

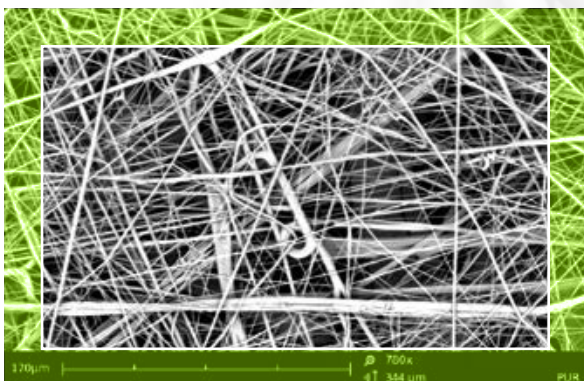
# PUR

## NnF MBRANE® – PUR

### Product description

**NnF MBRANE® – PUR** is a novel kind of nanofibrous membrane produced by industrial production technology operated by **PARDAM, s.r.o.** in the Czech Republic. Nanofibrous layer is deposited on the top of a supporting substrate with air permeating structure made of virtually any material on customers' request – woven /nonwoven textiles, filtration paper... or without support. Combination of the grammage of nanofibrous layer and the type of the supporting substrate enables manufacturing of filtration membranes with different permeability and filtration efficiency, in accordance with customers' demands! Nanofibrous structure of the membrane possesses small pore size, which leads to high filtration efficiency together with high permeability due to open fibre structure. This characteristics and strong chemical resistance of PUR predestine this type of membrane for high flux filtration of various gases and liquids with the exception of some organic solvents, as well as filtration of water and air. **NnF MBRANE® – PUR** is also suitable for any nanofiber layer application where flexible, porous, chemically stable membrane is needed.

### Images



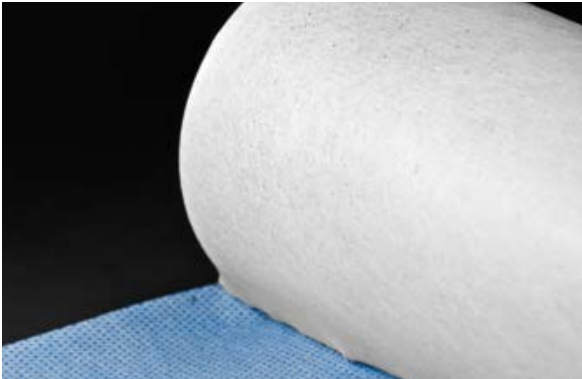
SEM image, magnification: 780x



SEM cross section, magnification: 500x

## Physical properties

### ■ Physical form and structure



Polyurethane NnF MBRANE on blue PP support



Thin PUR NnF layer on PES support

## Material characteristics

fiber structure	<b>randomly oriented</b>
typical fiber diameter	<b>400-800 nm</b>
fiber length	<b>continuous</b>
physical form	<b>thin layer</b>
grammage	<b>0,5-20 g/m<sup>2</sup></b>
air permeability	<b>40-500 l/min/dm<sup>2</sup></b>
width of the roll	<b>max. 0,8 m</b>
maximum length of the roll	<b>2000 m</b>
melting point	<b>138 °C</b>
vicat softening point	<b>92 °C</b>

High permeability | Good chemical resistance | Flexibility | Peel-ability – it is possible to use nanofibrous layer without support material

Type of the supporting substrate and grammage of nanofibrous layer determine the permeability and filtration efficiency of the membrane. These parameters can be modified in accordance with customers' demands.

Additional post-treatment available:

Lamination of nanofibrous membranes (double / triple sandwich material) | Post-treatment with plasma spray (hydrophobic / hydrophilic surface treatment) | Doping with functionalized particles (Ag, ZnO, TiO<sub>2</sub>... antibacterial function).

Please feel free to contact us for more information.

### Important notice for purchaser

All statements, technical information and recommendations contained in this document are based on tests conducted by PARDAM's R&D team and its approved equipment and are believed to be reliable. However the accuracy or completeness of the tests is not guaranteed. THE FOLLOWING IS MADE IN LIEU OF ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. The manufacturer's and seller's only obligation will be to replace the quantity of the product proved to be defective. Neither the seller nor the manufacturer will be liable for any injury, loss or damage, direct, indirect or consequential, arising out of the use of the product. Before using, the user must determine the suitability of the product for their intended use.



High flexibility of PUR nanofibers

## Applications

Water and waste water filtration | Air filtration | Separation membranes

### Important notice:

production of composite PA6/PUR membranes in one single layer is also possible. Combination of these nanofibrous materials enables to reach unique mechanical and filtration properties of the membrane. Feel free to contact us to obtain samples for evaluation.