

DATA SHEET

Technical Fibers

FiberVisions® Nforz ET - Superior Temperature Resistance

FiberVisions has developed a new polypropylene staple fiber:

FiberVisions® NForz ET

The fiber is engineered especially to resist the damaging effects of high-temperature environments.

Using this fiber, polypropylene fiber fabrics such as needlefelts can be used in applications where higher temperatures occur.

FiberVisions® NForz ET fibers have the following features:

- Dimensionally stable over a wide range of temperatures.
- Ability to withstand elevated temperatures up to 125 °C for a long period of time with minimum loss of fabric tensile strength.
- Excellent resistance to inorganic and organic acids, alkalis, and salts.
- Well-balanced strength and elongation properties.
- A high, uniform quality, supported by the concept of long-spinning fiber manufacturing.
- The fiber will be tailor-made to match the requirements of the individual customer.
- NForz ET fibers are available in two versions (type 1 and type 2). A selection between the two should be made, depending on the demands on strength recovery during their life time of the application in question. Type 1 will retain the fiber strength during its entire life time and then lose it at one time. Type 2 behaves differently and will show a gradual decrease in strength over its life time. Type 2 is stable against UV-radiation as well. The figure shows the impact on strength recovery during time for the two types exposed to 130 °C (oven ageing studies).

- Possibility to select a fiber spin finish which complies with FDA for indirect food contact applications.
- Excellent environmental properties as polypropylene fibers are pure hydrocarbon polymers.

Applications

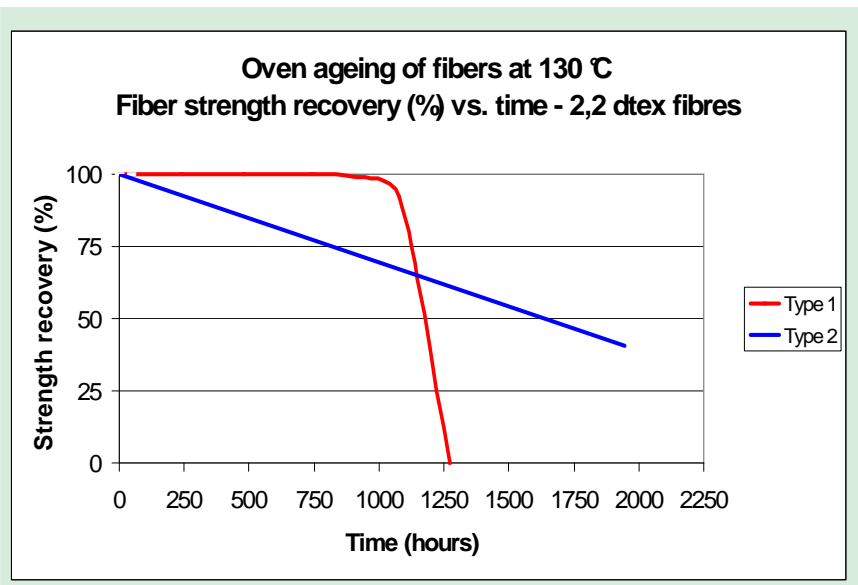
FiberVisions® NForz ET fibers are suitable for the following applications:

- Hot air/gas filtration (in areas with temperature below 125° C)
- Hot liquid filtration.
- Automotive applications, such as carpets, headliners, interior trim panels, and insulation parts.
- Needlefelt materials exposed to heat.

Test Results

As tensile strength often is the determining factor in choosing a fiber for a specific application, FiberVisions has tested the NForz ET fiber's behavior with regard to temperature resistance. The below figure shows how the heat (Test Method: Oven Ageing Studies) slowly influences and degrades the different materials.

The figure shows how FiberVisions® NForz ET fibers survive exposure to continuous operating temperatures for a very long period of time (compared to other materials).



The FiberVisions® NForz ET fiber is presently produced at the FiberVisions a/s plant in Denmark. NForz ET is a trademark of FiberVisions.

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FiberVisions® Technical Fiber Properties*



dtex: 1.7 - 10 dtex
(Int. FV test) (15 -37 micron)

Tensile strength: 2.0-5.0 cN/dtex
(Int. FV test)

Elongation: 180-240%
(Int. FV test)

Fiber length: 40, 50, 60, 80 mm
(Int. FV test)

Crimp frequency: Specified by
(Int. FV test) customer

Shrinkage 2-10%
(Int. FV test)

Spin finish level: 0.3-0.4%
(Int. FV test)

**: Unless otherwise stated: Internal FiberVisions Test Methods. All measurements are conducted under standard atmosphere according to ISO 554 (23°C/50%).*

Polyolefin fibers consist of 99% carbon and hydrogen. The remaining 1% consist of water and applied spin finish. The fiber bales are protected with polyolefin foil and closed with polyester straps. The product and the packaging materials are suitable for recycling and combustion. Inhouse waste should be kept clean to facilitate direct recycling. In disposal of any waste, be certain all applicable regulations are met.

For further information contact your FiberVisions representative.

Performance Profile of Polypropylene Fibers

FiberVisions fibers have a number of advantages over other man-made fiber types:

Density. The density of polypropylene is 50% lower than polyester and 25% lower than polyamide. This means that lightweight fabrics can be made with excellent bulk and cover from lower denier yarns than from other fiber types

Colorfastness. When color is introduced in the melt (solution dyed) the color is inherent in the product. It will not bleed or fade.

Comfortable. Polypropylene is a very comfortable and soft fiber. It has a low modulus which ensures a good drapeability and it has excellent resistance to static build-up.

Insulation. Polypropylene has the lowest conductivity of all textile fibers, and it absorbs no moisture.

Resistance. Polypropylene is an inert polymer to acids, alkalis and other chemicals. It is resistant to rot, mildew and bacteria. The FiberVisions® NForz fiber is highly resistant to abrasion, and has a toughness superior to most fibers.

Technical Service. FiberVisions believes in offering extensive technical service to its customers. This includes fiber innovation programs, exclusive fiber development, color matching, fiber quality enhancements, etc.

Request a trial for your next application!

FiberVisions® Fiber Program

FiberVisions also manufactures:

Fibers for hygiene applications:
FiberVisions® HY-Strength, HY-Soft, HY-Dry T, HY-Comfort and HY-Repeat:

- 1.7 - 6.7 dtex
- Hydrophilic (std./perm.), hydrophobic
- Thermobondable fibers for softness, stretch and strength

Fibers for spunlace:

FiberVisions® HY-Entangle

- 1.7 - 2.2 dtex
- A low density fiber for wipes. Good process properties

Fibers for wetlaid processes

FiberVisions® Create WL

- Shortcut fibers in 1.7 - 6.7 dtex
- Heatsealable fibers giving strength and elongation to the fabric/paper

ES FIBERVISIONS Bico fibers:
Bicomponent (PP/PE and PET/PE) binder fibers

- 1.7 - 16 dtex
- For all staple fiber processes

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