Update to Portable Fire Extinguishers on Commercial Fishing Industry Vessels August 2016

Updated Federal requirements for fire extinguishing systems went into effect August, 22, 2016. This update harmonizes the Classification and Rating of extinguishers with other safety standards and uses a more detailed performance based system. It also strengthens monthly inspections (by vessel owner, operator or crew) and annual maintenance (by certified technician) of portable fire extinguishers. Existing vessels <65 ft will have a phase-in period, vessels 65 ft+ will comply immediately with the equipment and have a phase-in period for maintenance/inspection.

EXISTING VESSELS <65 ft. Contracted PRIOR to August 22, 2016:

--May continue to follow previous standards for number and servicing until extinguishers are replaced.

Type Required	W/o Fixed System in Machinery Space	W/Fixed System in Machinery Space
<26 ft in length	1 B-I	0
26 ft to <40 ft	2 B-I	1 B-I
40 ft to <65 ft	3 B-I	2 B-I

Note: One B-II replaces two B-I fire extinguishers

NEW VESSELS Contracted AFTER August 22, 2016:

--Follow updated Table and NFPA 10 Maintenance & Inspection standards.

Length, feet	Minimum number of 5-B portable fire extinguishers	
	W/o Fixed System in Machinery Space	W/Fixed System in Machinery Space
<26 ft in length	1	0
26 ft to <40 ft	2	1
40 ft to <65 ft	3	2
65 ft & Greater	Use Table 28.160	

Note: One 20-B replaces two 5-B fire extinguishers

ALL VESSELS 65 ft. & Greater:

--Follow updated Table and NFPA 10 Maintenance & Inspection standards.

Space	Minimum Req. Rating	Quantity and Location
Pilothouse	20-B:C	**2** in vicinity of exit.
Safety areas, communicating corridors	2-A	**1** in each main corridor not more than 150 ft apart. (May be located in stairways)
Accessible baggage & storerooms	2-A	**1 for each** 2500 sq ft or fraction thereof located in the vicinity of exits, either inside or outside the spaces.
Service spaces, galleys	40-B:C	**1 for each** 2500 sq ft or fraction thereof suitable for hazards involved.
Machinery spaces, internal combustion propelling machinery	40-B:C	**1 for each** 1000 brake horsepower or fraction thereof **but not less than 2 nor more than 6.**
Internal combustion machinery	40-B:C	**1** outside the space in the vicinity of exit.
Electric emergency motors or generators	40-B:C	**1** outside the space in the vicinity of exit.
Electric propulsion motors or generator unit of open type	40-B:C	**1 for each** propulsion motor or generator unit.
Paint lockers	40-B	**1** outside space in vicinity of exit.
Work shops & similar spaces	2-A	**1** outside the space in vicinity of exit.
Auxiliary spaces	40-B:C	**1** outside the space in the vicinity of exit.

MSU Portland, OR Mike Rudolph

Maintenance (Annual) & Inspections (Monthly) (Ref. NFPA-10)

7.1.2.1. Persons performing **(annual) maintenance** and recharging of extinguishers shall be certified.

7.1.2.3. Persons performing **(monthly) inspections** shall not be required to be certified.

7.2.1.2.1. **Fire extinguishers** and Class D extinguishing agents shall be **inspected at least once per calendar month**.

7.2.2. **(Monthly) Inspection Procedures.** Periodic inspection or electronic monitoring of fire extinguishers shall include a check of at least the following items:

- Location **in designated place**
- **No obstruction** to access or visibility
- **Pressure gauge reading or indicator** in the operable range or position
- Fullness determined by **weighing or hefting**
- Condition of tires, wheels, carriage, hose, and nozzle for wheeled extinguishers
- **Indicator** for non-rechargeable extinguishers using push-to-test pressure indicators

7.2.2.2. Where required by 7.2.2.1. (high risk areas, exposure to abnormal temps or corrosive atmosphere-salt spray), the following inspection procedures shall be in addition to those addressed in 7.2.2.:

- Verify that the **operating instructions** on nameplates are legible and face outward.
- Check for broken or missing **safety seals** and temper indicators
- Examine for **obvious physical damage, corrosion, leakage, or clogged nozzle**

