



  
**EWONA<sup>®</sup>**

*Ewona<sup>®</sup> Filter Mat*

# PERFECT INDOOR CLIMATES FOR WORK AND RELAXION



Ewona® Filter Fleece is an effective, safe and user-friendly filter material. Its special features include cleanliness and dustlessness.

The material is made of heat-bound polyester fibres. They contain at least 60% recycled fibre. These products have been granted the right to use the allergy certification logo of The Finnish Allergy, Skin and Asthma Federation. The products have also been granted an M1 emission rating.

The material does not bind moisture to itself (VTT RTE875/00), and does not contain any impurities. By choosing Ewona® Filter Fleece Mats, you can influence the indoor air quality as early as the construction stage, as no harmful particles will be released from the material later on. As the material is not susceptible to mold, it also does not provide favorable growth conditions for microbes.

## EWONA® FILTER FLEECE MAT



### Use

Ewona® filter fleece is suitable for use in air filters for engines, equipment and buildings. The material is supplied either in rolls or sheets. Custom-cut products in special dimensions and shapes are also available on request.



### Technical specifications

#### Filter fleece mat 150

Thickness and weight 10 mm – 150 g/m<sup>2</sup>

Filter class G3, ISO 16890 Coarse >50 %, large particles, e.g. pollen

Suitability Technical rooms, pre-filters

#### Filter fleece mat 175

Thickness and weight 18 mm – 175 g/m<sup>2</sup>

Filter class G3, ISO 16890 Coarse >50 %, large particles, e.g. pollen

Suitability Technical rooms, pre-filters

#### Filter fleece mat 200

Thickness and weight 17 mm – 200 g/m<sup>2</sup>

Filter class G4, ISO 16890 Coarse >60 %, Coarse dust

Suitability Pre-filters for air handling units

#### Filter fleece mat 300

Thickness and weight 15 mm – 300 g/m<sup>2</sup>

Filter class F5, ISO ePM10 >50 %, Fine dust

Suitability Residential buildings, offices

#### All filter fleece mats

Sheet size According to customer specifications

Note: Ewona filter fleeces are classified according to EN 779. The indicated ISO classes are for reference only.



# Performance, Ewona® Filter Fleece Mat 150

## Ewona 150 g G3 10 mm Air Filter

Air flow rate and pressure drop after different dust loading phases

EN 779:2002

Dust fed	Calibrated orifice plate				Filter								
	$m_{tot}$ g	$t_f$ °C	$P_{sf}$ kPa	$\Delta P_f$ Pa	$q_m$ kg/s	$t$ °C	$\varphi$ %	$P_a$ kPa	$\rho$ kg/m <sup>3</sup>	$q_v$ m <sup>3</sup> /s	$v$ m/s	$\Delta p$ Pa	$\Delta p_{1,20}$ kPa
Clean filter													
0	22,9	-0,094	1019	1,102	23,6	20,3	101,1	1,184	0,931	2,50	74	74	
0	23,0	-0,068	650	0,881	23,7	19,7	101,1	1,184	0,744	2,00	54	54	
0	23,1	-0,045	365	0,661	23,7	19,9	101,1	1,184	0,558	1,50	36	36	
0	23,0	-0,026	161	0,440	23,6	20,1	101,2	1,185	0,371	1,00	20	20	
0	23,1	-0,011	42	0,224	23,6	20,1	101,2	1,185	0,189	0,51	8	8	
Clean filter pressure drop is proportional ( $q_v^n$ ), where $n = 1,398$													
Dust loading phase													
2*	30	23,0	-0,167	367	0,663	20,5	21,0	101,2	1,185	0,559	1,50	70	70
1*	30	23,1	-0,1771	364	0,660	23,5	21,4	101,2	1,185	0,557	1,50	70	70
2*	60	23,1	-0,213	366	0,661	23,6	21,9	101,2	1,185	0,558	1,50	108	108
1*	60	23,1	-0,211	365	0,660	23,5	22,7	101,2	1,185	0,557	1,50	108	108
2*	90	23,2	-0,262	366	0,661	23,6	25,7	101,2	1,185	0,558	1,50	156	156
1*	90	22,1	-0,252	366	0,661	23,6	26,0	101,2	1,185	0,558	1,50	155	155
2*	115	23,2	-0,298	365	0,660	23,7	26,7	101,2	1,184	0,558	1,50	199	199
1*	115	23,2	-0,301	366	0,661	23,7	26,4	101,2	1,184	0,558	1,50	199	199
2*	138	23,2	-0,360	366	0,661	23,7	24,7	101,2	1,185	0,558	1,50	256	256

