


<b>ISO 16890-1:2016 – AIR FILTER TEST RESULTS</b>	<b>Testing organisation:</b>		
	Name:		Deltrian International
	Web site :		<a href="http://www.deltrian.com">www.deltrian.com</a>
	Phone:		+32(0)71 364 030

**GENERAL**

Report No.: DELT\_ISO16890\_NWES98PLUS-6/400/11      Date of report: 07-06-21  
 Supervisor: MA\SA\MF      Device obtained (when and how obtained)  
 Test(s) requested by: Deltrian international

**DEVICE TESTED**

Model: NWES98PLUS-6/400/11      Manufacturer:  
 Type of media: SYNTH      Construction: 11 Pockets  
 Net filtering area: 5,2m<sup>2</sup>      Filter dimensions (width x height x depth):  
 Bar press Dp 999,1 hPa p kg/m<sup>3</sup> 1,17  
 Bar press dust 1003,5 hPa p kg/m<sup>3</sup> 1,18      592      592      400

**TEST DATA AND ATTACHED TEST ID NUMBERS**

	Dust	Dp
Test air flow rate:	0,945m <sup>3</sup> /s	0,945m <sup>3</sup> /s
Temperature:	22°C	25°C
Rel. humidity:	41%	28%
Test aerosol:	DEHS, KCl	

Test ISO 16890-2:	006906 003885 003906
Test ISO 16890-3:	006906 006907
Test ISO 16890-4:	006906 003899 003904
Loading dust:	ISO A2 FINE

**RESULTS**

Initial pressure differential:	98Pa
Average pressure drop :	113Pa
Initial grav. arrestance:	99%

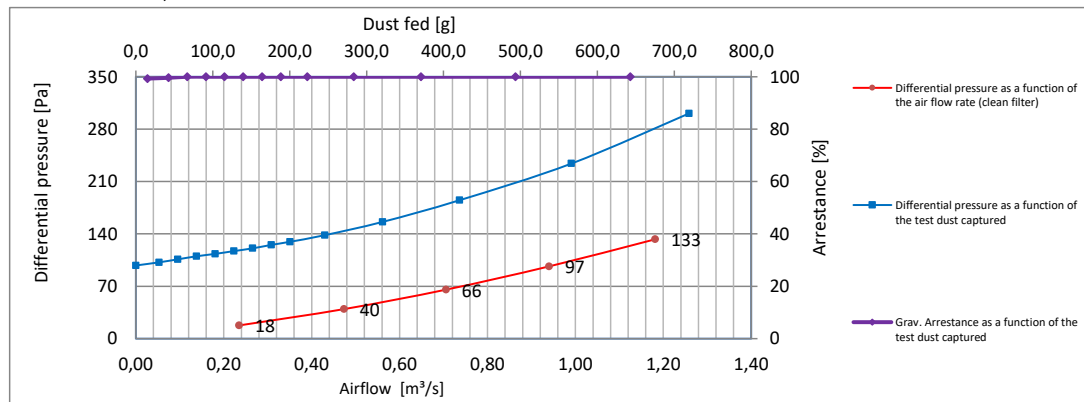
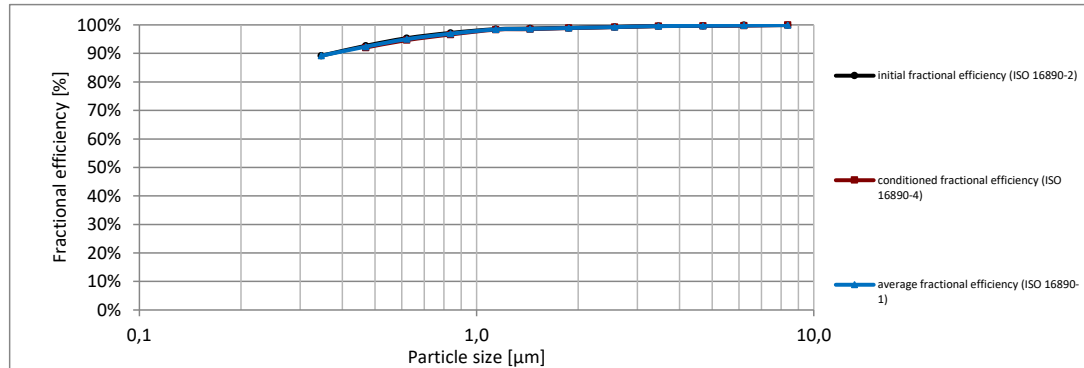
Final pressure differential:	301Pa		
Fan R. :	0,50	Energy :	1281 kWh
Test dust capacity:		703g	

Efficiency values :	$e_{PM_{10}}$ :	93,0%
Min. efficiencies :	$e_{min PM_{10}}$ :	92%

$e_{PM_{2,5}}$ :	95,0%	$e_{PM_{10}}$ :	98,0%
$e_{min PM_{2,5}}$ :	94%		

<b>ISO rating:</b>	<b>ISO ePM 1 : 90 %</b>	<b>ISO ePM 2,5 : 95 %</b>	<b>ISO ePM 10 : 95 %</b>
			<b>ISO Coarse : 95 %</b>

Remarks :



NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real life" environments.

