



Antismog antibacterial mask

The antismog antibacterial mask is subject of a current project of development.

The mask is designed mainly for use in places with high level of air pollution. The material of the mask can be used also in other filtration devices.

Mask parameters:

- filtration of bacteria
- filtration of solid particles from 0.4 μm
- reusable even after repeated washing
- the used materials are in accordance with requirement of Oeko-Tex Standard 100
- special treatment is applied on the base textile material to improve the filtering capacity of the base material and to provide antibacterial properties of the resulting fabric

Technical requirements on antismog antibacterial masks:

European and Czech standards do not apply to antismog masks, there is only standard EN 14683 Medical face masks. Requirements and test methods.

The most widely used parameter for the assessment of filter masks is the dust content in the air, stated in terms of PM 2.5 and PM 10 (i.e., impermeability for particles larger than 2.5 microns and 10.0 microns respectively). For masks with replaceable filters also filtration efficiency for particles greater than 1 micron is used.

In most cases the air permeability (i.e., breathability, which influences the comfort of breathing of the user) values are not given. Generally, the more the material is closed in order to ensure the effectiveness of filtration of solid particles, the more it reduces the permeability and hence the breathing comfort. Used innovative materials allow for a high degree of filtration while maintaining optimum throughput.

Achieved results:

- Wash fastness at 40 ° C - achieved at least 10 cycles, 15-20 cycles can be reached (higher washing temperature is not necessary, because the product is antimicrobial and dust particles can be washed already at 40 °C)
- efficiency of filtering the particles:
 - for treatment 2 the level G according to EN 1822 was achieved, i.e., it captures particles of sizes of 1-2 microns, the permeability is only slightly lower than the permeability of the medical face mask*
 - for treatment 3 the level M according to EN 779 was achieved, i.e., it captures particles of sizes of 0.4 microns and larger, but at a lower permeability than the permeability of the medical face mask*
- bacteria filter – the BFU value reached 99.5%, which is high bacterial filtration efficiency

* As a comparative product for the parameter of permeability the medical face mask (single use mask used in healthcare) was used. Its value of permeability is about 130 l/m²/s.

Address

NANO TECHNOLOGI CZ s.r.o.
Václavské náměstí 808/66
110 00 Praha 1
Czech Republic

Phone

+420 491 470 662
Mobile
+420 605 777 589

E-mail / web

paar@nanotechnologi.com
www.nanotechnologi.com
databox: bhrwmpw

IČ 03769381

DIČ CZ03769381

Bank account

ČSOB a.s.
268932976/0300