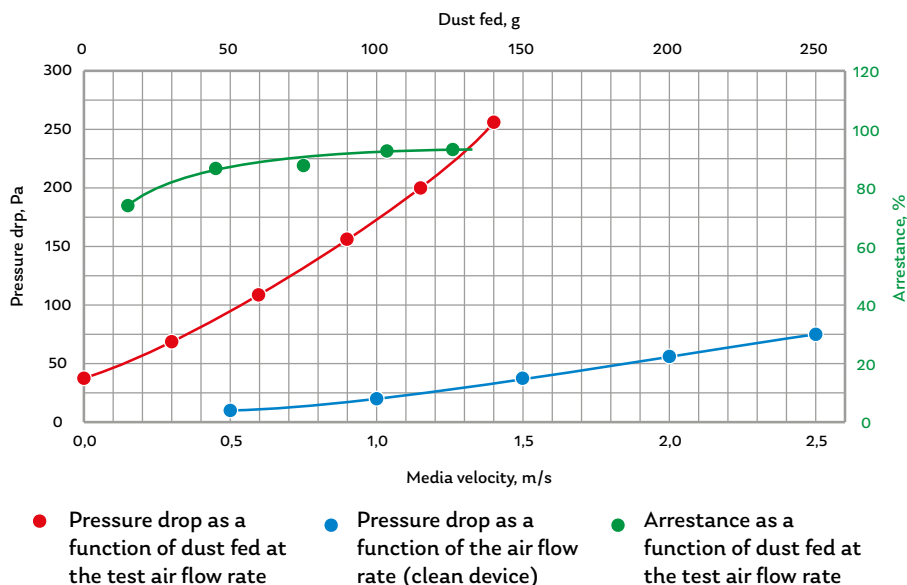
1\* measured before next dust increment

2\* measured after dust increment

### Pressure drop and arrestance after different dust loading phases

$\Delta p_1$ Pa	$\Delta m$ g	$m_{tot}$ g	$\Delta P_2$ Pa	$m_1$ g	$m_2$ g	$\Delta m_{ff}$ g	$m_d$ g	A %
36	30	30	70	2725,9	2733,8	7,9	0,0	73,7
70	30	60	108	2733,8	2737,7	3,9	0,0	87,0
108	30	90	156	2737,7	2741,1	3,4	0,0	88,7
155	25	115	199	2741,1	2743,0	1,9	0,0	92,4
199	23	138	256	2743,0	2744,7	1,7	0,0	92,6

### Pressure drop(Pa) and arrestance (%), curves



Note: The complete test report is available at: [ewona.fi/en/downloads](http://ewona.fi/en/downloads).



# Performance, Ewona<sup>®</sup> Filter Fleece Mat 175

## Ewona 175 g G3 18 mm Air Filter

Air flow rate and pressure drop after different dust loading phases  
EN 779:2002