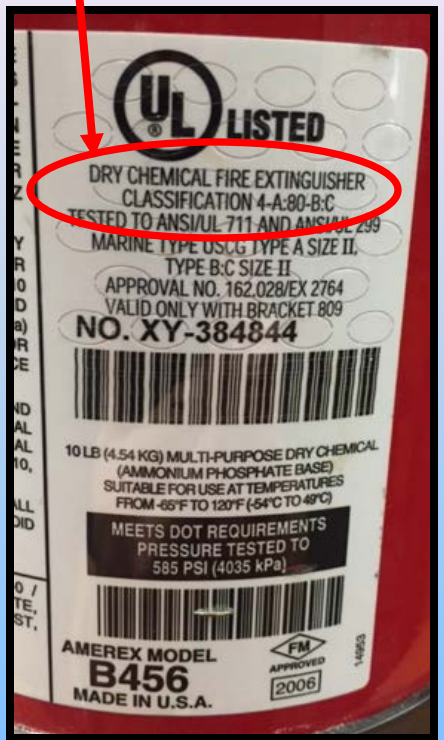
7.3.2 **Annual External Examination (performed by certified technician): .1-Physical Condition.** External visual examination to detect obvious physical damage, corrosion, or nozzle blockage. Verify the operating instructions are present, legible, and facing forward; determine if a 6-year internal examination or hydrostatic test is due. **.2-Seals or Tamper Indicators.** Tamper seal of a rechargeable fire extinguisher shall be removed by operating the pull pin or locking device and replaced with new seal. **.3-Boots, Rings and Attachments.** Removed for exam.

7.3.6 ***Six-Year Internal Examination*** of Certain Types of Extinguishers. **Every 6 years**, stored-pressure fire extinguishers that require a 12-year hydrostatic test ***shall be emptied and subjected to the applicable internal and external examination procedures*** as detailed in the manufacturer's service manual and this standard (NFPA-10).

7.3.6.3 ***Non-rechargeable*** fire extinguishers shall **not be required to have a 6-year internal examination and shall not be hydrostatically tested** but ***shall be removed from service at a maximum interval of 12 years form the date of manufacture***.

The date of manufacture can be located as follows:
* The label on the cylinder (I.E. 2003).
* On the bottom of the cylinder you may have an engraved 2-digit number (I.E. 03).
→For ***Kidde*** products, the following applies:
* Below the label you may have a printed number (I.E.120532***02***2). The second 2 numbers from the end represent the year, in this example it would be 02 for 2002.
*If your fire extinguisher was ***made in Mexico*** the printed number will read like this:
L2103***07***1146
L2 = Production line
103 = Day of the year
07 = ***Year***
1146 = Time

Look for Classification Rating under the UL label



Not serviceable 12yr Expiration



Note: Proper Brackets are Also Required for Approval

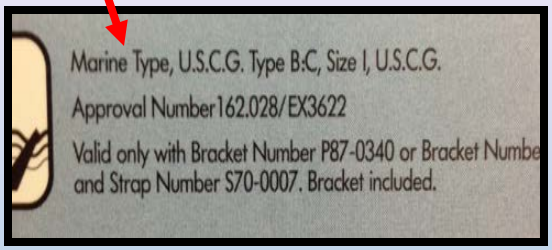


Table F.7.3.2 Frequency of Internal Maintenance and Hydrostatic Testing of Fire Extinguishers

Type of Extinguisher	Internal Maintenance Interval (years)	Hydrostatic Testing Interval (years)
Dry chemical*	6	12
Water, AFFF, FFFP, antifreeze	5	5
Halogenated agent†	6	12
Carbon dioxide	5	5

*Nonrechargeable dry chemical extinguishers do not require a 6-year internal inspection but should be removed from service 12 years after the date of manufacture.

†Nonrechargeable halogenated agent extinguishers do not require an internal inspection but should be removed from service 12 years from the date of manufacture. The extinguishers should be returned to the manufacturer or the manufacturer's designated agent for reclaiming of the halogenated agent.

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

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).

