

GASEOUS AGENT CYLINDER RETEST INTERVALS

Do DOT Regulations or NFPA Standards require fire system cylinders containing gaseous fire extinguishing agents to be periodically removed from service, emptied and hydrostatically tested?

- DOT regulations and NFPA requirements are different.
- Requirements for clean agent cylinders are different than the requirements for carbon dioxide cylinders.

CLEAN AGENT CYLINDERS – UNDAMAGED CHARGED CYLINDERS

Neither NFPA 2001 nor the DOT regulations require undamaged charged cylinders to be removed from service, emptied and tested. An undamaged charged cylinder may remain in service indefinitely. (See 40 CFR 180.205 (c) for DOT reference.)

Note that NFPA 2001 requires an external visual inspection of charged cylinders at least every 5 years. (See NFPA 2001 2012 edition 7.2.2)

CLEAN AGENT CYLINDERS – UNDAMAGED CYLINDERS WHICH HAVE DISCHARGED

NFPA 2001 requires cylinders which have discharged to be retested before refilling if more than 5 years have passed since the last test date. (See NFPA 2001 2012 Edition 7.2.1.)

DOT regulations require cylinders which have discharged to be retested before refill and transport if more than 5, 10, or 12 years have passed since the date of the last test – the interval depends on the type of DOT cylinder and the type of gas contained in the cylinder. (See 40 CFR 180.)

The NFPA 2001 requirement must be applied for cylinders used in fire extinguishing systems that must comply with NFPA 2001.

CARBON DIOXIDE CYLINDERS – UNDAMAGED CHARGED CYLINDERS

NFPA 12 requires high pressure carbon dioxide cylinders to be emptied and hydrostatically tested every 12 years. (See NFPA 12 2011 edition 4.6.5.2.2.)

DOT regulations do not require undamaged charged cylinders to be removed from service, emptied and tested. (See 40 CFR 180.205 (c).)

The NFPA 12 requirement is more stringent and must be applied for cylinders used in fire extinguishing systems that must comply with NFPA 12 requirements.

CARBON DIOXIDE CYLINDERS – UNDAMAGED CYLINDERS WHICH HAVE DISCHARGED

Both DOT regulations and NFPA 12 require carbon dioxide system cylinders which have discharged to be hydrostatically tested before refilling if more than 5 years have passed since the last test date. (See 40 CFR 180 and NFPA 12 2011 edition 4.6.5.2.)

OVERHEATED, DAMAGED or LEAKING CYLINDERS

(APPLIES TO CLEAN AGENT CYLINDERS AND CARBON DIOXIDE CYLINDERS)

DOT regulations in 40 CFR 180.205 (d) require charged cylinders to be removed from service and tested and inspected if:

- (1) The cylinder shows evidence of dents, corrosion, cracked or abraded areas, leakage, thermal damage, or any other condition that might render it unsafe for use in transportation;

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- (2) The cylinder has been in an accident and has been damaged to an extent that may adversely affect its lading retention capability;
- (3) The cylinder shows evidence of or is known to have been overheated; or
- (4) The Associate Administrator determines that the cylinder may be in an unsafe condition.¹

If none of the four conditions listed in 180.205 (d) exist, DOT does not require charged cylinders to be removed from service for requalification (that is, “testing”).

FSSA Test Guide – Special Hazard Fire Suppression Systems Containers

The *FSSA Test Guide for Use with Special Hazard Fire Suppression Systems Containers* (Third Edition, P/N CSG-02) recaps both NFPA and DOT requirements and gives further explanations and examples. This guide may be purchased at <https://m360.fssa.net/frontend/forms/ViewForm.aspx?id=16461>

Cylinder Condition/Agent	DOT Regulation	NFPA Standard
Undamaged Charged Clean Agent Cylinder	No periodic retest required. <i>40 CFR 180.205 (c)</i>	5 year external visual inspection required. <i>NFPA 2001, 2012 edition, 7.2.2</i>
Undamaged Discharged Clean Agent Cylinder to be Refilled	Requalification test required if 5, 10, or 12 years since last requalification. Interval and method of test dependent on type of gas contained in cylinder and type of cylinder. <i>40 CFR 180</i>	Requalification test required if 5 years since last requalification. <i>NFPA 2001, 2012 edition, 7.2.1</i>
Undamaged Charged Carbon Dioxide Cylinder	No periodic retest required. <i>40 CFR 180.205 (c)</i>	Hydrostatic test required every 12 years . <i>NFPA 12, 2011 edition, 4.6.5.2.2.</i>
Undamaged Discharged Carbon Dioxide Cylinder to be Refilled	Hydrostatic test required if 5 years since last requalification. <i>40 CFR 180</i>	Hydrostatic test required if 5 years since last requalification. <i>NFPA 12, 2011 edition, 4.6.5.2</i>
Damaged/Overheated/Leaking Cylinder (applies to both clean agent and carbon dioxide)	Must be removed from service and either requalified or condemned. <i>40 CFR 180.205 (d)</i>	Not directly addressed by NFPA – but DOT regulation must be followed in USA.

CAUTION

This document provides general guidelines and is not intended to provide all information necessary to determine test requirements for all cylinders. Always refer to the most current equipment manufacturer’s instructions and recommendations, DOT regulations, NFPA Standards, along with other codes and regulations that may apply.

¹ Cited from 40 CFR 180.205(d)