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HOW FLAME RETARDANT FABRICS XM FIRELINE[™] ARE **TREATED WITH THPC TO ENDURE 100 WASH CYCLES AND RESIST HEAT, FLAME & ELECTRIC ARC**



XM FireLine[™] designs and manufactures flame retardant fabrics for Protective and FR-clothing

All our FR fabrics resists 50/100 wash cycles and certified to ISO 11612, ISO 11611 or NFPA 2112.

Our fabrics are treated with a flame retardant chemical compound, which is named THPC, in compliance with all technological standards, ensuring a high level of safety of Protective workwear.



What is THPC?

Chemical THPC C, H₁₂CIO, P (tetra (hydroxymethyl) phosphonium chloride) is internationally recognized as one of the best fire retardants for processing cotton and cotton blends (CVC) fabrics. Besides this chemical compound (THPC), a sophisticated technological process is used to let flame retardant properties formed in the very structure of a treated fabric.

Thus, THPC chemical deeply penetrates into the fibers of fabric and gridlockes in its very molecular structure adding flame retardancy to the fabric. These flame retardant properties are maintained during long-term storage, many wash cycles and dry cleaning.

Our company carefully monitors compliance with all technological process requirements, to ensure that fr-treated fabrics keep high quality of flame retardant proprieties.

THPC-treatment technology adds FR-properties to fabric

heat or electric arc.

P.S. Be sure to consult with a technician for the safety of your production, to choose fireproof fabric XM FireLine appropriate level of protection. **Appendix 1**

Flame Retardant Fabric Care Requirements

XM FireLine flame retardant fabrics are allowed for domestic wash at 60°C (ISO 6330) or Industrial wash at 75°C (ISO 15797). Soft water is recommended. Hard water precipitates soaps and contains calcium and magnesium salts. These can build up on the fiber surfaces, coating the fabric and masking luminescent or FR properties. Do not use natural soaps (anionic or tallow soap). Magnesium and calcium deposits can be removed in a commercial laundry with acetic acid during followed by rinsing with the alkaline neutralization.

Do not use chlorine-based bleaches because they are chemically weaken polymeric compounds that provide flame retardant properties of the fabric.

Appendix 2



ISO 11612:2008 Protective clothing - Clothing to protect against heat and flame

ISO 11612:2008 specifies performance requirements for garments made from flexible materials, which are designed to protect the wearer's body, except the hands, from heat and/or flame. For protection of the wearer's head and feet, the only items of protective



FR-fabric XM FireLine[™], being treated with THPC technology, has the following features:

- no residual heating and melting;
- residual decay time after stopping of the flame is not more than 2 seconds;
- ✓ molten metal splash protection;
- high durability guarantees a long life circle;
- maintaining of high mechanical properties of the original fabric;
- ✓ maintaining of flame retardant properties after 100 washes;

To keep flame retardant properties of FR-clothing made of our FR-fabric, please strictly follow given care instructions (see. Appendix 1)

XM FireLine[™] fabrics Applications

Nowadays the flame retardant fabrics are widely used for protective work wear manufacturing around the world. This is due to the fact that the requirements of international standards for the safety of workers become stricter. XM FireLine follows the world trends and every year try to develop new variants of fabrics for protection not only from fire and flame but also from electric arc, static electricity, acids, alkalis and other risks.

XM FireLine fabrics recommended for the producing of protective and flame retardant work wear at work associated with short-term exposure to an open flame, heat radiation (metallurgists, firemen), and the possibility of welding sparks and molten metal splash, high clothing falling within the scope of this International Standard are gaiters, hoods and overboots. However, concerning hoods, requirements for visors and respiratory equipment are not given.

Æ EN 11611

ISO 11611:2015 specifies minimum basic safety requirements and test methods for protective clothing including hoods, aprons, sleeves, and gaiters that are designed to protect the wearer's body including head (hoods) and feet (gaiters) and that are to be worn during welding and allied processes with comparable risks. For the protection of the wearer's head and feet, this International Standard is only applicable to hoods and gaiters. This International Standard does not cover requirements for

feet, hand, face, and/or eye protectors.

This type of protective clothing is intended to protect the wearer against spatter (small splashes of molten metal), short contact time with flame, radiant heat from an electric arc used for welding and allied processes, and minimizes the possibility of electrical shock by short-term, accidental contact with live electrical conductors at voltages up to approximately 100 V d. c. in normal conditions of welding. Sweat, soiling, or other contaminants can affect the level of protection provided against short-term accidental contact with live electric conductors at these voltages.

FR-TECHNOLOGY THPC

ISO 11611:2015 Protective clothing for use in welding and allied processes













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