



Standard Specification for Shipboard Oil Pollution Abatement System¹

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1. Scope

1.1 This specification covers the design, manufacture, installation, performance, and operation of a shipboard oil pollution abatement system (OPAS) that collects, transfers, and processes all the oily waste generated from incidental operation of machinery spaces. This specification applies to commercial and public vessels and is intended for use by designers, manufacturers, purchasers, installers and operators of shipboard OPAS to determine the requirements for system design, equipment manufacture, equipment purchase, system integration and installation, and system in-service operation. This specification and its supplementary sections may be tailored to meet the specific user's needs to cover from OPAS new construction to retrofitting of individual OPAS equipment.

1.2 OPAS is comprised of drain tanks, bilge suction, transfer pumps, Oily Bilge Water Holding Tanks, Oil Residue (sludge) Tanks, 15 ppm Bilge Separator systems, 15 ppm Bilge Alarm, automatic stopping device, and deck connections. The 15 ppm Bilge Separator is considered to be applicable for use to separate oily bilge water and ballast water from fuel oil tanks. Treatment of ballast water is addressed in other regulations/ standards and is not addressed herein.

1.3 This specification covers the system from the point of entering the OPAS until the oil-water mixture is treated, the clean water meeting the applicable discharge limits is discharged overboard, and the separated oil is contained for on shore disposal or further treatment. It also includes concepts for minimizing oily waste generation. The ASTM specification is intended to augment the existing regulations, provide the user options to meet their specific needs, and should not be considered a replacement for overriding regulation.

1.4 It is recognized that the development and testing of high capacity separating equipment designed for dealing with effluent from cargo tanks on tankers pose special problems and such equipment is not required to be tested under International Maritime Organization (IMO) Marine Environment Protection

Committee (MEPC) resolution MEPC.107(49) nor is it covered in this specification

1.5 There are means to reduce the volume of bilge and/or process oily waste that are not considered 15 ppm Bilge Separator systems. Examples include incinerators, evaporators, combinations thereof, and other technologies. Such processes may require addressing all potential issues with the system such as toxicology and emissions to atmosphere. Such means and/or processes are out of scope of this standard.

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

- A530/A530M Specification for General Requirements for Specialized Carbon and Alloy Steel Pipe
- A999/A999M Specification for General Requirements for Alloy and Stainless Steel Pipe
- B165 Specification for Nickel-Copper Alloy (UNS N04400) Seamless Pipe and Tube
- F992 Specification for Valve Label Plates
- F993 Specification for Valve Locking Devices
- F1155 Practice for Selection and Application of Piping System Materials
- F1166 Practice for Human Engineering Design for Marine Systems, Equipment, and Facilities
- F1323 Specification for Shipboard Incinerators
- F1510 Specification for Rotary Positive Displacement Pumps, Ships Use
- F1511 Specification for Mechanical Seals for Shipboard Pump Applications
- F2044 Specification for Liquid Level Indicating Equipment, Electrical
- F2045 Specification for Indicators, Sight, Liquid Level, Direct and Indirect Reading, Tubular Glass/Plastic

¹ This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.06 on Marine Environmental Protection.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.