



# Classification of Fire Extinguisher

Learn about the different types of fire extinguishers and understand which ones are suitable for different classes of fires.



# Classification of Fire

## Indian Standard IN IS 15683 : 2018

## British Standard UK, EU. (BS EN) 2

## NFPA US NFPA 10 Standard

- Class A – Ordinary solid material fires  
Ex :- Wood, Paper etc.
- Class B – Flammable liquid fires  
Ex :- Diesel, Petrol etc.
- Class C – Flammable Gas fires  
Ex :- Hydrogen, Acetylene etc.
- Class D – Combustible metal fires  
Ex :- Sodium, Potassium, Magnesium etc.
- Class F – Cooking oil fires/Kitchen fires  
Ex:- Vegetable oils and fats.

- Class A – Ordinary solid material fires  
Ex :- Wood, Paper etc.
- Class B – Flammable liquid fires  
Ex :- Diesel, Petrol etc.
- Class C – Flammable Gas fires  
Ex :- Hydrogen, Acetylene etc.
- Class D – Combustible metal fires  
Ex :- Sodium, Potassium, Magnesium etc.
- Class F – Cooking appliances & fats  
Ex:- Vegetable oils and fats.

Fire on electrical equipment is not specified in the standard since it can be involved in any class of fire.

- Class A – Ordinary solid material fires  
Ex :- Wood, Paper etc.
- Class B – Flammable liquid & Gases  
Ex :- Diesel, Petrol, Hydrogen etc.
- Class C – Electrical fires  
Ex :- Energized electrical equipment etc.
- Class D – Combustible metal fires  
Ex :- Sodium, Potassium, Magnesium etc.
- Class K – Cooking oil/Kitchen fires  
Ex:- Vegetable oils and fats.

# Types of Extinguishers

## Water-Based FE (Class A)

- Suitable for fires involving solid materials like wood, paper, cloth, and plastics.
- Uses water to cool and extinguish the flames.

## Foam FE (Class A and B)

- Effective against Class A (solid) and Class B (flammable liquids and gases) fires.
- Forms a blanket of foam to smother the fire and cool the surface

## Carbon Dioxide (CO<sub>2</sub>) FE (Class B & C)

- Suitable for Class B fires (flammable liquids and gases) and Class C fires (electrical equipment).
- Displaces oxygen to suppress the fire and leave no residue.

## Dry Chemical FE (Class A, B, and C)

- Versatile and effective against Class A, B, and C fires.
- Uses a dry chemical powder to interrupt the chemical reaction of the fire.

## **Wet Chemical FE (Class K)**

- Designed for Class K fires, which involve cooking oils and fats.
- Emulsifies the burning fats and cools the fire.

## **Clean Agent FE (Class A, B, & C)**

- Suitable for Class A, B, and C fires.
- Uses non-conductive, non-toxic gases to disrupt the combustion process.

## **Dry Powder FE (Class D)**

- Specifically designed for Class D fires, which involve combustible metals.
- Uses a specialized dry powder to smother and extinguish metal fires.

## **Water Mist FE (Class A and C)**

- Effective against Class A and C fires.
- Uses ultra-fine water droplets to cool and suppress the fire.

## **Cartridge-Operated Dry Chemical Fire Extinguishers (Class A, B, and C)**

- Suitable for Class A, B, and C fires.
- Typically larger and used in industrial settings.

# Fire Extinguisher Maintenance

## 1 Regular Inspections

Perform routine visual checks and maintenance to ensure fire extinguishers are in good working condition.

## 2 Recharge and Replacement

Recharge or replace fire extinguishers after use or according to the manufacturer's recommendations.

## 3 Professional Servicing

Engage professional fire extinguisher servicing companies for thorough inspections and maintenance.



# Fire Prevention is Key

While fire extinguishers are crucial, focusing on fire prevention measures greatly reduces the risk of fire incidents.