



A Report on Demonstration on working of ABC type Chemical powder fire Extinguisher

A. Personal Details:

Name of Institute	Diwaliba Polytechnic	Date of Demonstration	08-11-2020
Place of demonstration	Near Mechanical Engineering Workshop	Topic	Demonstration on working of ABC type Chemical powder fire Extinguisher
Name of demonstrator	Mr. Rajnish Raj & Parvez Densha		
Participant	All staff member of Diwaliba Polytechnic		

B. Purpose of Demonstration:

To know about

- To know about handling of fire extinguisher
- Operation of fire Extinguisher
- To know about different types of fire and fire extinguisher

C. Details of Learning:

- Safety in process industries,
- Fire Extinguisher Ratings
 - a) **Class A** Extinguishers will put out fires in ordinary combustibles, such as wood and paper. The numerical rating for this class of fire extinguisher refers to the amount of water the fire extinguisher holds and the amount of fire it will extinguish.
 - b) **Class B** Extinguishers should be used on fires involving flammable liquids, such as grease, gasoline, oil, etc. The numerical rating for this class of fire extinguisher states the approximate number of square feet of a flammable liquid fire that a non-expert person can expect to extinguish.
 - c) **Class C** Extinguishers are suitable for use on electrically energized fires. This class of fire extinguishers does not have a numerical rating. The presence of the letter “C” indicates that the extinguishing agent is non-conductive.
 - d) **Class D** Extinguishers are designed for use on flammable metals and are often specific for the type of metal in question. There is no picture designator for Class D extinguishers. These extinguishers generally have no rating nor are they given a multi-purpose rating for use on other types of fires
 - e) **Class K** Extinguishers are used on fires involving cooking media (fats, grease, and oils) in commercial cooking sites such as restaurants. These fire extinguishers work on the principle of saponification. Saponification takes place when alkaline mixtures, such as potassium acetate, potassium citrate, or potassium carbonate, are applied to burning

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cooking oil or fat. The alkaline mixture combined with the fatty acid creates a soapy foam on the surface that holds in the vapors and steam and extinguishes the fire. These extinguishers are identified by the letter K. are designed for use on flammable metals and are often specific for the type of metal in question.

- Types of Fire Extinguishers
 - a) Dry Chemical extinguishers are usually rated for multiple purpose use. They contain an extinguishing agent and use a compressed, non-flammable gas as a propellant.
 - b) Halon extinguishers contain a gas that interrupts the chemical reaction that takes place when fuels burn. These types of extinguishers are often used to protect valuable electrical equipment since they leave no residue to clean up. Halon extinguishers have a limited range, usually 4 to 6 feet. The initial application of Halon should be made at the base of the fire, even after the flames have been extinguished.
 - c) Water These extinguishers contain water and compressed gas and should only be used on Class A (ordinary combustibles) fires.
 - d) Carbon Dioxide (CO₂) extinguishers are most effective on Class B and C (liquids and electrical) fires. Since the gas disperses quickly, these extinguishers are only effective from 3 to 8 feet. The carbon dioxide is stored as a compressed liquid in the extinguisher; as it expands, it cools the surrounding air. The cooling will often cause ice to form around the “horn” where the gas is expelled from the extinguisher. Since the fire could re-ignite, continue to apply the agent even after the fire appears to be out.
- How to Use a Fire Extinguisher

P A S S -- Pull, Aim, Squeeze, and Sweep

 - a) **Pull** the pin at the top of the extinguisher that keeps the handle from being accidentally pressed
 - b) **Aim** the nozzle toward the base of the fire
 - c) Stand approximately 8 feet away from the fire and **squeeze** the handle to discharge the extinguisher. If you release the handle, the discharge will stop.
 - d) **Sweep** the nozzle back and forth at the base of the fire and slowly move forward to extinguish the remaining fire. After the fire appears to be out, watch it carefully since it may re-ignite!
- Risk assessment

D. Outcome of Demonstration:

- How to operate fire extinguisher in critical situation.
- Expertise on fire type and types of fire extinguisher.
- Safety Measures

E. Details of Demonstration

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- All the Faculty member were called to see the demonstration
- Dry wood were collected at a place
- It was burned with the help of match box
- The fire was extinguish with the help of ABC type dry chemical fire extinguisher
- The detailed outcome about fire and fire extinguisher was delivered to all the faculty



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