Dust fed		Calibrated orifice plate				Filter							
$m_{tot}$ g	$t_f$ °C	$P_{sf}$ kPa	$\Delta P_f$ Pa	$q_m$ kg/s	$t$ °C	$\varphi$ %	$P_a$ kPa	$\rho$ kg/m <sup>3</sup>	$q_v$ m <sup>3</sup> /s	$v$ m/s	$\Delta p$ Pa	$\Delta p_{1,20}$ kPa	
Clean filter													
0	20,3	-0,094	1027	1,111	21,0	33,2	101,1	1,194	0,931	2,50	87	87	
0	20,4	-0,068	658	0,890	20,9	33,1	101,1	1,194	0,745	2,00	63	63	
0	20,2	-0,047	368	0,666	20,9	33,2	101,1	1,194	0,558	1,50	42	42	
0	20,4	-0,027	164	0,446	21,0	33,0	101,1	1,194	0,373	1,00	24	24	
0	20,4	-0,016	42	0,225	21,0	33,8	101,1	1,194	0,188	0,51	10	10	
Clean filter pressure drop is proportional $(q_v)^n$ , where $n = 1,352$													
Dust loading phase													
2*	15	20,5	-0,145	369	0,666	21,0	30,0	101,1	1,193	0,558	1,50	65	65
1*	15	20,5	-0,147	369	0,667	21,0	33,1	101,1	1,193	0,559	1,50	64	64
2*	30	20,5	-0,172	367	0,664	21,1	33,7	101,0	1,192	0,557	1,50	86	86
1*	30	20,6	-0,170	369	0,666	21,0	33,8	101,0	1,193	0,558	1,50	86	86
2*	45	20,5	-0,191	369	0,666	21,0	34,3	101,0	1,193	0,559	1,50	113	113
1*	45	20,5	-0,194	369	0,667	20,9	34,4	101,0	1,193	0,559	1,50	109	109
2*	80	20,5	-0,238	367	0,665	20,9	34,7	101,0	1,192	0,557	1,50	153	153
1*	80	20,4	-0,239	369	0,666	20,9	34,6	101,0	1,193	0,558	1,50	153	153
2*	115	20,3	-0,289	369	0,666	20,9	34,5	101,0	1,192	0,559	1,50	201	201
1*	115	20,5	-0,296	367	0,664	20,9	34,5	101,0	1,192	0,557	1,50	201	201
2*	150	20,5	-0,363	369	0,665	21,0	34,6	100,9	1,191	0,558	1,50	260	260

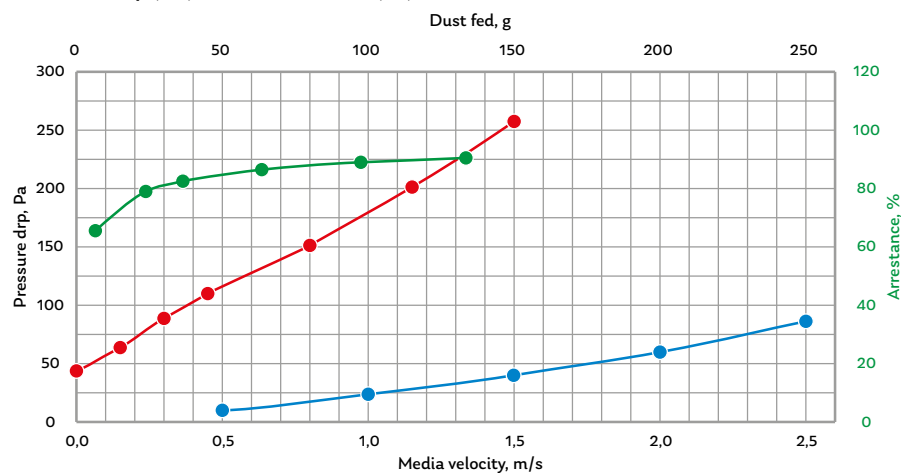
1\* measured before next dust increment

2\* measured after dust increment

## Pressure drop and arrestance after different dust loading phases

$\Delta p_1$ Pa	$\Delta m$ g	$m_{tot}$ g	$\Delta P_2$ Pa	$m_1$ g	$m_2$ g	$\Delta m_{ff}$ g	$m_d$ g	A %
42	15	15	65	2749,6	2749,6	5,1	0,0	66,0
64	15	30	86	2754,7	2757,8	3,1	0,0	79,3
86	15	45	113	2757,8	2760,5	2,7	0,0	82,0
109	35	80	153	2660,5	2764,5	4,4	0,0	87,4
153	35	115	201	2764,9	2768,7	3,8	0,0	89,1
201	35	150	260	2768,7	2772,0	3,3	0,0	90,6