ISO 16890 – Fractional efficiency values								
Testing organisation: Topas GmbH					Report no.:			
Model: NWES98-6/400/11					Manufacturer: DELTRIAN			
Test air flow rate: 0,945m <sup>3</sup> /s					Date of report: 07-06-21			
<i>i</i>	<i>d<sub>i</sub></i> [μm]	<i>d<sub>i+1</sub></i> [μm]	$\bar{d}_i$ [μm]	$\Delta \ln d_i$	<i>E<sub>i</sub></i> [%]	<i>E<sub>D,i</sub></i> [%]	<i>E<sub>A,i</sub></i> [%]	
1	0,30	0,40	0,3464	0,2877	89,18%		89,18%	
2	0,40	0,55	0,4690	0,3185	92,67%	92,06%	92,36%	
3	0,55	0,70	0,6205	0,2412	95,34%	94,65%	95,00%	
4	0,70	1,00	0,8367	0,3567	97,19%	96,63%	96,91%	
5	1,00	1,30	1,1402	0,2624	98,50%	98,32%	98,41%	
6	1,30	1,60	1,4422	0,2076	98,72%	98,49%	98,61%	
7	1,60	2,20	1,8762	0,3185	98,95%	98,88%	98,91%	
8	2,20	3,00	2,5690	0,3102	99,26%	99,22%	99,24%	
9	3,00	4,00	3,4641	0,2877	99,59%	99,55%	99,57%	
10	4,00	5,50	4,6904	0,3185	99,70%	99,65%	99,67%	
11	5,50	7,00	6,2048	0,2412	99,89%	99,72%	99,81%	
12	7,00	10,00	8,3666	0,3567	99,90%	100,00%	99,95%	

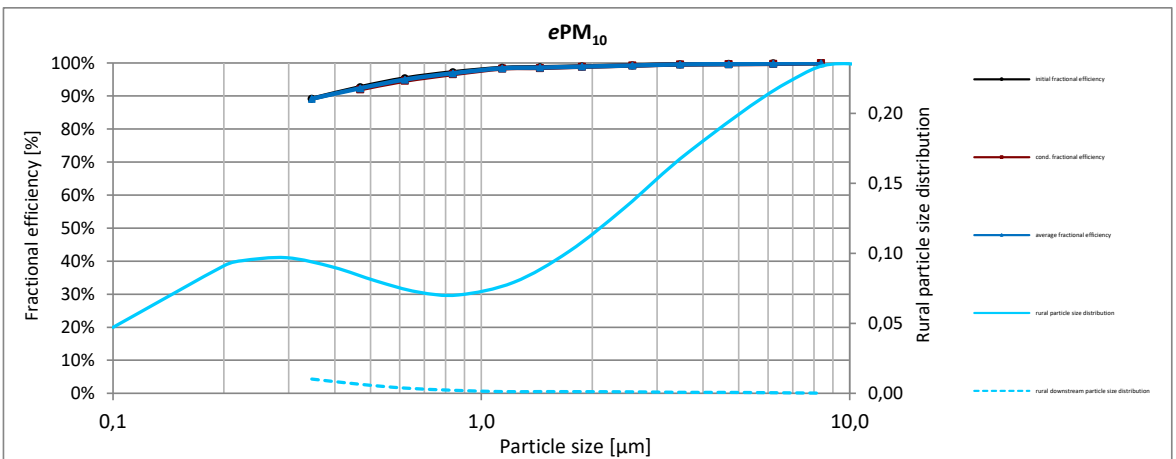
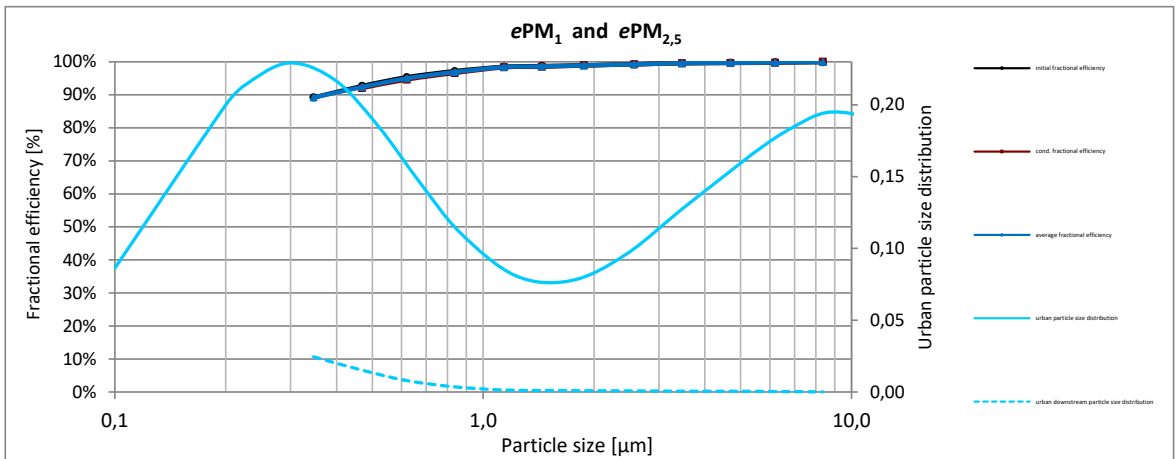
*d<sub>i</sub>* ... Lower limit particle diameter in size range *i*  
*d<sub>i+1</sub>* ... Upper limit particle diameter in size range *i*  
 $\bar{d}_i$  ... Geometric mean diameter of size range *i*  
 $\Delta \ln d_i$  ... Logarithmic width of particle diameter size range *i*, *ln* is the natural logarithm to the base *e* ≈ 2.718281828  
 $\Delta \ln d_i = \ln(d_{i+1}/d_i)$   
*E<sub>i</sub>* ... Initial fractional efficiency of particle size range *i* of the untreated und unloaded filter element  
*E<sub>D,i</sub>* ... Fractional efficiency of particle size range *i* of the filter element after an artificial conditioning step  
*E<sub>A,i</sub>* ... Average fractional efficiency (*E<sub>i</sub>* + *E<sub>D,i</sub>*)/2 of particle size range *i*

ISO 16890 – Differential pressure and gravimetric arrestance					
Differential pressure vs. Airflow			Dust loading results		
Initial filter			Conditioned filter		
% of rated Airflow	Airflow [m <sup>3</sup> /s]	Differential pressure [Pa]	Dust load [g]	Differential pressure [Pa]	Arrestance [%]
125	1,182	133	0,0	97,8	-
100	0,940	97	30,1	102	99,3
75	0,706	66	54,5	106	99,6
50	0,474	40	78,8	110,1	100,0
25	0,235	18	103,1	113,3	100,0
			127,4	117	100,0
			151,7	120,7	100,0
			176,1	125,3	100,0
			200,5	129,5	100,0
			245,5	138,3	100,0
			320,6	156	100,0
			420,7	184,7	100,0
			566,2	234,3	100,0
			719,1	300,6	100,0

