

MSC Guidelines for Review of Potable Water Systems

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References

Title 46 CFR 50.20-5, Procedures for submittal of plans
Title 46 CFR 56.01-10, Plan approval
Title 46 CFR 56.10-5, General piping
Title 46 CFR 56.50-25, Nonmetallic flexible hose
Title 46 CFR 56.60-25, Nonmetallic Materials
Title 46 CFR Part 52, Power boilers
Title 46 CFR Part 53, Heating boilers
Title 46 CFR Part 63, Automatic and auxiliary boilers
 * 63.25-3, Electric Heaters
Title 46 CFR 70.20, Subchapter H
Title 46 CFR 119.310 and 119.320 Subchapter K
Title 46 CFR 128.220 and 128.230 Subchapter L
Title 46 CFR 182.310 and 182.320 Subchapter T
Title 46 CFR 182.720 Subchapter T

International Maritime Organization (IMO) resolution A.753(18), Guidelines for the application of plastic pipes on ships.

Disclaimer

These guidelines were developed by the Marine Safety Center staff as an aid in the preparation and review of vessel plans and submissions. They were developed to supplement existing guidance. They are not intended to substitute or replace laws, regulations, or other official Coast Guard policy documents. The responsibility to demonstrate compliance with all applicable laws and regulations still rests with the plan submitter. The Coast Guard and the U. S. Department of Transportation expressly disclaim liability resulting from the use of this document.

Contact Information

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General Review Guidance

Piping: Material Design

- General pipe and tubing
 - Copper and brass can be used for water and steam service for pressures up to 250 psi and for design temperatures to 406° F per 46 CFR 56.10-5. Subchapter L 46 CFR 128.220, Class II non-vital piping systems need not meet the requirements for materials and pressure design of subchapter F except as noted in 46 CFR 128.230. Subchapter H, 46 CFR 70.20 refers to subchapter F.
 - Nonmetallic pipe shall bear the seal of approval or NSF mark of the Public Health, University of Michigan, Ann Arbor, MI 48103 National Sanitation Foundation Testing Laboratory, Incorporated, School per 46 CFR 56.60-25 (a) (4). Subchapter T refer to 46 CFR 182.720 for nonmetallic piping. Subchapter K 46 CFR 119.720 refers to 56.60-25 for nonmetallic piping
 - Nonmetallic flexible hose may be used for plastic pipe in non-vital fresh water systems subject to the limitations of 46 CFR 56.50-25 (a) (1) through (4). Subchapter T refer to 182.720 (e)

Bulkhead Penetrations

Subchapter F 46 CFR 56.50

- Subchapter T 46 CFR 182.720 (d) (1), penetrations of required bulkheads by any rigid plastic pipe are prohibited unless the following requirements are met:
 - Metallic through bulkhead fittings must be welded or otherwise attached to the bulkhead or deck by an accepted method. 182.720 (d) (1) (i).
 - One or more metallic shutoff valves must be installed adjacent to the fitting as required by 182.720 (d) (1) (ii).
- Subchapter L 46 CFR 128.230, each piping penetration, in each bulkhead required by this subchapter to be watertight, must meet the requirements for materials and pressure design of subchapter F.

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Water Heaters

Water heaters rated at more than 100 psig or 250° F

- Refer to the requirements of parts 52 Power boilers and 63 Automatic auxiliary boilers of subchapter F.

Water heaters rated at not more than 100 psig or 250° F

- Refer to the requirements of parts 53 Heating boilers and 63 Automatic auxiliary boilers of subchapter F with the following exceptions:
 - For electric heaters with capacities under 120 gallons, heat input under 200,000 BTU's per hour, listed by Underwriters Laboratories (UL) under UL 174, "Household Electric Storage Tank Heaters," UL 1453 "Electric Booster and Commercial Storage Tank Water Heater," or other standard specified by the Commandant and is protected by a pressure temperature relief device.

Refer to:

Subchapter F, 46 CFR 63.25-3

Subchapter T, 46 CFR 182.310 and 182.320

Subchapter K, 46 CFR 119.310 and 119.320

For additional information visit the following web sites:

www.uscg.mil/hq/msc

www.uscg.mil/hq/msc/whatsnew

Attachments