



## Technical Information: Pyrolon Fabrics

### Temperature Tolerances & Protection against Hot Liquids

Lakeland Pyrolon garments are constructed of a unique fabric which combines a substrate based on viscose and in some cases combined with flame retardant chemical barrier polymer films to provide chemical protection. A common question from users relates to the temperature tolerances of the fabrics, a question often framed as:-

“What temperature will the Pyrolon fabric resist?”

The softening and melting temperatures for the Pyrolon fabrics are shown in the table below

Product	Certification	Softening Temperature	Melting Temperature
Pyrolon Plus 2	Type 5 & 6 & EN 14116	227oC	250oC
Pyrolon XT	Type 5 & 6 & EN 14116	227oC	250oC
Pyrolon CRFR	Type 3 & 4 & EN 14116	227oC	250oC
Pyrolon CBFR	Type 3 & 4 & EN 14116	227oC	250oC
Pyrolon TPCR	Type 3 & 4 & EN 11612	227oC	250oC

Note: the temperatures are the same on each fabric because a specific polymer component in the fabrics melts before the other components.

#### Notes:-

1. Pyrolon Plus 2, XT, CRFR and CBFR are NOT Thermal Protective Garments and are NOT designed to PROTECT against heat energy or flames. Pyrolon fabrics will not ignite and the garments are designed to be worn OVER a Thermal Protective Garment to provide chemical protection where flame and heat is a risk and where standard chemical protective suits would ignite and burn thus compromising the thermal protection.

Only Pyrolon TPCR is certified to EN 11612 and therefor IS a Thermal Protective Garment and can be worn on its own to protect against heat and flame.

2. The temperatures above are indications ONLY of the softening and melting points of the fabrics and are NOT an indication that the fabrics will PROTECT against liquids or materials up to those temperatures.

For example, this does not (necessarily) indicate that a wearer will be protected against a splash of a liquid at 200oC even though this is lower than the softening temperature indicated. A liquid at 200oC on the fabric surface may continue to transfer heat energy through the fabric which could burn the wearer.

The only information provided by the figures above is that the fabric will not melt if it reaches a temperature of 200oC.

3. On the other hand, neither does this indicate that a Pyrolon fabric will NOT be suitable in such an application because :-

1. A splash of liquid at 200oC will immediately and rapidly reduce in temperature once in contact with the fabric as the fabric will be at a much lower temperature. Thus the temperature of the fabric is unlikely to reach 200oC in this case, and subject to the volume of the splash, distance from the source, undergarments worn, the thermal properties of the fabric (i.e. its tendency to retain and release heat energy over time), ambient temperature and other factors, is unlikely to transfer a large amount of heat energy through the fabric to the wearers skin.
2. Whether that will be sufficient to result in a burn will relate to a variety of interplaying factors including the physiology of the wearer

Thus it is impossible to state with any certainty that a wearer will or will not be sufficiently protected in such circumstances. Any decision on suitability of Pyrolon garments for a specific applications such as hot liquid splash must be made through a risk analysis conducted by the relevant qualified safety manager.

For more information on the properties and protective capabilities of Pyrolon coveralls contact Lakeland