ISO 16890 – Calculation of PM-efficiencies								
Testing organisation: Topas GmbH						Report no.:		
Model: NWES98-6/400/11						Manufacturer: DELTRIAN		
Test air flow rate: 0,945m <sup>3</sup> /s						Date of report: 07-06-21		
<i>i</i>	$\bar{d}_i$ [μm]	$\Delta \ln d_i$	$q_{3u}(\bar{d}_i)$	$q_{3u}(\bar{d}_i) \cdot \Delta \ln d_i$	$E_{D,i} \cdot q_{3u}(\bar{d}_i) \cdot \Delta \ln d_i$	$E_{A,i} \cdot q_{3u}(\bar{d}_i) \cdot \Delta \ln d_i$	$e \text{ PM}_{x,\text{min}}$ [%]	$e \text{ PM}_x$ [%]
1	0,35	0,2877	0,22628	0,065095		0,058053		
2	0,47	0,3185	0,19892	0,063347	0,058316	0,058509		
3	0,62	0,2412	0,15837	0,038192	0,036150	0,036281		
4	0,84	0,3567	0,11522	0,041095	0,039708	0,039823		
<b>SUM line 1 - 4</b>				<b>0,207729</b>	<b>0,134175</b>	<b>0,192667</b>	<b>65</b>	<b>93</b>
5	1,14	0,2624	0,08503	0,022309	0,021934	0,021955		
6	1,44	0,2076	0,07618	0,015817	0,015579	0,015597		
7	1,88	0,3185	0,08022	0,025546	0,025259	0,025269		
8	2,57	0,3102	0,09984	0,030965	0,030723	0,030729		
<b>SUM line 1 - 8</b>				<b>0,302367</b>	<b>0,227670</b>	<b>0,286217</b>	<b>75</b>	<b>95</b>
<i>i</i>	$\bar{d}_i$ [μm]	$\Delta \ln d_i$	$q_{3r}(\bar{d}_i)$	$q_{3r}(\bar{d}_i) \cdot \Delta \ln d_i$		$E_{A,i} \cdot q_{3r}(\bar{d}_i) \cdot \Delta \ln d_i$		$e \text{ PM}_x$ [%]
1	0,35	0,2877	0,09412	0,027077		0,024148		
2	0,47	0,3185	0,08395	0,026734		0,024693		
3	0,62	0,2412	0,07432	0,017924		0,017027		
4	0,84	0,3567	0,07014	0,025016		0,024242		
5	1,14	0,2624	0,07628	0,020014		0,019696		
6	1,44	0,2076	0,08832	0,01834		0,018084		
7	1,88	0,3185	0,10804	0,034407		0,034033		
8	2,57	0,3102	0,13726	0,042572		0,042247		
9	3,46	0,2877	0,16708	0,048067		0,047862		
10	4,69	0,3185	0,19542	0,062233		0,062029		
11	6,20	0,2412	0,21671	0,052261		0,052162		
12	8,37	0,3567	0,23143	0,082545		0,082502		
<b>SUM line 1 - 12</b>				<b>0,5</b>		<b>0,448725</b>		<b>98</b>
$q_{3u}(\bar{d}_i)$ ... Discrete urban particle volume distribution, dimensionsless $q_{3r}(\bar{d}_i)$ ... Discrete rural particle volume distribution, dimensionsless $e \text{ PM}_{x,\text{min}}$ ... Minimum particulate matter efficiency value of the conditioned filter $e \text{ PM}_x$ ... Particulate matter efficiency								

# ISO 16890 – Measured efficiencies and downstream particle size distributions

Testing organisation:	Topas GmbH	Report no.:	
Model:	NWES98-6/400/11	Manufacturer:	DELTRIAN
Test air flow rate:	0,945m <sup>3</sup> /s	Date of report:	07-06-21



size $\bar{d}_i$ [µm]	Urban partice size distribution		Rural particle size distribution	
	upstream $q_{3u}(\bar{d}_i)$	downstream $(1 - E_{A,i}) \cdot q_{3u}(\bar{d}_i)$	upstream $q_{3r}(\bar{d}_i)$	downstream $(1 - E_{A,i}) \cdot q_{3r}(\bar{d}_i)$
0,3464	0,22628	0,02448	0,09412	0,01018
0,4690	0,19892	0,01519	0,08395	0,00641
0,6205	0,15837	0,00792	0,07432	0,00372
0,8367	0,11522	0,00357	0,07014	0,00217
1,1402	0,08503	0,00135	0,07628	0,00121
1,4422	0,07618	0,00106	0,08832	0,00123
1,8762	0,08022	0,00087	0,10804	0,00117
2,5690	0,09984	0,00076	0,13726	0,00105
3,4641	0,12688	0,00054	0,16708	0,00071
4,6904	0,15556	0,00051	0,19542	0,00064
6,2048	0,17757	0,00034	0,21671	0,00041
8,3666	0,19157	0,00010	0,23143	0,00012

