about the centerline of the trap to suit the installations. The top baffle shall also be rotated to retain the same relation with the inlet as shown in Fig. 1.

5.3 *Trap Size*:

5.3.1 The trap size shall be a minimum of 1 m (3 ft) high.

5.3.2 The diameter shall equal twice the diameter of the inlet exhaust line.

5.3.3 The minimum free area through the trap shall equal twice the area of the outlet exhaust line.

5.4 *Hand Hole*—The hand hole shall be configured as indicated in Fig. 1.

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[1] This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.11 on Machinery and Piping Systems.

Current edition approved Aug. 15, 1992. Published November 1992.

[2] *Annual Book of ASTM Standards*, Vol 02.04.

[3] *Annual Book of ASTM Standards*, Vol 09.02.

[4] Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

[5] Available from American Bureau of Shipping (ABS), ABS Plaza, 16855 Northchase Dr., Houston, TX 77060.

[6] Available from The American Welding Society (AWS), 550 NW LeJeune Rd., Miami, FL 33126.

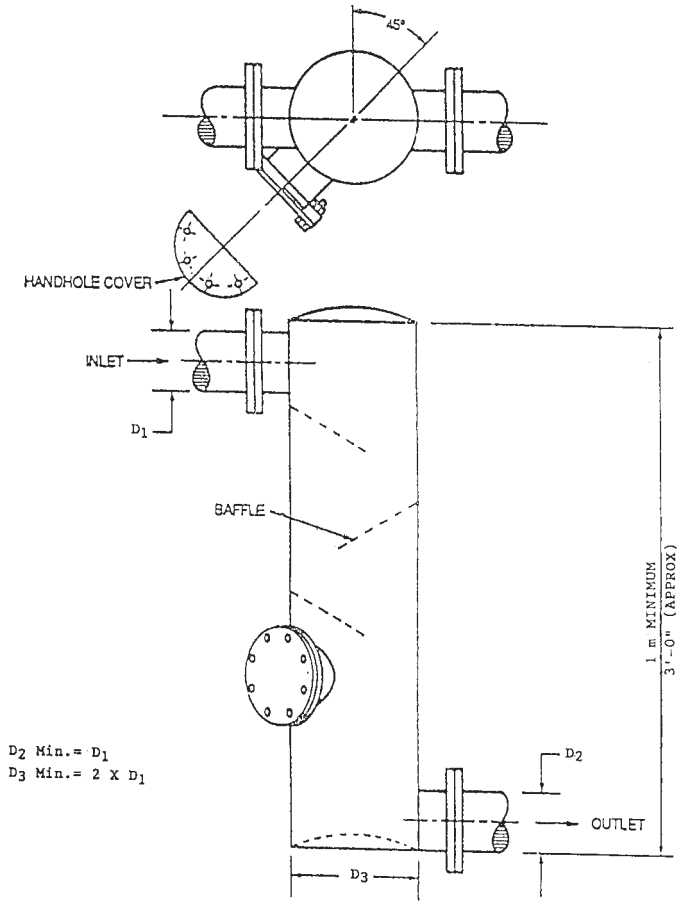

FIG. 1 Water Trap for Diesel Exhaust

6. Dimensions

6.1 The dimensions in Fig. 1 are recommended nominal dimensions.

7. Workmanship, Finish, and Appearance

7.1 Workmanship on traps and piping shall be of sufficient quality to prevent dirt accumulation. Welding shall have small, even beading, free of slag and spatter.

7.2 The trap shall be free of paint.

8. Test Method

8.1 Each trap shall be pneumatically proof tested 35 kPa (5 psi) with no visible seam leakage.

9. Packaging

9.1 The water traps shall be crated or packaged individually for shipment by a commercial common carrier.

9.1.1 Talc and talcum used in the packaging process of items shall be free of asbestos and asbestiform-like materials.

10. Marking

10.1 Each water trap shall bear a weathertight tag showing the purchase order number, ASTM designation, size, and name of manufacturer. The markings on the package shall be approximately 25.4 mm (1 in.) high.

11. Quality Assurance Provisions

11.1 *Source Inspection*—The purchaser reserves the right to inspect the manufacturing process and end product in the supplier's plant.

12. Keywords

12.1 diesel exhaust systems; piping systems

SUPPLEMENTARY REQUIREMENTS

The following supplementary requirements shall apply only when specified by the purchaser in the contract order.

S1. Provisions to withstand high shock. The grade will be specified by the navy requirements.

S1.1 When specified, the diesel exhaust water trap shall meet the requirements set forth in MIL-S-901.