

Fire extinguishers :- When possible these should be supported by brackets firmly fixed to the wall at a convenient height at all fire points.

There are 6 basic type of fire extinguishers

- a) Hose reels
- b) Carbon-dioxide
- c) Carbon tetra chloride (CTC)
- d) Halogen extinguishers
- e) Dry powder extinguishers
- f) Chemical foam extinguishers

Dry powder fire extinguishers :- This type of fire extinguishers filled with dry powder may be of the gas cartridge or stored pressure type. They are similar in appearance to their water filled counterparts and have the same method of operation. The main distinguishing feature is the fan shaped nozzle.

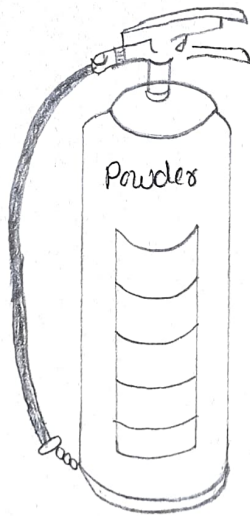


Fig:- Dry powder type fire extinguisher

- ① The main basic components of dry powder extinguisher are sodium bicarbonate and potassium bicarbonate.
- ② Dry powder extinguishers puts out fire by coating the fuel surface with powder.
- ③ This separates the fuel from the oxygen in the air and prevent vapour formation.

- ④ The powder also interrupts the chemical chain reaction of fire.
- ⑤ The disadvantage is that it leaves residue particularly making it difficult to clean up in case of sensitive equipment.
- ⑥ Special extinguishing agents are used for extinguishing metallic fires.
- ⑦ This type of fire extinguisher are the fire by forming a crust on metal surface excluding air and also absorb heat from the metal surface.

Example:- Blended sodium chloride based dry powder.  
ternary eutectic chloride (TEC) powder.



In general, there are three methods of live-line working which help workers avoid the considerable hazards of live line working in various ways, they all serve to prevent current flowing from the live equipment through the worker.

#### 01) Hot stick or live line tool:-

Hot sticks are used in live line work by having the means of an insulating stick. Tools can be attached to the stick, allowing work to be performed with the worker himself safely away from the live conductors.

#### 02) Insulating gloves or rubber gloves:-

A live line worker is electrically protected by insulating gloves and other insulating equipment, and carries out the work in direct mechanical contact with live parts.

#### 03) Barehand or potential:-

The barehanded approach has a live line worker performing the work in direct electric contact with live parts. Before contact, the worker's body is raised to the same electric potential as the live parts, and then held there by electric connection, while maintaining suitable isolation from the surrounding which are at different potentials, like the ground, other people or trees. Because the worker and the work are at same potential, no current flows through the worker.

#### 04) Unearthed or de-energised:-

Some organizations additionally consider working on unearthed de-energised equipment to be another form of live line working. This is because the line might become inadvertently charged (e.g. through a back-charged transformer; possibly as a result of an improperly connected inadequately isolated emergency generator at a consumer facility), or inductively coupled from an adjacent in service line.