ISO 16890-2:2016 AIR FILTER TEST RESULT SUMMARY		Testing organisation:		
		Name:	Topas GmbH	
		Address:	Oskar-Röder-Str. 12, 01237 Dresden, GERMANY	
		Phone:	+49 351 21 66 43 -0	
<b>GENERAL</b>				
Report No.:	Particle Counter Information			
Test IDs:	006906 003885 003906	Manufacturer:		
Date of test:	05-03-20	Model:		
Operator:	OSVALD	Coincidence Value:		
Airflow measurement:				
Test sample obtained:				
<b>DEVICE TESTED</b>				
Model:	NWES98-6/400/11	Manufacturer:	DELTRIAN	
Type of media:				
Filter/media electrostatic charge:	Filter dimensions (width x height x depth):			
Media color:	Media adhesive:			
Net effective filtering area:	5,2m <sup>2</sup>			
Device Condition:	Clean/Initial testing			
Other descriptive information:				
<b>TEST DATA SUMMARY</b>				
Test air flow rate:	0,945m <sup>3</sup> /s	Test aerosol:	DEHS, KCI	
Temperature:	25°C	Loading dust or		
Rel. humidity:	28%	Conditioning method:	N/A	
<b>RESULTS</b>				
Resistance to airflow		Fractional Efficiency		
Measured: 97Pa	Rated Initial: Rated Final:	Range [µm]	Efficiency [%]	Upstream Conc. [#/dm <sup>3</sup> ]
Test Device Photo		0,30 ... 0,40 <sup>2)</sup>	89	40448
		0,40 ... 0,55 <sup>2)</sup>	93	44090
		0,55 ... 0,70	95	20357
		0,70 ... 1,00 <sup>2)</sup>	97	12633
		1,00 ... 1,30	99	8349
		1,30 ... 1,60 <sup>2)</sup>	99	6464
		1,60 ... 2,20 <sup>2)</sup>	99	7741
		2,20 ... 3,00 <sup>2)</sup>	99	4233
		3,00 ... 4,00	100	2149
		4,00 ... 5,50	100	976
	5,50 ... 7,00	100	226	
	7,00 ... 10,00	100	78	
<b>Data quality:</b> Some particle sizes cannot meet all of the data quality requirements. The missing requirements are listed above.				
1) Penetration uncertainty limits		4) Efficiency background	7) Correlation total count minimum	
2) Correlation ratio value limits		5) Correlation background	8) Validity of calculation	
3) Correlation uncertainty limits		6) Efficiency total count minimum		
<b>Remarks:</b>				
NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real life" environments.				

**ISO 16890-2:2016  
AIR FILTER TEST RESULT DETAILS**

**Testing organisation:**

Name: Topas GmbH  
Address: Oskar-Röder-Str. 12, 01237 Dresden, GERMANY  
Phone: +49 351 21 66 43 -0

Test IDs: 006906 003885 003906

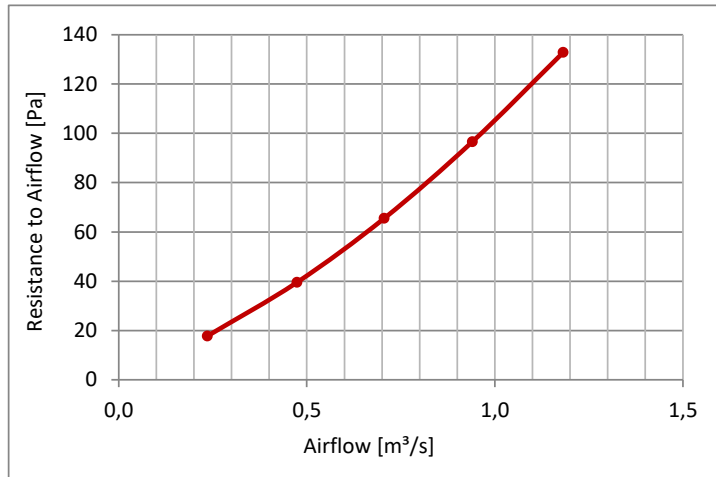
Date of test: 05-03-20

Operator: OSVALD

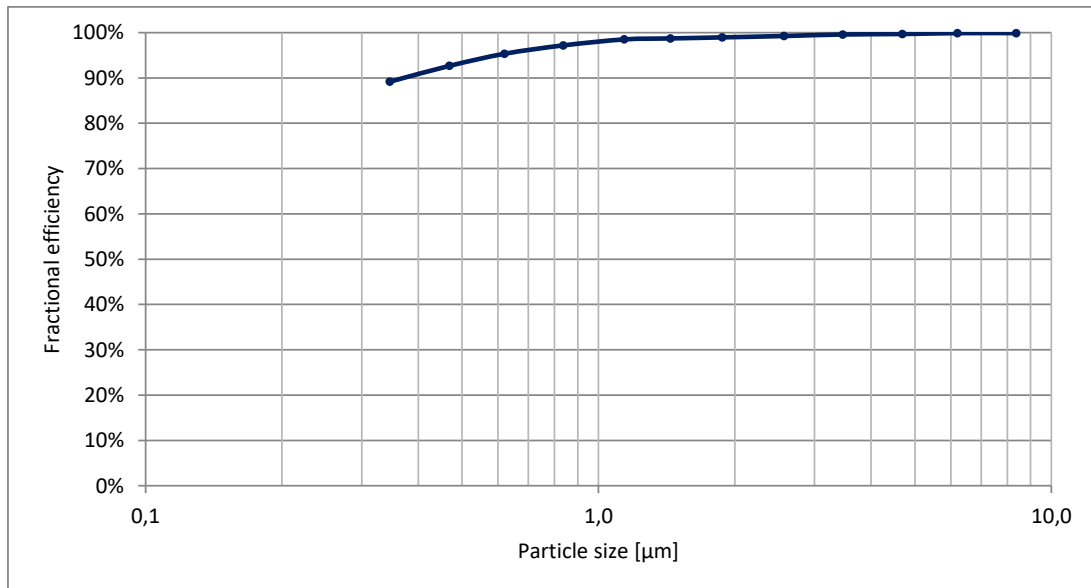
**TEST DATA DETAILS**

**Resistance to Airflow**


% of Rated Airflow	Airflow [m <sup>3</sup> /s]	Resistance to Airflow [Pa]
125	1,182	133
100	0,940	97
75	0,706	66
50	0,474	40
25	0,235	18



**Fractional Efficiency by Particle Size**



NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real life" environments.

