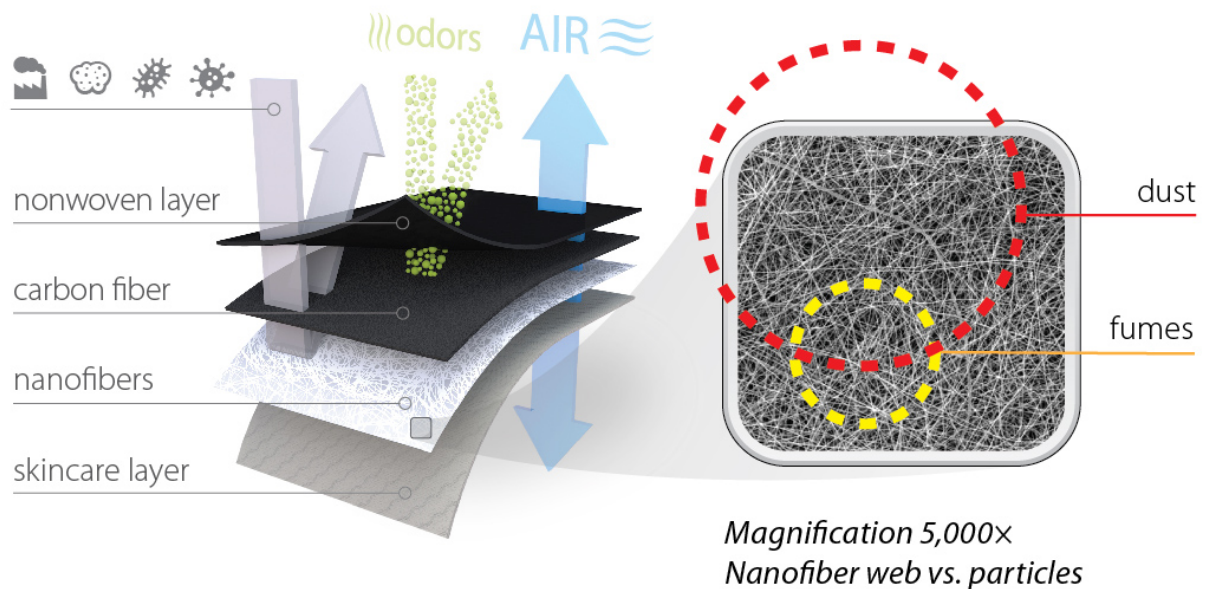# Technical Data Sheet R-MASK

The R-MASK was specially developed for fashion and protective use. The unique combination of filtering materials provides reliable protection under the toughest conditions, at work in the field and in emergency situations. R-MASK protects health and life of the user and guarantees optimal conditions for work while being uncommonly breathable. Thanks to the active carbon layer, it also brings a new level of comfort because of capturing unpleasant odors of any origin.

**Composition and functionality of R-MASK Carbon**



Magnification 5,000×
Nanofiber web vs. particles

| Layer | Composition | Functionality |
|---|---|---|
| Outer cover layer (25 g/m$^2$) | Black nonwoven (Polypropylene – PP) | Warming, covering |
| Carbon fiber (45 g/m$^2$) | Active carbon | Capturing of odors and gases |
| Nanofiber membrane RESPILON RNF | Polyamide 6 (PA6) | Filtration of solid particles (smog, dust, pollen, etc.) and microorganisms (viruses, bacteria) |
| ES fiber (20 g/m$^2$) | Polyetylene and Polypropylene (PE/PP) | Better comfort while using R-Mask longer time |

**Performance**

The R-MASK meets the protective level FFP2 according to EN 149:2009.

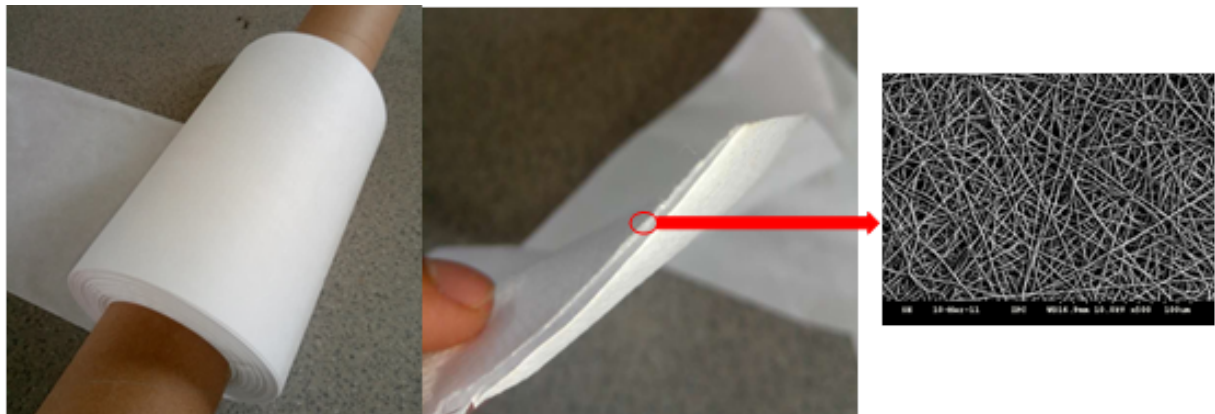| Physical properties | Reading | Unit |
|---|---|---|
| Filtration efficiency NaCl | 98.39 | % |
| Filtration efficiency DESH | 98.70 | % |
| Inhalation resistance @ 30 l/min | 33 | Pa |
| Inhalation resistance @ 95 l/min | 112 | Pa |
| Exhalation resistance | 174.7 | Pa |

**Nanofiber filter**

The key filtrating functionality of R-MASK is provided by the nanofiber membrane RESPILON® RNF:

Outer layer:  PP meltblown 19 $g/m^2$ (MB)

Inner layer:  Nanofiber layer of polymer PA6 (polyamide 6) (NF)

Outer layer:  PP spun bond 24 $g/m^2$ (SB)



| Physical properties: RESPILON® RNF | Reading | Unit | Testing Method |
|---|---|---|---|
| Area weight | 54 | $g/m^2$ | |
| Filtration efficiency @ 0.26 µm NaCl | ≥98.78 | % | 0.26 µm NaCl aerosol (CMD0.075um), 85L/min,  TSI8130 |
| Filtration efficiency @ 0.3um DESH | ≥95.67 | % | 0.3 µm DESH or other oil particles (CMD0.185um), 85L/min,  TSI8130 |
| Breathability | 110 | $\Delta P$ ($Pa/cm^2$) | |
| Skin irritability | 0 | - | EN ISO 10993-1 |

RESPILON® RNF material was tested in accordance with GBT32610-2016 standard. Particles protection effect of RNF was Grade A according to GBT32610-2016, and particles protection effect of RNF was KN95 according to GB2626-2006.

**Face fit and shape**

R-MASK is anatomically shaped and is available in different sizes to fit the shape of the user's face perfectly. In the part that touches the nose, R-MASK has a metal nose clip which ensures a clean seal in this critical area. Thanks to this unique combination of a protective element and shape, the dangerous particles cannot penetrate around the mask and, therefore, there is no risk of irritation or endangering of respiratory organs. The half mask is equipped with elastic rubber ear loops that are fixed behind the ears. It is also possible to use the plastic ear hook to achieve the best face fit.

**R-MASK design**