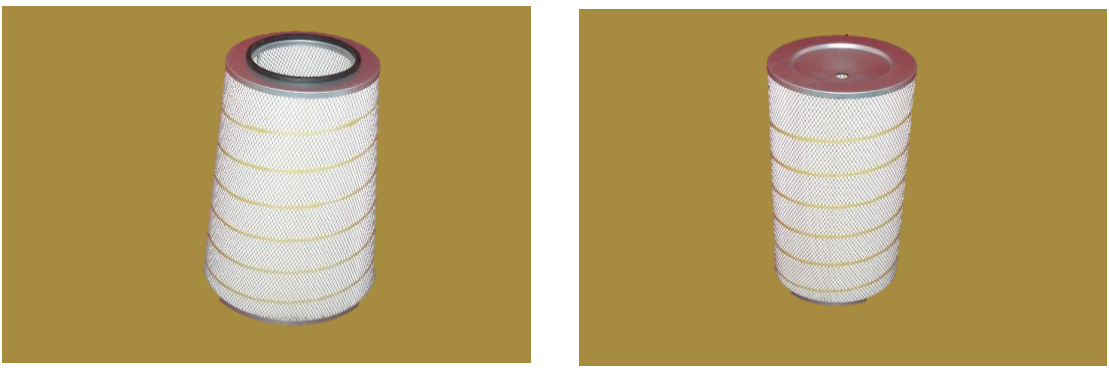

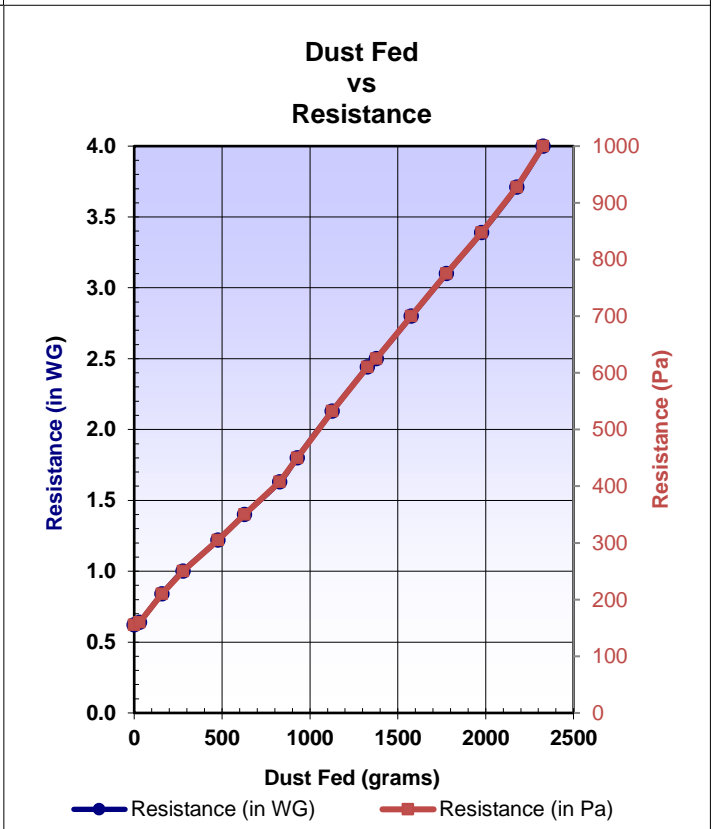
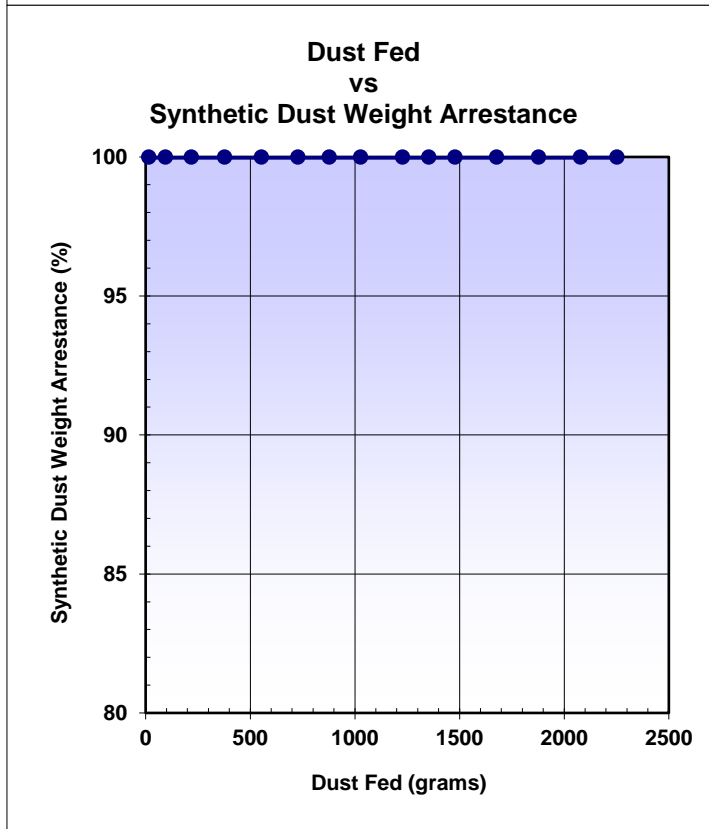
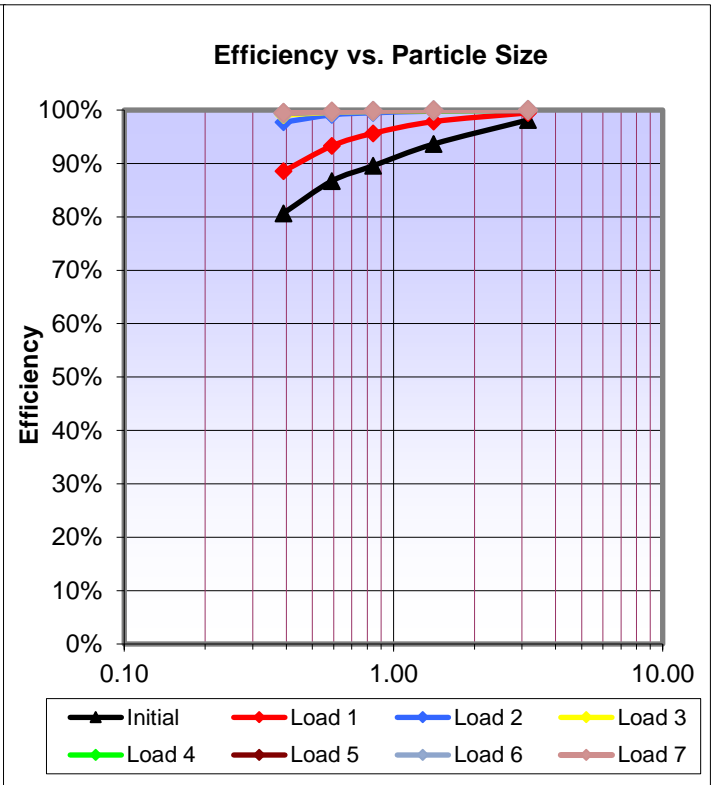
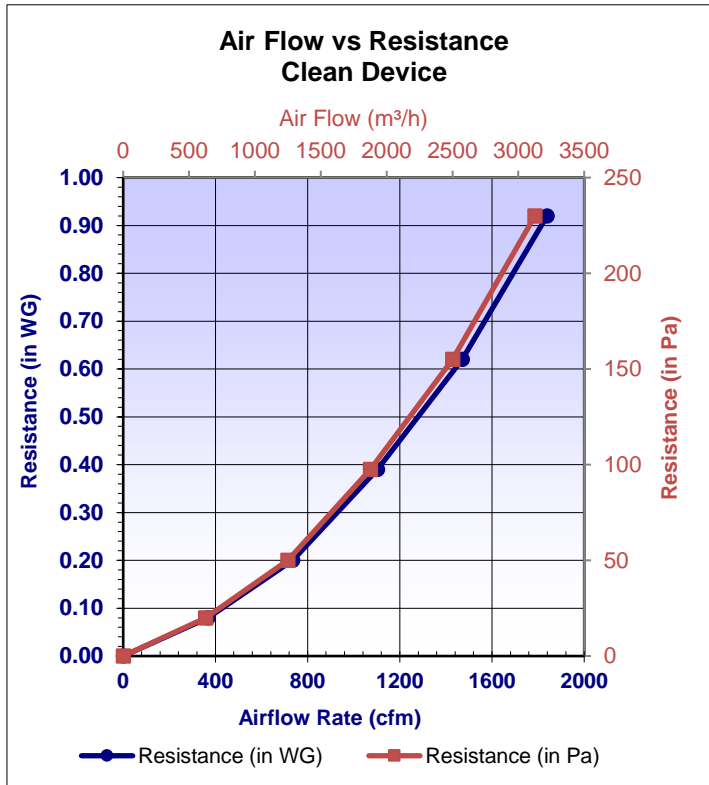
 2820 S. English Station Road - Louisville, KY 40299		DATE: 7-Feb-20	TEST NO. 20-018-1	
		<h2>EN 779:2012 Test Report</h2>		
page 1 of 5				
Filter Description	Manufacturer	SEW North Filtration A/S		
	Filter Model	Conical/Cylindrical		
	Part Number	Z634456609414823423 / Z21325669414821023		
	Filter Type	Turbine Inlet Filter		
	Nominal Face Dimensions (in)	52" x 12.8" x 17.5"		
	Nominal Face Dimensions (mm)	1321 mm x 324 mm x 445 mm		
	Est. Gross Media Area (ft ² / m ²)	510 / 47.38		
	Media Type	Bico Polyester W/ Nano Fibers		
	Adhesive/Amount	PU		
Test Conditions	Dust Type	ASHRAE		
	Aerosol	DEHS		
	Test Air Flow Rate (cfm / m ³ /h)	1471 / 2501		
	Test Air Temp (°F / °C)	65 / 18.3		
	Relative Humidity (%)	51		
	Barometric Pressure (In. Hg.)	29.46		
Test Results	Initial Resistance ("w.g. / Pa)	0.62 / 155		
	Final Resistance ("w.g. / Pa)	4 / 1000		
	Initial Efficiency at .4 microns (%)	81%		
	Average Efficiency at .4 microns (%)	99%		
	Initial Arrestance (%)	>99		
	Untreated / Discharged Efficiency of Media (%)	81 / 71		
	Average Arrestance (%)	>99		
	Dust Holding Capacity (grams)	2327		
Classification (final dp in pascals)	F9 at 1000 Pa			
				
