



MAINTENANCE OF DRY CHEMICAL FIRE EXTINGUISHERS

As in many technical industries, knowledge and practices are frequently transferred from experienced personnel to new technicians through on-the-job training. This is particularly common in the fire protection industry, where technicians begin their careers working alongside seasoned professionals. While these senior technicians often possess extensive knowledge of fire protection equipment, systems, and service procedures, informal training environments can sometimes perpetuate outdated, incomplete, or incorrect practices. Consequently, technicians may unknowingly adopt improper practices early in their careers.

One such misconception involves the maintenance of stored-pressure fire extinguishers containing dry chemical agent. It is sometimes believed that these extinguishers should be inverted during annual maintenance and struck with a rubber mallet to ‘fluff’ the compacted chemical.

NOT RECOMMENDED

— This practice may cause more harm than benefit.

As outlined in Tech Tip #48, fire extinguishers must successfully undergo compaction and vibration testing by recognized laboratories and regulatory authorities prior to being approved for use. These tests demonstrate that inverting the extinguisher to ‘loosen’ the extinguishing agent is unnecessary. Furthermore, within a short time after fluffing the dry chemical, it will return to the same condition it was in before performing this unnecessary task.

Confusion regarding the need for this practice may stem from procedures associated with cartridge-operated extinguishers. These units are to be inverted during maintenance or after being pressurized and discharged to check for and to relieve any residual pressure in the hose. This is not related to fluffing the dry chemical and does not apply to stored-pressure extinguishers.

This practice is not referenced in manufacturer maintenance manuals for stored-pressure extinguishers and is not referenced in *NFPA 10, Standard for Portable Fire Extinguishers*.

Potential Consequences of “Fluffing” and why it should be avoided:

- Any deformation or denting of the cylinder requires hydrostatic testing or may require the unit to be condemned.
- Heavy impacts on cylinder can cause blistering or chipping of the paint, leading to corrosion and reducing the lifespan of the extinguisher.
- Pressure gauges may be damaged, resulting in inaccurate readings or in need of replacement.
- Larger extinguishers pose increased handling risks due to their size and weight. Mishandling while inverting the extinguisher can lead to dropping the unit, causing bodily injury to the technician or damage to the unit from the impact.

Standard practice includes inspecting hoses or nozzles for blockages, examining the cylinder for corrosion or damage, ensuring all components are free of damage or contamination, and the unit is properly labeled. **Technicians should always reference the manufacturer’s manuals and NFPA 10 for the full list of requirements.**

TT49-0726