



FLASH FIRE SAFETY

A flash fire is a sudden, intense fire, which occurs when fuel - typically flammable gas, dust or combustible liquid - is mixed with air in concentrations suitable for combustion. Flash fires generate temperatures in the range from 1000° F to 1900° F.

These hazards are present in work areas where flammable materials are handled, processed, stored, or in any way present. In the petrochemical industry for example, flash fire can occur at well head sites, collection points, compressor stations, refineries, and petrochemical and plastic plants. In such areas, the potential exists for developing an explosive atmosphere capable of injuring or killing workers and causing extensive property damage.



Flash Fire



EN ISO 11612



NFPA®
2112

According to NFPA 2112, a Flash Fire is a sudden, intense fire which is short in duration but severe in potential danger thus requiring appropriate PPE.

Flash fire accidents result to potential risks of severe burn injuries to the victims. Industries prone to flash fires include oil and gas, refineries, extraction and pipeline services, gas utility services, petrochemical plants, mining, and metal or glass foundries.

RISKS AND HAZARDS FROM FLASH FIRE

- Heat flux of approximately 84kW/m² and typically last less than three seconds
- Smoke burns
- Thermal injury, including full-thickness burns
- Serious damage to the tissue of the lung
- Damage from thermal radiation and secondary fires

The “fire triangle” visually describes that three elements are necessary for a fire to start and continue to burn. Fuel, oxygen and heat are essential to initiate and sustain combustion.



The size and duration of the flame that results from this ignition is determined by the amount of fuel available, the efficiency of combustion, and the environmental and physical characteristics of the site of the flash fire or explosion.

Specialized fire resistant or fire retardant (FR) clothing is intended to protect workers from exposure to intense heat and flame for short periods of time. FR clothing is unique because when exposed to high heat and flame for short periods of time, it does not burn, it does not melt, and it shields the clothing worn beneath it from the intense heat of the flame. FR fabrics are either inherently flame resistant — the fibres are of a material that itself does not burn — or are made of materials that undergo some type of treatment so that they are made non-flammable.



FACTS: 8 THINGS TO KNOW ABOUT FLASH FIRE

1. Flash fires are short and intense
2. Flash fires have various causes
3. Flash fires are different from fuel-fed fires
4. Flash fire injury can be increased by non-flame resistant clothing
5. Flash fire injury can be reduced by flame resistant clothing
6. Not all FR clothing is suited to protect against flash fires
7. Not all FR apparel provides the same protection
8. Proper maintenance is key to FR apparel performance