OIL & GAS

INDUSTRY LOOKS

WHAT STANDARDS ARE USED FOR WORKERS EXPOSED TO FLASH FIRE HAZARDS?

The NFPA® 2112 Standard on Flame-Resistant Garments for Protection of Industrial Personnel Against Flash Fire and its companion standard, NFPA® 2113 on Selection, Care, Use, and Maintenance of these garments specify design, performance, certification requirements, and test methods for flame-resistant garments for use in areas at risk from flash fires. Third party certification of garments is also required.

- In addition to third-party certifications of garments, flame resistance of each fabric layer is required to be tested as received and after 100 cycles of washing and drying and/or dry cleaning.
- The EN 1149-5:2008 is a series of standards for test methods and performance requirements on electrostatic properties of materials and garments. Protective clothing complying with Part 5 of this European Standard is intended to prevent the occurrence of electrostatic discharges that may cause ignition of an explosive atmosphere.
- Protective clothing complying with this International Standard (ISO 11612:2008) is intended to protect workers against contact with heat and flame. This clothing is suitable for a wide range of working environments where there is a need for clothing with limited flame spread properties in combination with protection against heat transmission (radiant, convective or contact heat and molten metal splashes).
- The Heat Transfer Performance or HTP (formerly known as TPP) must be tested and a minimum HTP rating of 6.0 cal/cm^2 is required when testing is done in a "spaced" configuration and 3.0 cal/cm^2 when tested in "contact."
- Finally, coveralls made to a standard pattern from candidate fabrics are tested for overall flash fire exposure on an instrumented mannequin in accordance with ASTM Test Method F1930. The exposure heat flux is 84 kW/m^2 (2.02 cal/cm^2/sec) with an exposure time of 3.0 seconds. The average total predicted body burn must not exceed 50%.

NFPA® 2113 provides guidance in the selection and specification of flame-resistant garments, including workplace hazard assessment. Other sections cover use and care and maintenance recommendations.

Canadian General Standards Board (CGSB) CAN/CGSB 155.20, Workwear for Protection Against Hydrocarbon Flash Fire is the Canadian flash fire standard. The Canadian standard requires that flame resistance, heat resistance and thermal shrinkage be tested and that the garment label be in both English and French. For single layer garments, the TPP values for both spaced and contact tests must be reported on the garment label.

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