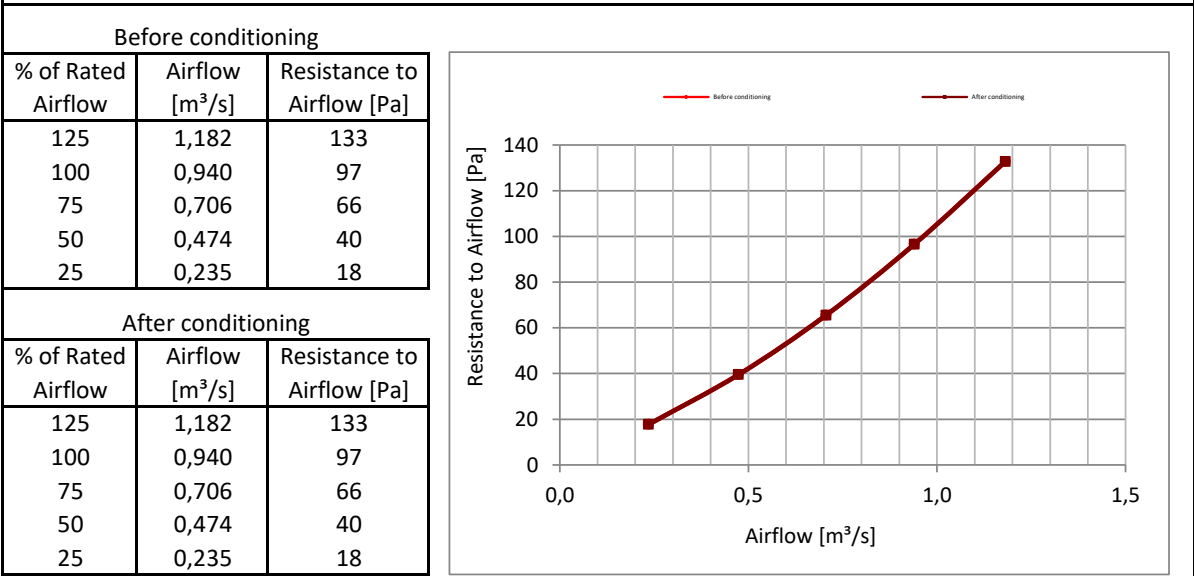
<b>ISO 16890-2/4:2016 AIR FILTER TEST RESULT SUMMARY</b>		<b>Testing organisation:</b> Name: Topas GmbH Address: Oskar-Röder-Str. 12, 01237 Dresden, GERMANY Phone: +49 351 21 66 43 -0		
<b>GENERAL</b>				
Report No.:			Particle Counter Information	
Test IDs:	006906 003899 003904		Manufacturer:	
Date of test:	06-03-20		Model:	
Operator:	OSVALD		Coincidence Value:	
Airflow measurement:				
Test sample obtained:				
<b>DEVICE TESTED</b>				
Model:	NWES98-6/400/11		Manufacturer: DELTRIAN	
Type of media:			Construction:	
Filter/media electrostatic charge:			Filter dimensions (width x height x depth):	
Media color:			Media adhesive:	
Net effective filtering area:	5,2m <sup>2</sup>			
Device Condition:	conditioned per ISO 16890-4			
Other descriptive information:				
<b>TEST DATA SUMMARY</b>				
Test air flow rate:	0,944m <sup>3</sup> /s		Test aerosol:	DEHS, KCl
Temperature:	23°C		Purity of IPA liquid:	
Rel. humidity:	30%		Time of exposure:	
			Evaporated amount of IPA:	
<b>RESULTS</b>				
Resistance to airflow		Fractional Efficiency		
Measured: 98Pa	Rated Initial:	Range	Efficiency	Upstream Conc.
	Rated Final:	[µm]	[%]	[/dm <sup>3</sup> ]
		0,30 ... 0,40 <sup>2)</sup>	89	38035
		0,40 ... 0,55 <sup>2)</sup>	92	41271
		0,55 ... 0,70	95	20025
		0,70 ... 1,00 <sup>2)</sup>	97	12499
		1,00 ... 1,30	98	9144
		1,30 ... 1,60 <sup>2)</sup>	98	7110
		1,60 ... 2,20 <sup>2)</sup>	99	8649
		2,20 ... 3,00 <sup>2)</sup>	99	4748
		3,00 ... 4,00	100	2371
		4,00 ... 5,50	100	1065
		5,50 ... 7,00	100	246
		7,00 ... 10,00	100	87
		Conditioning Cabinet TDC 584		Additional: Fractional Efficiency for 0.4µm
	First measurement	90		
	After purging (10 min)	0		
	At 50% air flow rate	0		
<b>Data quality:</b> Some particle sizes cannot meet all of the data quality requirements . The missing requirements are listed above.				
1) Penetration uncertainty limits		4) Efficiency background		7) Correlation total count minimum
2) Correlation ratio value limits		5) Correlation background		8) Validity of calculation
3) Correlation uncertainty limits		6) Efficiency total count minimum		
<b>Remarks:</b>				
NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real life" environments.				

<b>ISO 16890-2/4:2016 AIR FILTER TEST RESULT DETAILS</b>	<b>Testing organisation:</b>
	Name: Topas GmbH Address: Oskar-Röder-Str. 12, 01237 Dresden, GERMANY Phone: +49 351 21 66 43 -0