## Pressure drop(Pa) and arrestance (%), curves



- Pressure drop as a function of dust fed at the test air flow rate
- Pressure drop as a function of the air flow rate (clean device)
- Arrestance as a function of dust fed at the test air flow rate

Note: The complete test report is available at: [ewona.fi/en/downloads](http://ewona.fi/en/downloads).



# Performance, Ewona® Filter Fleece Mat 200

## Ewona 200 g G4 17 mm Air Filter

Air flow rate and pressure drop after different dust loading phases  
EN 779:2002

Dust fed	Calibrated orifice plate				Filter								
	$m_{tot}$ g	$t_f$ °C	$P_{sf}$ kPa	$\Delta P_f$ Pa	$q_m$ kg/s	$t$ °C	$\varphi$ %	$P_a$ kPa	$\rho$ kg/m <sup>3</sup>	$q_v$ m <sup>3</sup> /s	$v$ m/s	$\Delta p$ Pa	$\Delta p_{1,20}$ kPa
Clean filter													
0	22,9	-0,143	1021	1,106	23,9	30,5	101,7	1,189	0,930	2,50	127	127	
0	22,9	-0,105	653	0,885	23,8	30,2	101,8	1,190	0,744	2,00	93	93	
0	23,0	-0,070	368	0,665	23,7	29,9	101,8	1,190	0,559	1,50	63	63	
0	23,0	-0,040	163	0,443	23,8	29,9	101,8	1,190	0,372	1,00	36	36	
0	23,1	-0,017	40	0,221	23,7	29,2	101,8	1,191	0,186	0,50	15	15	
Clean filter pressure drop is proportional $(q_v)^n$ , where $n = 1,328$													
Dust loading phase													
2*	10	23,1	-0,194	367	0,664	23,6	29,0	101,8	1,191	0,558	1,50	79	79
1*	10	23,4	-0,192	368	0,665	23,7	29,4	101,8	1,191	0,558	1,50	80	80
2*	30	23,1	-0,232	368	0,665	23,7	28,8	101,8	1,191	0,558	1,50	117	117
1*	30	23,4	-0,230	368	0,665	23,7	29,0	101,8	1,191	0,558	1,50	117	117
2*	48	23,2	-0,271	366	0,663	23,6	28,9	101,9	1,192	0,557	1,50	157	156
1*	48	22,7	-0,269	372	0,671	23,2	23,6	102,4	1,201	0,559	1,50	158	157
2*	68	22,8	-0,316	372	0,671	23,2	23,7	102,5	1,201	0,558	1,50	204	203
1*	68	22,9	-0,315	370	0,669	23,2	23,9	102,5	1,201	0,557	1,50	203	202
2*	90	22,9	-0,372	371	0,670	23,3	23,7	102,4	1,201	0,558	1,50	258	256

