



LIFE'S WORTH IT

## technical data sheet

# RESPILON window membrane 5.0

The **RESPILON® window membrane** is for installation into windows and ventilation systems, and its primary purpose is to form a barrier against pollen, dust and air pollution. It is also able to stop the spread of mildew and bacterial spores, while being at the same time very permeable for air, gases and water vapors. Particles are caught mechanically. The membrane does not contain any chemical substances.

### RESPILON® window membrane's 5.0 benefits:

- filtering fine dust and ultrafine dust
- catches UV
- catches pollen
- protects against insects
- excellent permeability
- no chemicals
- stops rain
- washable

Technical data for RESPILON® window membrane 5.0			
Product number: RWM			
Description Physical Property	Value	Unit	Test Method/Institution/Instrument
Basic Weight	170±5	g/m <sup>2</sup>	ISO 536
Thickness	0.48±0.05	mm	ISO 9073 2
Weight Arrestance <sup>1)</sup>	89,1	%	ASHRAE STANDARD 52,1, SYNTETIC DUST WEIGHT ARRESTANCE
Bursting Strenght	487,0	N	KS K 0350 : 2011
Air Permeability Pressure drop : 125 Pa	329,6	cm <sup>3</sup> /cm <sup>2</sup> /s	JIS L 1096 : 2010, 8,26 METHOD A
Transmittance of visible radiation <sup>2)</sup>	40,4	%	UV-Vis NIR Spectrophotometer (PerkinElmer_Lambda 1050)

<sup>1)</sup> Test condition: test air flow: 1.0 m/s, Final resistance: 76 mmAq

<sup>2)</sup> Wavelength range 380~780 nm, wavelength interval: 10 nm

Composition of RWM 5.0		
	Percentage	Cas No.
PET - Poly ethylene terephthalate; fiber	35 g/ m <sup>2</sup> (20.6%)	25038,59-9
PVDF - Poly vinylidene fluoride	2 g/ m <sup>2</sup> (1.2%)	24937-79-9
PVC - Poly vinyl chloride	80 g/ m <sup>2</sup> (47.0%)	9002-86-2
Fiber Glass Continuous Filament	53 g/m <sup>2</sup> (31.2%)	65997-17-3



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Filtration Efficiency		
TÜV Filtration Performance Test		
Size of particles	Value	Unit
> 5.5 $\mu\text{m}$	79.78	%
> 1.0 $\mu\text{m}$	87.46	%
> 2.5 $\mu\text{m}$	89.43	%
> 5.0 $\mu\text{m}$	94.12	%
> 10.0 $\mu\text{m}$	100.00	%

Ultra violet blocking <sup>1,2,3)</sup>		
Testing method: AATCC 183 : 2014		
Type	Value	Unit
UV-R	67,7	%
UV-A	67,0	%
UV-B	69,3	%

<sup>1)</sup>Wavelength range: UV-R 280~400 nm

UV-A 315~400 nm

UV-B 280~315 nm

<sup>2)</sup>Measuring instrument: UV-VIS.NIR Spectrophotometer

<sup>3)</sup>The UVR transmittance was measured in dry condition.

QUV testing approved 200h, maximum thermal resistance is up to 150°C.

The indications are average results. They are subject to usual variation in production. These indications are given as per our knowledge for information about our products. These indications cannot be used as a fixed promise.

To keep the best filtration use the grey side as the outside one. Grey side faces to particles you want to stop.

The unique filtering ability of the membrane is provided by a nanofiber layer locked inside the membrane. Technically the **RESPILON**® window membrane is a three-layer laminate containing a breathable mesh and a nanofiber layer. Fabric components used in the membrane are stabilized against UV radiation. The compactness is ensured by material lamination.

**RESPILON**® window membrane is suitable for use in the households of allergic and asthmatic people, as well as those of people with cardiovascular disorders or pulmonary disease who live in areas or regions with high levels of air pollution.

supplier:	
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last revision	November 5, 2019

## TEST REPORT: 7191237181-CHM20-YMG

Date: 13 MAY 2020

Tel: +65 68851241 Fax: +65 67784301

Client's Ref:

Email: lei.yang@tuv-sud-psb.sg

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### **SUBJECT**

Filtration Media - Filtration Performance Test

### **CLIENT**

RESPILON Group s.r.o  
Cejl 12, 602 00 Brno  
Czech Republic

Attn: Ing. Aleš Koníček

### **TEST DATE**

6 May 2020

### **DESCRIPTION OF PRODUCT**

The photo of filtration media product tested is showed in Annex A.

### **METHOD OF TEST**

Smoke is introduced to a test chamber (Annex B). The concentrations of particulate matter in air are monitored before and after filtration media's filtration for every 1 minute under air flow rate 1.2 L/min. Each Run is lasting for 5 minutes.



