



READY FOR CHANGE

A Guide for Meeting the NFPA 10-2007 Compliance Standard for Portable Fire Extinguishers



ANSUL IS ALREADY THERE

A QUICK REVIEW

The new NFPA 10-2007 Edition contains many revisions that may impact you if your facility uses, transports, stores, or handles any type of flammable liquids or gases.

Fires involving flammable liquids and gases can be extremely dangerous to your employees and disastrous to your business. To quickly suppress these fires, specialized portable or wheeled fire extinguishers are required.



THEN AND NOW

Prior editions of the NFPA 10 Standard were not specific about the requirements for these specialized fire extinguishers. They merely stated that a manufacturer's recommendations should be followed. Ansul has always recommended the use of specialized fire extinguishers, designed with high agent flow rates, to fight flammable liquid and gas fires. This comes from decades of proven research, testing, and live fire training at the ANSUL Fire Technology Center.

NFPA 10-2007 now mandates the minimum size and flow rate that a portable fire extinguisher must meet for the protection of three specific Class B fire hazards: Pressure Fire Hazards, Three Dimensional Fire Hazards, and Obstacle Fire Hazards.

**HIGHLIGHTS OF NFPA 10-2007: MINIMUM SIZE AND FLOW RATE OF PORTABLE
FIRE EXTINGUISHERS ■ ALL EMPLOYEES MUST BE TRAINED ■
PHASE-OUT OBSOLETE EXTINGUISHERS IN ORDERLY AND PLANNED MANNER**

PRESSURE FIRE HAZARDS

WHICH OF THESE IS A GOOD EXAMPLE OF A PRESSURE FIRE HAZARD?

- A. Propane storage tanks
- B. Gasoline fuel pumps
- C. Paint spray booths and prep areas

Answer: All

Pressure Fires involve a flammable liquid or gas that is being released, under pressure, from a hose, pipe, flange, fitting, valve, pump, cylinder, tank, or any other storage and transport devices.

Examples of Pressure Fire Hazards:

- LPG tanks and transfer areas
- Paint and solvent spray operations
- Pumps and piping networks
- Gasoline fuel pumps
- Processing and distribution equipment
- Compressed gas cylinders and manifolds
- High-pressure hydraulic equipment

WHAT ARE THE NEW NFPA 10-2007 REQUIREMENTS?

- 5.5.1.1. Extinguishers for Pressurized Flammable Liquids and Pressurized Gas Fires
- 5.5.1.1.1. Selection of fire extinguishers for this type of hazard shall be made on the basis of recommendations by manufacturers of this specialized equipment.
- 5.5.1.1.2. Large capacity dry chemical extinguishers of 10 lbs. (4.54 kg) or greater and a discharge rate of 1 lb./sec. (0.45 kg/sec.) or more shall be used to protect these hazards.

Caution: Attempting to extinguish this type of fire is undesirable unless there is reasonable assurance that the source of fuel can be promptly shut off.



OBSTACLE FIRE HAZARDS

WHICH OF THESE IS A GOOD EXAMPLE OF AN OBSTACLE FIRE HAZARD?

- A. Dip tank
- B. Solvent cleaning area
- C. Drum storage area

Answer: All

Obstacle Type Fires involve flammable liquid on a horizontal surface where a solid object creates a barrier within the perimeter of the burning liquid. This can occur when a flammable liquid is spilled on the floor around a solid object. A solid object can also create a barrier within an open container of flammable liquid, such as a dip tank.

Examples of Obstacle Fire Hazards:

- Drum storage areas
- Dip tank process areas
- Floor areas around machinery
- Flammable liquid storage cabinets
- Drum or other type of dispensing areas
- Solvent cleaning operations or areas

WHAT ARE THE NEW NFPA 10-2007 REQUIREMENTS?

- 5.5.4. Obstacles Fires. When selecting a fire extinguisher for this type of hazard, selection shall be based on the following:
 - (1) Extinguisher containing a vapor-suppressing foam agent
 - (2) Multiple extinguishers containing non-vapor-suppressing Class B agents intended for simultaneous application
 - (3) Large capacity extinguishers of 10 lbs. (4.54 kg) or greater and a minimum discharge rate of 1 lb./sec. (0.45 kg/sec.)