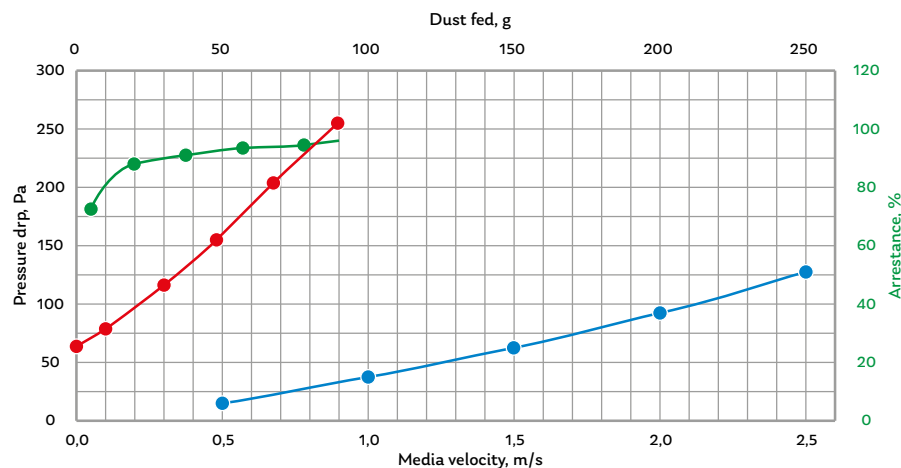
1\* measured before next dust increment

2\* measured after dust increment

### Pressure drop and arrestance after different dust loading phases

$\Delta p_1$ Pa	$\Delta m$ g	$m_{tot}$ g	$\Delta p_2$ Pa	$m_1$ g	$m_2$ g	$\Delta m_{ff}$ g	$m_d$ g	A %
63	10	10	79	2344,5	2347,3	2,8	0,0	72,9
80	20	30	117	2347,3	2349,5	2,2	0,0	89,0
117	18	48	156	2349,5	2351,2	1,7	0,0	90,6
157	20	68	203	2350,9	2352,2	1,3	0,0	93,5
202	22	90	256	2352,2	2353,4	1,2	0,0	94,5

### Pressure drop (Pa) and arrestance (%), curves



● Pressure drop as a function of dust fed at the test air flow rate

● Pressure drop as a function of the air flow rate (clean device)

● Arrestance as a function of dust fed at the test air flow rate

Note: The complete test report is available at: [ewona.fi/en/downloads](http://ewona.fi/en/downloads).



# Performance, Ewona<sup>®</sup> Filter Fleece Mat 300

## Ewona 300 g F5 15 mm Air Filter

Air flow rate and pressure drop after different dust loading phases  
EN 779:2002

Dust fed $m_{tot}$ g	Calibrated orifice plate				Filter							
	$t_f$ °C	$P_{sf}$ kPa	$\Delta P_f$ Pa	$q_m$ kg/s	$t$ °C	$\varphi$ %	$P_a$ kPa	$\rho$ kg/m <sup>3</sup>	$q_v$ m <sup>3</sup> /s	$v$ m/s	$\Delta p$ Pa	$\Delta p_{1,20}$ kPa
Clean filter												
0	22,7	-0,081	582	0,838	23,2	27,8	102,1	1,197	0,700	0,700	75	74
0	22,7	-0,060	360	0,660	23,2	27,3	102,1	1,197	0,551	0,551	55	55
0	22,8	-0,040	189	0,479	23,2	26,7	102,1	1,197	0,400	0,400	38	38
0	22,8	-0,023	74	0,301	23,2	26,8	102,1	1,197	0,251	0,251	23	23
0	22,7	-0,009	15	0,135	23,2	26,9	102,1	1,197	0,113	0,113	10	10
Clean filter pressure drop is proportional ( $q_v^n$ ), where $n = 1,096$												
Dust loading phase												
2* 30	23,2	-0,066	74	0,299	23,6	27,8	102,3	1,198	0,250	0,250	31	31
1* 30	23,8	-0,065	74	0,299	24,2	27,3	102,3	1,195	0,250	0,250	31	31
2* 80	23,3	-0,103	74	0,300	23,7	27,7	102,4	1,198	0,250	0,250	67	66
1* 80	22,7	-0,100	74	0,301	23,1	26,9	102,9	1,207	0,250	0,250	66	65
2* 112	23,0	-0,194	74	0,301	23,4	25,7	102,9	1,205	0,250	0,250	160	159
1* 112	23,4	-0,190	74	0,300	23,8	25,2	102,9	1,204	0,249	0,249	154	153
2* 135	23,2	-0,298	73	0,299	23,6	25,9	102,9	1,205	0,249	0,249	262	260
1* 135	23,5	-0,275	74	0,301	24,0	25,3	102,9	1,203	0,250	0,250	240	238
2* 148	23,2	-0,399	74	0,300	23,8	26,2	102,9	1,204	0,249	0,249	365	362
1* 148	23,7	-0,358	74	0,300	24,2	25,1	102,9	1,202	0,250	0,250	324	321
2* 160	23,1	-0,512	75	0,302	23,8	25,6	102,9	1,204	0,251	0,251	479	475