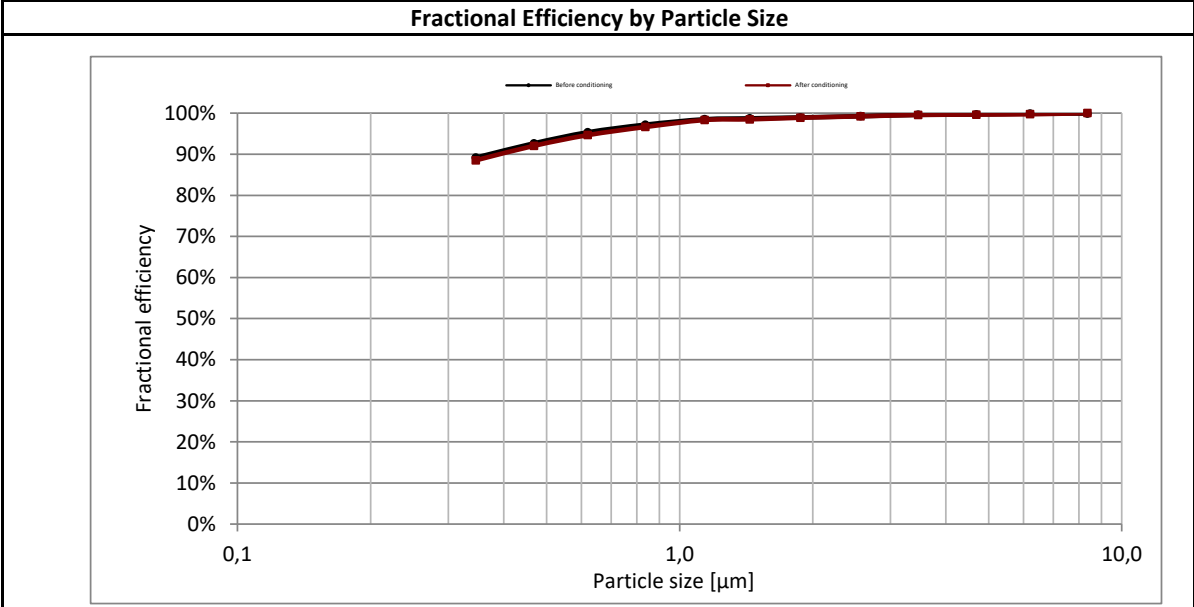
Test IDs: <u>006906 003899 003904</u>	Weights before and after conditioning	
Date of test: <u>06-03-20</u>	before	after
Operator: <u>OSVALD</u>	Test device _____	Test device _____
	IPA trays _____	IPA trays _____

**TEST DATA DETAILS**

**Resistance to Airflow**



**Fractional Efficiency by Particle Size**



NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real life" environments.



<b>ISO 16890-3:2016 AIR FILTER TEST RESULT SUMMARY</b>		<b>Testing organisation:</b> Name: Topas GmbH Address: Oskar-Röder-Str. 12, 01237 Dresden, GERMANY Phone: +49 351 21 66 43 -0		
<b>GENERAL</b>				
Report No.:	_____			
Test IDs:	<u>006906 006907</u>			
Date of test:	<u>07-06-21</u>			
Operator:	<u>op</u>			
Airflow measurement:	_____			
Test sample obtained:	_____			
<b>DEVICE TESTED</b>				
Model:	<u>NWES98-6/400/11</u>	Manufacturer: <u>DELTRIAN</u>		
Type of media:	_____	Construction: _____		
Filter/media electrostatic charge:	_____	Filter dimensions (width x height x depth): _____		
Media color:	_____	Media adhesive: _____		
Net effective filtering area:	<u>5,2m<sup>2</sup></u>			
Device Condition:	_____			
Other descriptive information:	_____			
<b>TEST DATA SUMMARY</b>				
Test air flow rate:	<u>0,945m<sup>3</sup>/s</u>			
Temperature:	<u>22°C</u>	Initial mass of tested device:		<u>3096,7g</u>
Rel. humidity:	<u>41%</u>	Final mass of tested device:		<u>3799,3g</u>
Loading dust:	<u>ISO A2 FINE</u>			
<b>RESULTS</b>				
Resistance to airflow			Dust loading results	
Initial: 98Pa	Final: 301Pa	Initial arrestance [%]	Average arrestance [%]	Test dust capacity [g]
	Rated Final:	99	100	702,6
TestDevice Photo		Dust load [g]	Resistance to airflow [Pa]	Arrestance [%]
		0,0	98	-
		30,1	102	99
		54,5	106	100
		78,8	110	100
		103,1	113	100
		127,4	117	100
		151,7	121	100
		176,1	125	100
		200,5	130	100
		245,5	138	100
		320,6	156	100
		420,7	185	100
		566,2	234	100
719,1	301	100		
Remarks: _____				
NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real life" environments.				

**ISO 16890-3:2016  
AIR FILTER TEST RESULT DETAILS**

**Testing organisation:**

Name: Topas GmbH  
Address: Oskar-Röder-Str. 12, 01237 Dresden, GERMA  
Phone: +49 351 21 66 43 -0