THREE-DIMENSIONAL FIRE HAZARDS

WHICH OF THESE IS A GOOD EXAMPLE OF A THREE-DIMENSIONAL FIRE HAZARD?

- A. Vehicle fueling island
- B. Flammable liquid storage area
- C. Spray line conveyor system

Answer: All

Three-Dimensional Fires involve flammable liquid in motion and usually include both horizontal and vertical surfaces. Often, flammable liquid leaks down a vertical surface, pooling on a horizontal surface below.

Examples of Three-Dimensional Fire Hazards:

- Pumps and transfer equipment
- Walls or structures that support pipes
- Flammable liquid storage cabinets
- Tanker loading racks (highway or rail)
- Electric power transformers
- Storage tanks and drum storage racks
- Machinery and process equipment
- Tank trucks and off-loading points
- Coating operations and conveyors
- Vehicle fueling areas

WHAT ARE THE NEW NFPA 10-2007 REQUIREMENTS?

- 5.5.2. Three-Dimensional Fires. Large capacity dry chemical extinguishers of 10 lbs. (4.54 kg) or greater and having a discharge rate of 1 lb./sec. (0.45 kg/sec.) or more shall be used to protect these hazards.



FIRE EXTINGUISHERS MANUFACTURED PRIOR TO OCTOBER 1984

WHAT TYPES OF FIRE EXTINGUISHERS (MANUFACTURED PRIOR TO OCTOBER 1984) NEED TO BE REPLACED BY JANUARY 1, 2009?

- A. Cartridge-operated
- B. Carbon dioxide
- C. Stored pressure, dry chemical

Answer: C

In section 4.4.1., NFPA 10-2007 mandates the removal and replacement of dry chemical stored pressure fire extinguishers at their next 6-year maintenance or next hydrostatic test interval, whichever comes first. Many times, not all of the affected extinguishers in a facility have the same date of manufacture. Therefore, a phase-out schedule can be developed to comply with this new standard.

MANDATED EMPLOYEE TRAINING

WHO MANDATES EMPLOYEE TRAINING?

- A. OSHA
- B. Insurance companies
- C. Fire marshals

Answer: All

The training of employees in the proper use of all portable fire extinguishers is a federally mandated requirement that is found in the CFR29 (OSHA Regulations). Employees must be trained upon initial employment and annually thereafter.

To comply with this OSHA requirement, many employers send their employees to the world renowned ANSUL Fire School in Marinette, Wisconsin, for 3 days of training that includes:

- Classifications of fire and hazards
- Training manuals and materials
- 25 hands-on, live fire training sessions
- Basic fire science
- Classroom training

Many Authorized ANSUL Distributors can also provide on-site customer training.

ANSUL IS THE SOURCE FOR TRAINING

- ANSUL FIRE SCHOOL
- ANSUL FIRE SIMULATOR
- ON-SITE FIRE TRAINING CLASSES
- DVD—USING A PORTABLE FIRE EXTINGUISHER
- RECHARGING AGENTS, CARTRIDGES, AND SERVICES
- WORLDWIDE DISTRIBUTOR NETWORK

ANSUL HAS THE SOLUTIONS

With more than 65 years of expertise and experience in protecting people and facilities, Ansul is the worldwide leader in the manufacturing of specialized fire extinguishing equipment and agents. So, what do Ansul experts recommend for the protection of these hazards?