REMARKS				
		<u>Avg. Eff. @ .4µm</u>	<u>Avg. Arrestance</u>	
		<u>DHC gms</u>		
	F9 @ 450 Pa	98%	>99	
	F9 @ 625 Pa	98%	>99	
			927	
			1377	
Requestor Information	Test Requestor	Lars Pederson	Phone Number	N/A
	Company Name	SEW North Filtration A/S	Fax Number	N/A
	Company Address	Vesterbrogade 1 Sektion C Denmark	Date Requested	10-Dec-19
Test Performed by:	CR	Approved By:		

Test No. 20-018-1
 Date: 07-Feb-20



Test No. 20-018-1
 Date: 07-Feb-20

Data - Initial Resistance

Airflow (CFM)	Resistance (in WG)	Airflow (m³/h)	Resistance (in Pa)
0	0.00	0	0
368	0.08	625	20
736	0.20	1250	50
1103	0.39	1876	98
1471	0.62	2501	155
1839	0.92	3126	230

Data - Dust Fed vs. Resistance

Dust Fed (gms)	Resistance (in WG)	Resistance (in Pa)
0	0.62	155
30	0.64	160
158	0.84	210
277	1.00	250
477	1.22	305
627	1.40	350
827	1.63	408
927	1.80	450
1127	2.13	533
1327	2.44	610
1377	2.50	625
1577	2.80	700
1777	3.10	775
1977	3.39	848
2177	3.71	928
2327	4.00	1000

Data - Dust Fed vs. Arrestance

Dust Fed (gms)	Arres %
0	
15	100.0
94	100.0
218	100.0
377	100.0
552	100.0
727	100.0
877	100.0
1027	100.0
1227	100.0
1352	100.0
1477	100.0
1677	100.0
1877	100.0
2077	100.0
2252	100.0

Data - Particle Removal Efficiency

Particle Size Range (um)	Geometric Mean Diam (um)	Particle Removal Efficiency (%)							
		Initial	Load 1	Load 2	Load 3	Load 4	Load 5	Load 6	Load 7
0.30 - 0.50	0.39	80.7%	88.5%	97.7%	99.1%	99.4%	99.4%	99.4%	99.4%
0.50 - 0.70	0.59	86.7%	93.3%	99.1%	99.6%	99.7%	99.7%	99.6%	99.7%
0.70 - 1.00	0.84	89.6%	95.6%	99.5%	99.7%	99.8%	99.8%	99.8%	99.8%
1.00 - 2.00	1.41	93.6%	97.8%	99.8%	99.9%	99.9%	99.9%	100.0%	100.0%
2.00 - 5.00	3.16	98.1%	99.5%	99.9%	99.9%	100.0%	100.0%	100.0%	100.0%

