



Laundrying information for garments made with Dymatex5

Fact sheet

Garments made with only Dymatex5, do not show any decline in performance after laundrying several times.

Laundrying is a process with many critical parameters for textile garments.

First, high temperatures can cause shrinkage in textile garments.

Second, chemicals, like strong acids or bases, can destroy the chemical structure of textile garments.

Finally, mechanical impacts can tear a textile garment apart. Workers have to be sure that their garments keep the performance level even after laundrying.

PH stability and chemical resistance of Dymatex5.

Dymatex5 fibers are based on Ultra-High Molecular Weight Polyethylene (UHMWPE). Therefore the primary properties are not affected by water or moisture. Dymatex5 fibers are inert to most kind of aggressive agents and environmental influences. Standard chemicals typically used in industrial laundrying such as detergents, ammonium/sodium hydroxides, hydrochloric acid, etc, are not known to affect the performances of the Dymatex5 fiber.

Technical properties of Dymatex5 are not affected when exposed to strong acids or bases.

Temperature resistance of Dymatex5.

Products containing Dymatex5 should be treated with care if high temperatures are involved. The melting point of Dymatex5 is between 144-152°C / 290-306°F.

For conventional laundrying this should not pose a problem. However, we recommend keeping the temperature during the process below 90°C / 194°F. Dependent on the duration of the process and temperature involved, slightly higher temperatures can be applied.

Temperatures up to 90°C / 194°F during laundrying will not affect the cut resistance of the Dymatex5 fiber.

In this leaflet general recommendations are given on how to handle garments containing Dymatex5 while laundrying. However the majority (if not all) clothing is composed of more than one fiber component. Flexion Global can only take responsibility for the Dymatex5 fiber. Recommendations on laundrying garments with multiple components are a responsibility of the garment supplier. Flexion Global explicitly rejects any liability with respect to such other components.

- Since it is impossible to list the level of resistance of Dymatex5 to all existing chemical products (or combinations), we advise you to contact us or your supplier in case you have specific questions.

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Laundering garments with Dymatex5

Realizing that most commercial available garments contain multiple components besides Dymatex5, Three different garments types have been evaluated in different laundering processes. The three types that have been evaluated are:

- High cut protective T-shirt with Dymatex5, glass fiber and Cordura.
- High cut protective Sweatshirt with Dymatex5, glass fiber and Cordura.
- High cut protective trousers with Dymatex5, glass fiber, Cordura and Polycotton.

The three laundering processes the garment samples were subjected to:

- Dry Cleaning. The garments were dry cleaned with Perchloroethylene (PER) at a PH of 6 and afterwards dried at 70°C (158°F). This process was repeated three times.
- Laundering and Tumble Drying. Garments were laundered with water and detergents at around 60° C / 140°F, rinsed with pure cold water and then put in the tumble dryer at around 55°C / 131°F. This process was repeated three times.

Results

- **The wet and dry cleaning process followed did not have a significant effect on cut, puncture and abrasion resistance of the tested garments.**
 - **Fit, flexibility and comfort level were not affected.**

Although laundering does not have any impact on the properties of the Dymatex5 fiber, it still could affect the performance of other materials used in a cut resistant garment. Some elastomeric materials such as Elastane could lose its retractive properties under the typical conditions used in dry cleaning process. Elastane, Polyamide or Cotton can also shrink at high temperatures. Furthermore we only tested non-used garments. Used garments can behave different as oils or other chemical products can affect the ingredients of the garments. We advise you to contact your supplier in case you have questions about your specific garmentstyle.

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