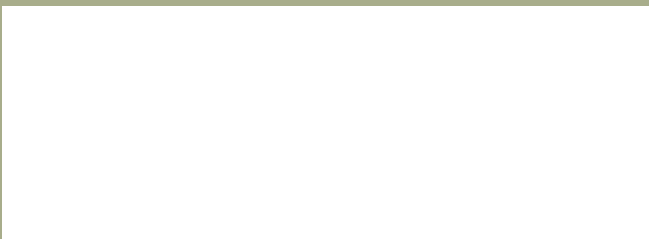
Dry chemical extinguishing agents are excellent choices for flammable liquid and gas fires. Further, dry chemical is one of the only agents effective on Pressure Fires and Three-Dimensional Fires. The preferred dry chemical agents are:

ANSUL Purple-K Dry Chemical — Made of potassium bicarbonate, Purple-K is the most effective chemical agent for Class B fires, especially Pressure Fires and Three-Dimensional Fires. Purple-K is not listed for fires that involve Class A (ordinary combustible) materials.

ANSUL FORAY® Dry Chemical — Made of monoammonium phosphate, FORAY agent is an “ABC” dry chemical with excellent Class B fire extinguishing capabilities. It is also the only ANSUL dry chemical agent that is listed for Class A fires.

Part #	Model	Capacity	Dry Chemical Agent Type	Agent Flow Rate
418466	HF-I-A-20-G	17 lb. (7.7 kg)	FORAY	1.55 lb./sec. (0.7 kg/sec.)
418467	HF-I-K-20-G	18 lb. (8.2 kg)	Purple-K	1.55 lb./sec. (0.7 kg/sec.)
418262	I-A-30-G	25 lb. (11.3 kg)	FORAY	1.02 lb./sec. (0.46 kg/sec.)
418279	HF-I-A-30-G	25 lb. (11.3 kg)	FORAY	2.10 lb./sec. (0.95 kg/sec.)
418264	I-K-30-G	27 lb. (12.3 kg)	Purple-K	1.03 lb./sec. (0.47 kg/sec.)
418280	HF-I-K-30-G	27 lb. (12.3 kg)	Purple-K	2.35 lb./sec. (1.07 kg/sec.)
24611	CR-I-A-150-C	125 lb. (56.7 kg)	FORAY	3.4 lb./sec. (1.5 kg/sec.)
31500	CR-I-K-150-C	125 lb. (56.7 kg)	Purple-K	2.1 lb./sec. (1 kg/sec.)
22520	CR-LR-I-K-150-C	125 lb. (56.7 kg)	Purple-K	4.4 lb./sec. (2 kg/sec.)
31007	CR-I-150-C	150 lb. (68 kg)	PLUS-FIFTY C	3.5 lb./sec. (1.6 kg/sec.)
53876	CR-I-A-150-D	125 lb. (56.7 kg)	FORAY	2.7 lb./sec. (1.22 kg/sec.)
53874	CR-I-K-150-D	125 lb. (56.7 kg)	Purple-K	2.6 lb./sec. (1.17 kg/sec.)
55357	CR-LR-I-K-150-D(1)	125 lb. (56.7 kg)	Purple-K	3.96 lb./sec. (1.8 kg/sec.)
53868	CR-I-150-D	150 lb. (68 kg)	PLUS-FIFTY C	2.9 lb./sec. (1.31 kg/sec.)
55355	CR-LR-I-150-D(1)	150 lb. (68 kg)	PLUS-FIFTY C	4.1 lb./sec. (1.86 kg/sec.)
53891	CR-I-A-350-D	300 lb. (136.4 kg)	FORAY	5.7 lb./sec. (2.58 kg/sec.)
53887	CR-I-K-350-D	300 lb. (136.4 kg)	Purple-K	3.8 lb./sec. (1.72 kg/sec.)
54134	CR-LR-I-K-350-D(1)	300 lb. (136.4 kg)	Purple-K	8 lb./sec. (3.64 kg/sec.)
53879	CR-I-350-D	350 lb. (159 kg)	PLUS-FIFTY C	6 lb./sec. (2.72 kg/sec.)
54133	CR-LR-I-350-D(1)	350 lb. (159 kg)	PLUS-FIFTY C	8 lb./sec. (3.64 kg/sec.)

An Authorized ANSUL Distributor can help you evaluate your unique hazards and determine the proper RED LINE® hand portable or wheeled fire extinguisher for your unique fire hazards.



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