Servicing Companies

Columbia Fire & Safety Co (503) 325-7479
Cintas Fire Protection (844) 287-1955
Fireguard Ext Service (360) 532-4311
C&S Fire-Safe Services (541) 673-1337
www.csfiresafe.com or Gary (541) 297-3634
Industrial Source (541) 267-7049
www.industrialsource.com
Umpqua Valley Fire Services (800) 842-3300
www.umpquavalleyfireservices.com
Valley Fire Control (866) 668-3412
www.sac.to/valleyfirecontrol

Manufacturers

Amerex (205) 655 3281 www.amerex-fire.com
Badger (800) 446-3857 www.badgerfire.com
Fireboy (866) 350-9500 www.fireboy-xintex.com
First Alert (800) 323-9005 www.firstalert.com
Ansul (800) 862-6785 www.ansul.com
Buckeye (704) 739-7415 www.buckeyf.com
Kidde (800) 880-6788 www.kidde.com
Sea-Fire (410) 687-5500 sea-fire.com

Common Myth #1

Posted on March 1, 2013 by Amerex

"Stored-Pressure Extinguishers compact the dry chemical."

Description

NO! In fact, a case can be made that quite the opposite is true. Consider this:

Stored-pressure fire extinguishers have pressure being exerted in ALL directions within the vessel, not just from the top. This actually helps to keep the chemical fluidized during storage and compaction tests (this is also the reason for always pressurizing units through the valve and downtube).

The pressurizing gas is present between dry chemical particles and when the valve is opened, the pressurizing gas expands – instantly fluidizing the dry chemical.

ALL UL listed extinguishers are subjected to vibration and compaction tests regardless of the design. These tests are meant to try to compact the dry chemical so it won't discharge. All Amerex stored-pressure extinguishers pass these tests and BSI (British Standards), EN3 (European Standards) and Australian and a host of others.

Cartridge operated extinguishers are not under constant pressure and as a result:

- They can be tampered with, (fill caps loosened, cartridges loosened, hoses loosened), and the chemical may be compromised with moisture or foreign objects.

- They depend upon gas going through a tube and a series of ports and check valves. If this gas tube is not removed during hydrotest you will certainly develop a block. It may also get blocked from chemical moving into the tube if it is not checked during annual maintenance.

- No gas distribution system design in a cartridge operated extinguisher will fluidize caked chemical, nor will a stored pressure extinguisher operate correctly with caked chemical. Cartridge operated extinguishers, by design, are more susceptible to moisture intrusion than stored pressure extinguishers.

Common Myth #33

Posted on March 1, 2013 by Amerex

You need to turn the extinguisher upside down and hit it with a rubber mallet to fluff the chemical during annual maintenance.

Description

No – In fact this practice can more harm than good.

As stated in "Myth #1" all extinguishers must go through a compaction test with various testing labs and authorities in order to be marketed in North America and around the world. With the exception of some cartridge-operated extinguisher manuals, turning the extinguisher upside down is proven to be unnecessary based on these tests. Within a short time after "fluffing" the dry chemical by turning it upside down and striking it with a mallet, the chemical will go back to the same state as it was before performing this unnecessary task. This is not a problem, as the compaction testing proves that the extinguisher will still discharge the agent – even after sitting on the wall or on a vehicle for a year.

You are REQUIRED to invert cartridge operated extinguishers each time the extinguisher is pressurized. This is required to relieve pressure in the discharge hose and prevent clogging of agent within the hose.

You will not find this requirement in any stored-pressure extinguisher manufacturer's maintenance manuals. Nor will you find it as a requirement in NFPA 10 either in the body of the standard or in the Annex section. Not only do these publications fail to mention it as a requirement, it is not even a recommendation, nor is it a suggestion.

But here is what can happen when "fluffing" the dry chemical in such a manner:

If you subscribe to the "more is better" philosophy you can dent the shell thus requiring the extinguisher to be scrapped

Less obvious, you can break or damage the gauge. If you don't believe that, watch the indicator attached to the bourdon tube jump around while you do this.

Paint can be chipped off of the extinguisher shell, allowing corrosion to set in.

On larger units – 20 and 30 lb units as an example – there is no "handle" to hold them upside down so it is easy to have them slip during the process, causing potential injury to both the extinguisher and the technician's feet. This is a consideration not to be taken lightly when you may be dealing with 50 lbs. or more.

To take this logic to the next step, if this is so necessary, what do you do with wheeled units – get a hoist and a bigger hammer?