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**RESULTS**

	Dust concentration (particles per cubic meter) before filtration					
Run No.	> 0.3 micron	> 0.5 micron	> 1.0 micron	> 2.5 micron	> 5.0 micron	> 10.0 micron
1	41,470,013	3,688,970	347,496	24,367	3,178	1,766
2	38,992,689	3,352,421	305,825	32,136	4,591	1,766
3	43,973,469	4,089,791	401,175	33,902	5,297	2,825
4	42,862,470	3,974,313	384,930	35,315	6,003	2,472
5	41,121,810	3,699,564	348,556	34,608	4,944	2,825
Average	41,684,090	3,761,012	357,596	32,066	4,803	2,331
	Dust concentration (particles per cubic meter) after filtration					
Run No.	> 0.3 micron	> 0.5 micron	> 1.0 micron	> 2.5 micron	> 5.0 micron	> 10.0 micron
1	15,048,639	726,423	38,846	2,472	0	0
2	15,292,310	745,846	49,087	3,885	353	0
3	15,362,939	767,388	40,965	2,825	706	0
4	15,654,638	793,167	45,203	3,178	353	0
5	15,587,187	770,213	50,147	4,591	0	0
Average	15,389,143	760,607	44,850	3,390	283	0
Removal Efficiency	63.08%	79.78%	87.46%	89.43%	94.12%	100.00%

**MS YEW MUN GEOK**  
TECHNICAL EXECUTIVE  
CHEMICAL CENTER

**DR. YANG LEI**  
EXECUTIVE CONSULTANT  
CHEMICAL CENTRE

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Annex A:

Product Name      Filtration media

Photo



Annex B: Schematic of test chamber

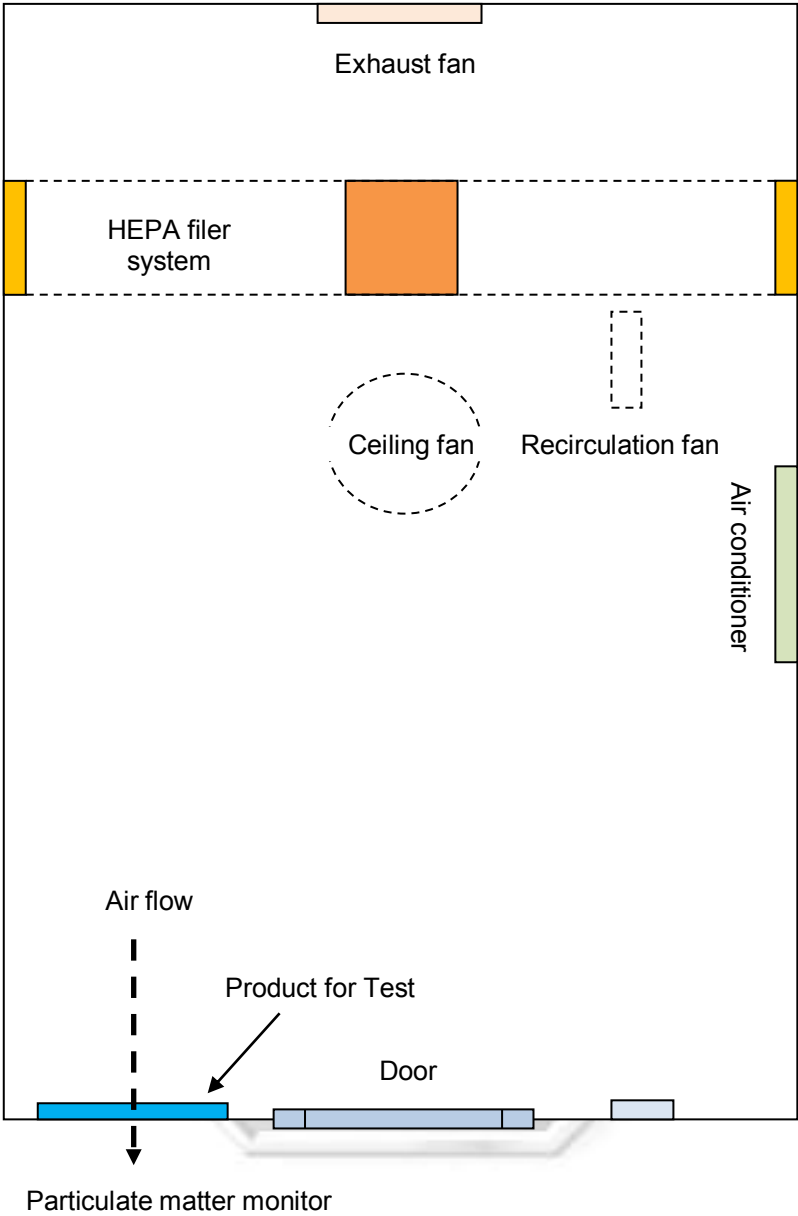


Figure 1 Schematic layout of the test chamber

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July 2011