Resistance after Dust Load (in WG) ----->
 Resistance after Dust Load (in Pa) ----->
 Dust Load (gms) ----->

Initial	Load 1	Load 2	Load 3	Load 4	Load 5	Load 6	Load 7
0.64	0.84	1.00	1.40	1.80	2.50	4.00	
160	210	250	350	450	625	1000	
30	158	277	627	927	1377	2327	

Average Efficiency to Final dp 95% 97% 98% 98% 99%



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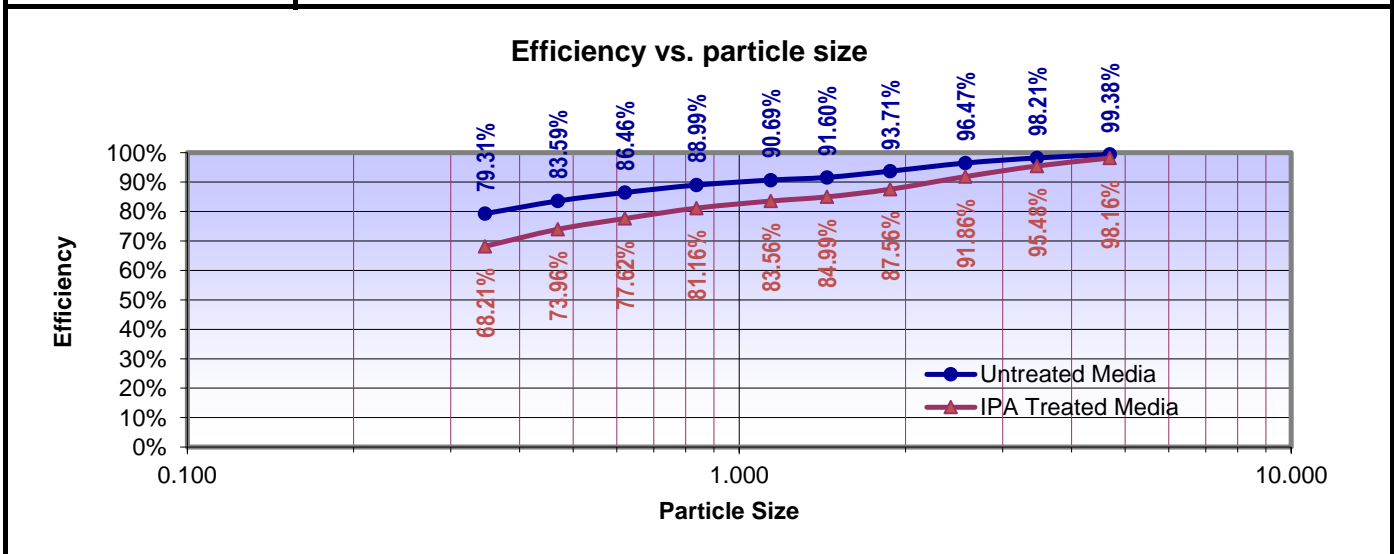
TEST NO. 20-018-1

EN 779:2012 Initial Efficiency

Flat Sheet Initial Efficiency Test

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Filter Description	Manufacturer	SEW North Filtration A/S	
	Filter Model	Conical/Cylindrical	
	Part Number	Z634456609414823423 / Z21325669414821023	
	Nominal Face Dimensions (in)	16" x 16"	
	Nominal Face Dimensions (mm)	406mm x 406mm	
	Media Type	Bico Polyester W/ Nano Fibers	
Test Conditions	Test Air Flow Rate (FPM / m/min)	2.9 / 0.9	
	Test Air Temp (°F/°C)	72 / 22.2	
	Relative Humidity (%)	37	
	Barometric Pressure (In. Hg.)	29.32	
Test Results		Untreated	IPA Treated
	0.35 Micron Range Efficiency	79.31%	68.21%
	0.45 Micron Range Efficiency	83.59%	73.96%
	0.55 Micron Range Efficiency	86.46%	77.62%
	0.69 Micron Range Efficiency	88.99%	81.16%
	0.89 Micron Range Efficiency	90.69%	83.56%
	1.22 Micron Range Efficiency	91.60%	84.99%
	1.73 Micron Range Efficiency	93.71%	87.56%
	2.45 Micron Range Efficiency	96.47%	91.86%
	3.46 Micron Range Efficiency	98.21%	95.48%
4.69 Micron Range Efficiency	99.38%	98.16%	
Average Efficiency at 0.4 micrometers		81.18%	70.72%