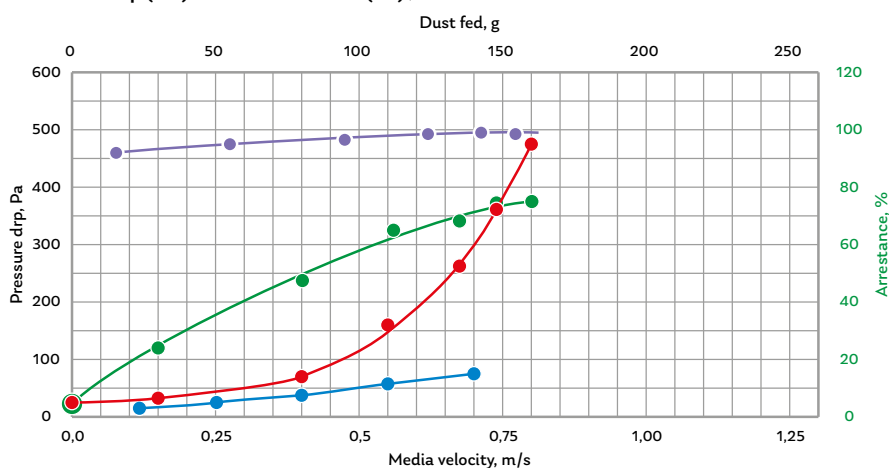
1\* measured before next dust increment

2\* measured after dust increment

### Pressure drop and arrestance after different dust loading phases

$\Delta p_1$ Pa	$\Delta m$ g	$m_{tot}$ g	$\Delta P_2$ Pa	$m_1$ g	$m_2$ g	$\Delta m_{ff}$ g	$m_d$ g	A %
23	30	30	31	2671,9	2674,5	2,6	0,0	91,3
31	50	80	66	2674,5	2676,9	2,4	0,0	95,2
65	32	112	159	2676,9	2678,0	1,1	0,0	96,6
153	23	135	260	2678,0	2678,4	0,4	0,0	98,3
238	13	148	362	2678,4	2678,5	0,1	0,0	99,2
321	12	160	475	2678,5	2678,7	0,2	0,0	98,3

### Pressure drop (Pa) and arrestance (%), curves



- Pressure drop as a function of dust fed at the test air flow rate
- Pressure drop as a function of the air flow rate (clean device)
- Arrestance as a function of dust fed at the test air flow rate
- Arrestance as a function of dust fed at the test air flow rate

Note: The complete test report is available at: [ewona.fi/en/downloads](http://ewona.fi/en/downloads).



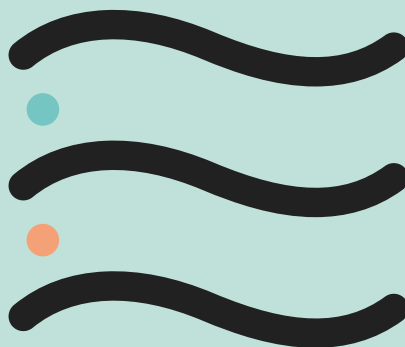
## Manufacture

Tuotteet valmistetaan Suomessa Ewona Finland Rankaanpään tehtaalla. Raaka-aineena käytetään 100 % polyesterikuitua, kierrätetyn materiaalin osuus vähintään 60 %.



## Disposal of material

Certified eco-friendliness. The Ewona® Filter Mat material is an environmentally friendly product throughout its life cycle. It's made of recycled fibre by using ecological methods. The use of material is safe for people and the environment. Disposing of the filter is also easy after its life cycle, as the material can simply be processed and reused. After its life cycle, the filters can be brought to textile recycling.



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