

GUIDE TO FLAME RETARDANT CLOTHING

ISO 11612 FLAME RETARDANT FLAME RETARDANT PROTECTIVE CLOTHING FOR WORK ENVIRONMENTS

EN ISO 11612 is a standard that applies to clothing whereby the wearer is exposed to flame spread or hazards which include radiant heat, convective heat and splatters of molten metal. Following the testing of these fabrics, the results are represented by prefix letters A, B, C, D, E and F which indicates the flame retardant performance of the garment. The lowest value attainable will be represented by a (0). These values protect human health against heat and flame using protective clothing.

The fabric is required to withstand heat of 180°C without igniting, melting or shrinking by more than 5%.

- **Class A1 (A)**, Surface Ignition: The flame is applied horizontally
- **Class A1 (B)**, Edge Ignition: The flame is applied laterally
- **Class B**, Convective Heat: Length of time the sample can remain exposed before its temperature rises by 24 °C is determined (B1: 4 < 10 seconds, B2: 10 < 20 seconds, B3: 21 seconds and longer)
- **Class C**, Radiant Heat: Fabric sample is exposed to radiant heat (infrared rays). C1: 7 < 20 seconds, C2: 20 < 50 seconds, C3: 50 < 95 seconds, C4: 95 seconds and longer
- **Class D & E**: Determining the level of protection against splatters of molten metal
- The classification for molten aluminium is: D1: 100 < 200 grams, D2: 200 < 350 grams, D3: 350 grams and more
- The classification for molten iron is: E1: 60 < 120 grams, E2: 120 < 200 grams, E3: 200 grams and more

Inherent Flame Retardant Clothing: This is an attribute that will permanently exist within the garment regardless of laundering. An example of a flame retardant material would be polyester as this doesn't flare up when exposed to heat. This process won't cause any health effects or affect human health.

Chemical Flame Retardant Clothing: This is the process of using chemicals to interfere with the chemistry of the flame and starve the flame of oxygen. This then slows or prevents the spread of a fire.

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