NOTES: _____

Requestor Information	Test Requestor	Lars Pederson	Phone Number	N A
	Company Name	SEW North Filtration A/S	Email	NA
	Company Address	Vesterbrogade 1 Sektion C Denmark	Date Requested	12/10/2019

Test Performed by: ES Approved By:



DATE: 7-Feb-20

TEST NO. 20-018-1

EN 779:2012 Initial Efficiency

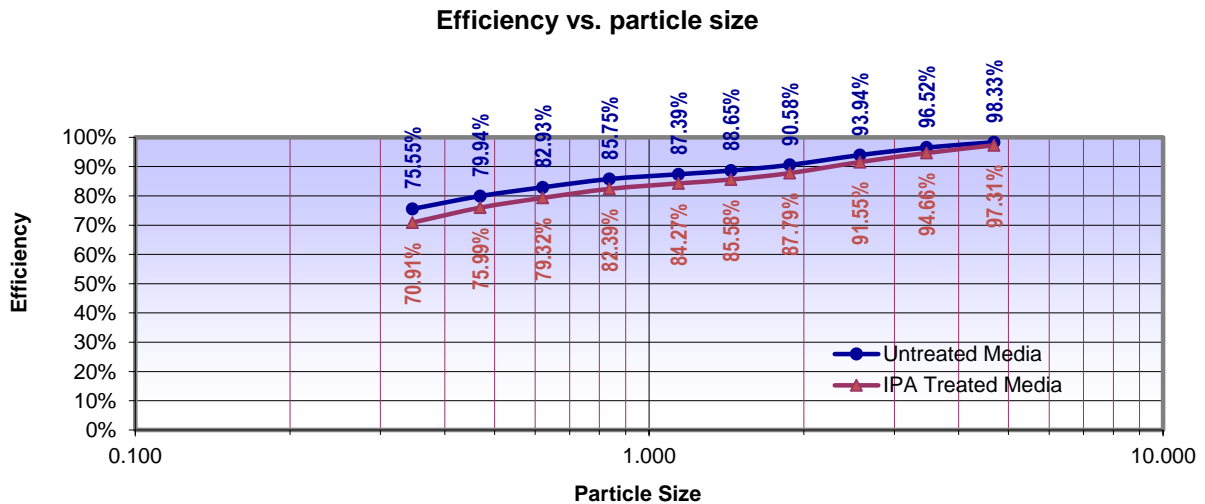
Flat Sheet Initial Efficiency Test

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Filter Description	Manufacturer	SEW North Filtration A/S
	Filter Model	Conical/Cylindrical
	Part Number	Z634456609414823423 / Z21325669414821023
	Nominal Face Dimensions (in)	16" x 16"
	Nominal Face Dimensions (mm)	406 mm x 406 mm
	Media Type	Bico Polyester W/ Nano Fibers

Test Conditions	Test Air Flow Rate (FPM / m/min)	1.5 / .5
	Test Air Temp (degrees F.)	72 / 22.2
	Relative Humidity (%)	37
	Barometric Pressure (In. Hg.)	29.32

Test Results	Untreated	IPA Treated
	0.35 Micron Range Efficiency	75.55%
0.45 Micron Range Efficiency	79.94%	75.99%
0.55 Micron Range Efficiency	82.93%	79.32%
0.69 Micron Range Efficiency	85.75%	82.39%
0.89 Micron Range Efficiency	87.39%	84.27%
1.22 Micron Range Efficiency	88.65%	85.58%
1.73 Micron Range Efficiency	90.58%	87.79%
2.45 Micron Range Efficiency	93.94%	91.55%
3.46 Micron Range Efficiency	96.52%	94.66%
4.69 Micron Range Efficiency	98.33%	97.31%
Average Efficiency at 0.4 micrometers		77.47% 73.13%



NOTES: _____

Requestor Information	Test Requestor	Lars Pederson	Phone Number	NA
	Company Name	SEW North Filtration A/S	Email	NA
	Company Address	Vesterbrogade 1 Sektion C Denmark	Date Requested	12/10/2019

Test Performed by: ES Approved By: