

DATA SHEET

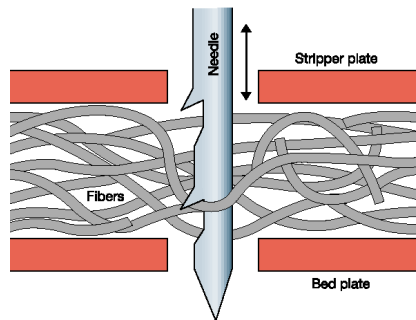
Technical Fibers

NForz - A Fiber for Needlepunching

PP Fibers of the Finest FiberVisions Quality

FiberVisions has been active in the PP fiber market for more than three decades and has substantial know-how within PP fibers for a multitude of applications.

The FiberVisions® NForz Fiber is a new fiber developed for needlepunched application. The fiber has the following features:



- ♦ High performance. The fiber's strength level, spin finish type and content will be adjusted to each specific application. It also guarantees the customer a close cooperation with all parts of the FiberVisions competence functions. In addition, the fiber is supported by strong R&D experience.
- ♦ A high, uniform quality, supported by the concept of longspinning fiber manufacturing. Also, FiberVisions a/s has been ISO 9001 certified for more than 10 years.

- ♦ Our longspinning fibers have a broad temperature window, which makes a thermal stabilization of the needlefelt product very easy and convenient.

Why PP Fibers?

FiberVisions® NForz fibers are made from polypropylene (PP), which has a number of remarkable characteristics:

- ♦ Polypropylene is the lightest of all fibers (0.91 g/cm³), and lighter products with same coverage as products made from other fibers can be made from PP fibers.
- ♦ It has the lowest moisture absorption of all fibers. Dirt will not penetrate the fiber and can easily be removed from the surface.
- ♦ PP fibers have the same tensile strength wet or dry, unlike other fibers.
- ♦ FiberVisions PP fibers are all highly resistant to both acids and alkalis and to most organic chemicals. The fiber does not rot and is not easily attacked by microorganisms or moulds.

Additivation

FiberVisions® NForz fibers are available raw white, and spun-dyed grey and black. The spun-dyed colours ensure a uniform colour throughout the entire fiber cross section, making the fiber exceptionally colourfast to light and wear. A standard colour card is not

available. Customer-specific colours can be made. FiberVisions fibers for technical textile applications are, if requested, specially treated with UV-stabilizers during manufacturing to obtain resistance against the effect of UV in sunlight.

Furthermore, the FiberVisions® fibers can possess additional heat stabilization, which extends the lifetime of the fibers in high-temperature applications.



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

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FiberVisions® NForz 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
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, see Material Safety Data Sheet or contact your FiberVisions representative.

Efficiency

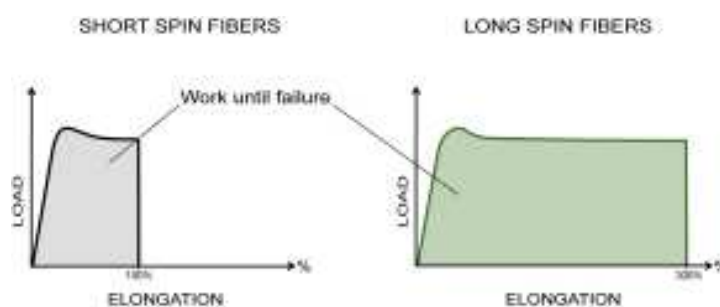
The NForz fiber is not a fiber with the standard spectrum of properties: needlepunching fibers with high fiber strength and low elongation.

The FiberVisions® NForz is a fiber with medium to high fiber tenacity combined with higher-than-normal elongation.

The process advantage for the customer is that the FiberVisions long spin fibers do not easily break during needling.

A high elongation fiber provides for increased toughness and the customer can achieve stronger nonwovens without sacrificing nonwovens elongation.

The tenacity and elongation curves have the following shapes:



FiberVisions® Fiber Program

FiberVisions also manufactures:

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