Test IDs: 006906 006907

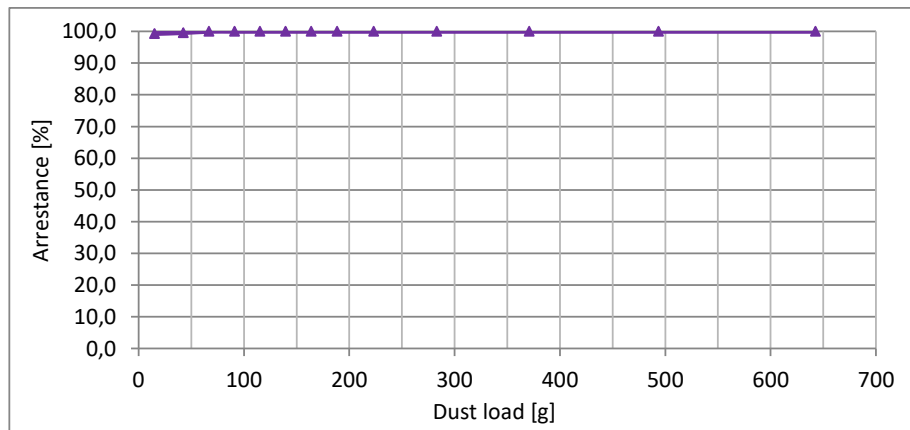
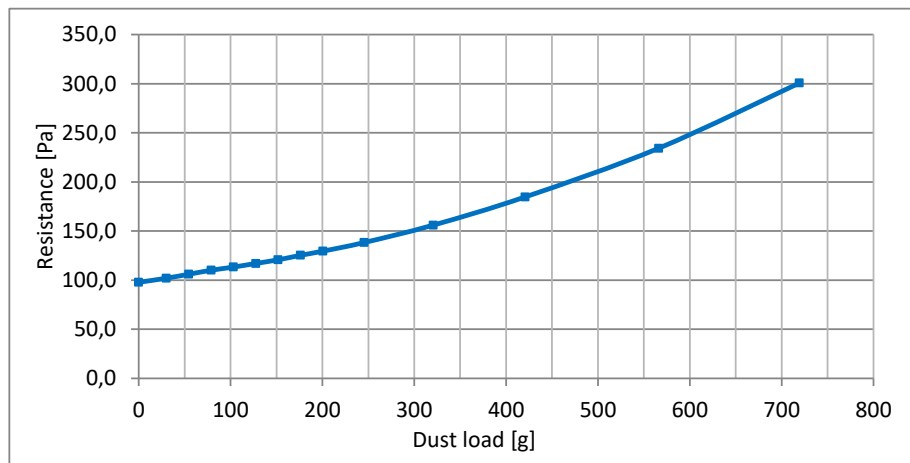
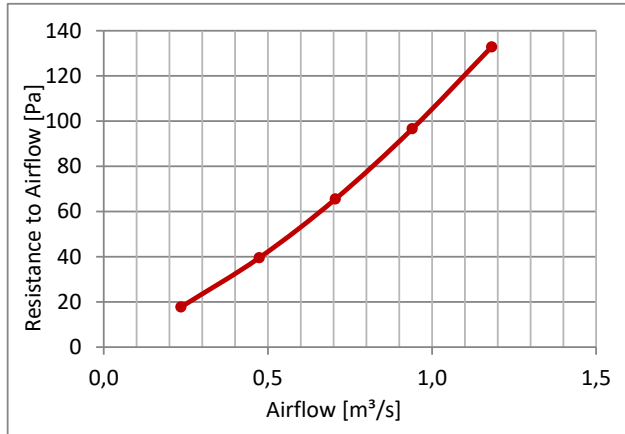
Date of test: 07-06-21

Operator: op

**TEST DATA DETAILS**

**Resistance to Airflow**

% of Rated Airflow	Airflow [m <sup>3</sup> /s]	Resistance to Airflow [Pa]
125	1,182	133
100	0,940	97
75	0,706	66
50	0,474	40
25	0,235	18



NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real life" environments.



ISO 16890-3:2016 AIR FILTER TEST RESULT DETAILS - TABLES (1)			Testing organisation:						
			Name: Topas GmbH						
			Address: Oskar-Röder-Str. 12, 01237 Dresden, GERMANY						
			Phone: +49 351 21 66 43 -0						
Air flow rate and resistance to air flow after different dust loading phases									
Test device: NWES98-6/400/11									
Test ID: 6907									
Test dust: ISO A2 FINE									
Air flow rate: 0,945m³/s									
Date	Loaded dust	Air flow meter	Filter						
	$m_{tot}$	$q_v$	$t$	$\varphi$	$p_o$	$\rho$	$q_v$	$\Delta p$	$\Delta p_{1,20}$
	[g]	[m³/h]	[°C]	[%]	[kPa]	[kg/m³]	[m³/s]	[Pa]	[Pa]
Clean filter									
05-03-20	-	4253,6	22,9	44,5	999,1	1,170	1,182	133	133
05-03-20	-	3384,7	22,9	44,6	999,2	1,170	0,940	97	97
05-03-20	-	2540,6	22,9	44,5	999,2	1,170	0,706	65	65
05-03-20	-	1705,0	22,9	44,8	999,3	1,171	0,474	39	40
05-03-20	-	846,3	22,9	44,8	999,3	1,170	0,235	18	18
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Clean filter resistance to air flow is proportional to $(q_v)^n$ , where $n = 1,247$									
Dust loading phase									
07-06-21	0,0	3396,3	22,3	43,3	1003,3	1,178	0,943	98	97
07-06-21	30,1	3395,5	22,2	42,1	1002,9	1,178	0,943	103	103
07-06-21	54,5	3400,2	22,1	43,0	1003,7	1,179	0,945	105	105
07-06-21	78,8	3378,8	22,1	42,5	1003,7	1,179	0,939	110	110
07-06-21	103,1	3405,8	22,1	42,1	1003,6	1,179	0,946	113	113
07-06-21	127,4	3402,7	22,1	41,8	1003,7	1,179	0,945	117	116
07-06-21	151,7	3393,9	22,0	41,9	1003,6	1,180	0,943	120	120
07-06-21	176,1	3405,8	22,1	41,8	1003,8	1,180	0,946	126	125
07-06-21	200,5	3402,7	22,0	41,8	1003,7	1,180	0,945	129	129
07-06-21	245,5	3396,5	22,0	41,7	1003,7	1,180	0,943	138	138
07-06-21	320,6	3391,1	22,0	41,6	1003,8	1,180	0,942	156	155
07-06-21	420,7	3399,7	22,0	41,9	1003,9	1,180	0,944	185	184
07-06-21	566,2	3390,7	22,0	40,6	1003,2	1,179	0,942	234	233
07-06-21	719,1	3396,5	22,1	41,0	1003,1	1,179	0,943	301	299
Symbols and units									
$m_{tot}$	... Cumulative mass of Loaded dust to filter, g								
$p_o$	... Absolute air pressure upstream of filter, kPa								
$q_v$	... Air flow rate at filter, m³/h								
$t$	... Temperature upstream of filter, °C								
$\rho$	... Air density upstream of filter, kg/m³								
$\varphi$	... Relative humidity upstream of filter, %								
$\Delta p$	... Measured filter resistance to air flow, Pa								
$\Delta p_{1,20}$	... Filter resistance to air flow at air density 1,20 kg/m³, Pa								

