



United States Coast Guard
U.S. Department of Homeland Security



CG-5431
Office of Vessel Activities
Domestic Compliance Division

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Steel Cylinders
Aluminum Cylinders

Marine Inspection Notice

VISUAL EXAMINATION IN LIEU OF HYDROSTATIC TESTING FOR CLEAN AGENT PRE-ENGINEERED FIXED FIRE SUPPRESSION SYSTEM CYLINDERS

It has come to the attention of CG-5431 that some field units have been requiring hydrostatic testing for clean agent pre-engineered fixed fire suppression system cylinders installed aboard small passenger vessels as they approach 12 years from their date of manufacture and initial testing.

Clean agent systems are covered by the standards in NFPA 2001, and include systems using FM 200 (HFC 227ea), FE 25 and FE 241 agents. Steel cylinders used for clean agent pre-engineered fixed fire suppression systems only require hydrostatic testing if they –

- have been in service more than 5 years from the previous test date and have been discharged; or
- have been in continuous service but have not undergone, or have failed visual examinations.

NVIC 3-95 permits visual cylinder examinations in lieu of periodic hydrostatic testing of steel storage cylinders for fixed Halon 1301 systems, because industry research has shown the non-corrosive characteristics of the chemical agent were not harmful to steel DOT cylinders.

NFPA permits the same approach with clean other agents. Paragraph 7.2.2 of NFPA 2001 does not require hydrostatic testing of cylinders. Instead, all clean agent cylinders must undergo a full external visual inspection by competent personnel every 5 years, with the results recorded on an inspection tag or record book. Personnel conducting the external visual inspection must hold a current requalification identification number (RIN) per 49 CFR 180.209(g).

However, some aluminum cylinders must be hydrostatically tested in addition to the visual examinations. Specifically, aluminum cylinders marked as DOT 3AL specification cylinders made of 6061-T6 aluminum must be subjected to hydrostatic testing every 12 years in accordance with 49 CFR 180.209(j).

Inspectors may also find aluminum cylinders which are marked as DOT 39 specification cylinders. Per 49 CFR 178.65, these cylinders are not refillable after discharge, and are not required to be hydrostatically tested; however, they may remain in service indefinitely as long as the 5 year NFPA inspection is performed and recorded throughout the system's life.

Details regarding USCG approved equipment can be found at the Coast Guard Marine Information Exchange (CGMIX) at <http://cgmix.uscg.mil>.

Questions concerning this notice may be directed to Office of Vessel Activities, Domestic Compliance Division (CG-5431) at CG5431@uscg.mil or (202) 372-1224.