ISO 16890-3:2016 AIR FILTER TEST RESULT DETAILS - TABLES (2)				Testing organisation:					
				Name: Topas GmbH					
				Address: Oskar-Röder-Str. 12, 01237 Dresden, GERMANY					
				Phone: +49 351 21 66 43 -0					
Resistance to air flow and arrestance after different dust loading phases									
Test device: NWES98-6/400/11									
Test ID: 6907									
Test dust: ISO A2 FINE									
Air flow rate: 0,945m³/s									
Date	$\Delta p_1$ [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 [%]
07-06-21	98,9	30,1	30,1	102,0	3171,3	-	-	-	-
07-06-21	102,0	24,4	54,5	106,0	3171,5	3171,6	0,1		99,6
07-06-21	106,5	24,3	78,8	110,1	3171,6	3171,6	0,0		100,0
07-06-21	109,6	24,3	103,1	113,3	3171,6	3171,6	0,0		100,0
07-06-21	113,4	24,3	127,4	117,0	3171,6	3171,6	0,0		100,0
07-06-21	117,7	24,3	151,7	120,7	3171,6	3171,6	0,0		100,0
07-06-21	120,2	24,4	176,1	125,3	3171,6	3171,6	0,0		100,0
07-06-21	124,7	24,4	200,5	129,5	3171,6	3171,6	0,0		100,0
07-06-21	130,3	45,0	245,5	138,3	3171,6	3171,6	0,0		100,0
07-06-21	139,6	75,1	320,6	156,0	3171,6	3171,6	0,0		100,0
07-06-21	155,9	100,1	420,7	184,7	3171,6	3171,6	0,0		100,0
07-06-21	184,1	145,5	566,2	234,3	3171,6	3171,6	0,0		100,0
07-06-21	233,0	152,9	719,1	300,6	3171,6	3171,6	0,0		100,0
Mass of tested device									
Initial mass of tested device:				3096,7 g					
Final mass of tested device:				3799,3 g					
Symbols and units									
A	... Arrestance, %								
$m_d$	... Dust in duct after device, g								
$m_{tot}$	... Cumulative mass of Loaded dust to filter, g								
$m_1$	... Mass of final filter before dust increment, g								
$m_2$	... Mass of final filter after dust increment, g								
$\Delta m$	... Dust increment, g								
$\Delta m_{ff}$	... Mass gain of final filter, g								
$\Delta p_1$	... Resistance to air flow before dust increment, Pa								
$\Delta p_2$	... Resistance to air flow after dust increment, Pa								

<b>Eurovent 4/21 - 2018 Testing</b>		Testing organisation:	
<b>Energy efficiency evaluation of air filters for general ventilation purposes</b>		Name: Deltrian International	
		Web site: www.deltrian.com	
		Phone: +32(0)71 364 030	

test id :		date of test :	07-06-21	op	MA\SA\MF
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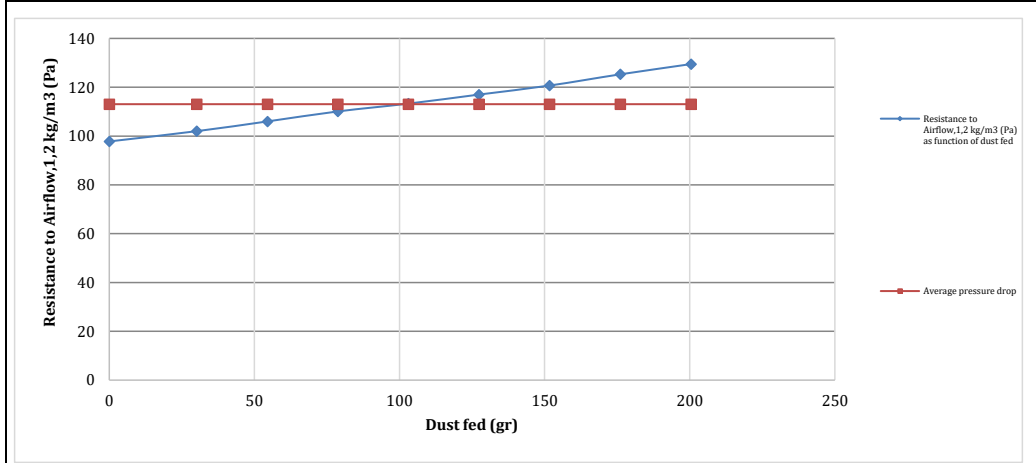
**DEVICE TESTED**

Model : NWES98-6/400/11		Manufacturer : DELTRIAN		Construction : 11	
Artice number :	Type of medium : SYNTH	Net effective area : 5,2	Filtre dimension(W*H*D) 592/592/400		

**TEST DATA DETAILS**

i	$m_i$	$\Delta p_i$	$\Delta p_{i,a}$	$\Delta m_i$
	g	Pa	Pa	g
0	0	97,8	97,8	0
1	30,1	102,0	98,9	30,1
2	54,5	106,0	102,0	24,4
3	78,8	110,1	106,5	24,3
4	103,1	113,3	109,6	24,3
5	127,4	117,0	113,4	24,3
6	151,7	120,7	117,7	24,3
7	176,1	125,3	120,2	24,4
8	200,5	129,5	124,7	24,4
	$M_x$	$\Delta p_x$	$\Delta p_{n,a}$	$\Delta m_n$
	g	Pa	Pa	g
	<b>200</b>	<b>129,5</b>	<b>124,5</b>	<b>24</b>

- i number of the dust loading step
- $m_i$  total amount of dust fed to the air filter after the dust loading step i
- $\Delta p_i$  pressure drop of the air filter after dust loading step i
- $\Delta p_{i,a}$  average of the pressure drops of the air filter measured before and after the dust loading step i
- $\Delta m_i$  dust increment fed to the air filter during loading step i
- n total number of dust loading steps to feed the amount of test dust  $M_x$  to the air filter ( $n \geq 8$ )



**RESULTS**

ISO groupPM	ISO PM1	$\Delta p_a$ , Average pressure drop	113 Pa
Amount of dust fed	200	Yearly energy consumption, W	1281 Kwh
ePMx	90%	Energy class*	A

NOTE: The results of this test relate only to the test device in the condition stated herein, The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real life" environments