

Product Specification



PR MEDIA SYNTHETIC FILTER MEDIA

1.0 Scope

This specification covers synthetic media that is a component of paint booth systems. Media can be used in paint overspray collection.

2.0 Construction

2.1 Media

The media is 100% polyester fiber. The media shall be white on the air entering and air leaving sides

2.2 Size Availability

The media shall be available in precut pads, blankets and bulk rolls.

3.0 Performance

The media shall meet the following minimum performance requirements for paint removal, based on using high solids bake enamel and ASHRAE Standard 52.2-2012. Performance shall be representative of all sizes offered.

ASHRAE 52.2-2012

Nominal Size	24 x 24
Rated Face Velocity (FPM)	295
Initial Resistance	0.07" W.G.
Final Resistance	1.00" W.G.
MERV	7

Paint Arrestance

Nominal Size	20 x 20
Rated Face Velocity (FPM)	150
Initial Resistance	0.03" W.G.
Final Resistance	1.00" W.G.
Average Removal Efficiency	92.4%
Paint Holding Capacity	4.8 pounds



CLARCOR Air Filtration Products

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Laboratory Data

Test method	ANSI/ASHRAE Standard 52.2-2012		
Report #	6824	Test #	1
Test requested by	Keith Chesson	Email	kchesson@clclair.com
Sample procurement method	In House Test		
Device received by	Keith Chesson	Date	5/16/2015
Device tested by	Joseph T. Kendall, CAFS	Date	1/25/2016
Report approved by	Joseph T. Kendall, CAFS	Date	2/5/2016
Equipment used in testing (brand/model)	TSI 3330, Meriam 40HEX35-WM-20, Dwyer RHP Temp/RH% Logger		

Device Manufacturer's Data

Manufacturer	Clarcor Air Filtration Inc.		
Product name	Pad PR 24x24		
Product model	Pad PR 24x24 White Open		
Device dimensions inches H x W x D	24.00	x	24.00 x 1.00
Device dimensions mm H x W x D	609.60	x	609.60 x 25.40
Device pleat count	N/A	or	Device pocket count N/A
Media area ft ²	4.00		Media area m ² 0.37
Sample identification	4101251 Pad PR 24x24		
Media type & identification	Not Disclosed	Media color	White
Media date code	Not Disclosed	Media roll #	Not Disclosed
Device adhesive, tackifier	Standard		
Device gasket and other attachments	Service Holding Frame		

Test Conditions

Face velocity	295	f t/min.	1.50	m/s
Airflow capacity	1180	f t ³ /min.	0.56	m ³ /s
Test air temperature	70	deg f	21.1	deg c
Test relative humidity %	30	(%)		
Test barometric pressure range	29.9	in. hg.		
Incremental loading material	ASHRAE Test Dust		Test aerosol	KCL

Test Results

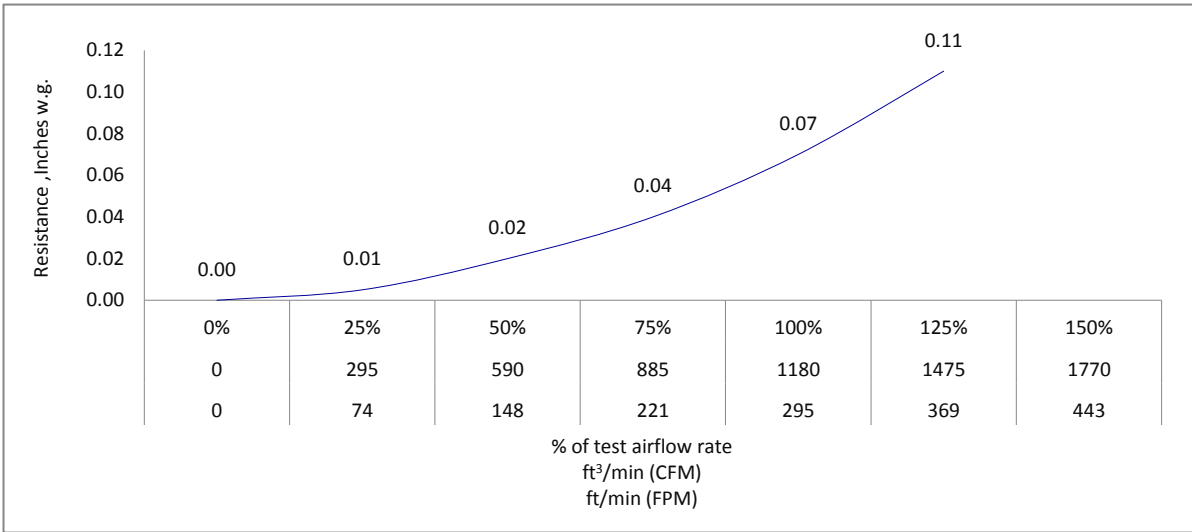
Initial resistance in. w.g.	0.07	Initial resistance Pa.	17
Final resistance in. w.g.	1.00	Final resistance Pa.	249
	E ₁	E ₂	E ₃
Composite Average Efficiencies %	1.90	20.36	50.61

MINIMUM EFFICIENCY REPORTING VALUE (MERV)				
7				
@	295	f t/min	1180	f t ³ /min
@	1.50	m/s	0.56	m ³ /s

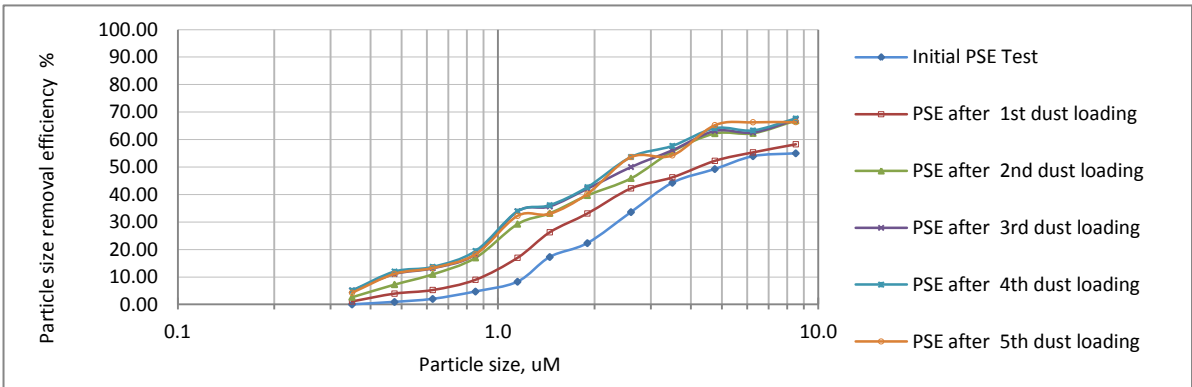
Air cleaner average arrestance %	80.10
Dust holding capacity (grams)	182.5



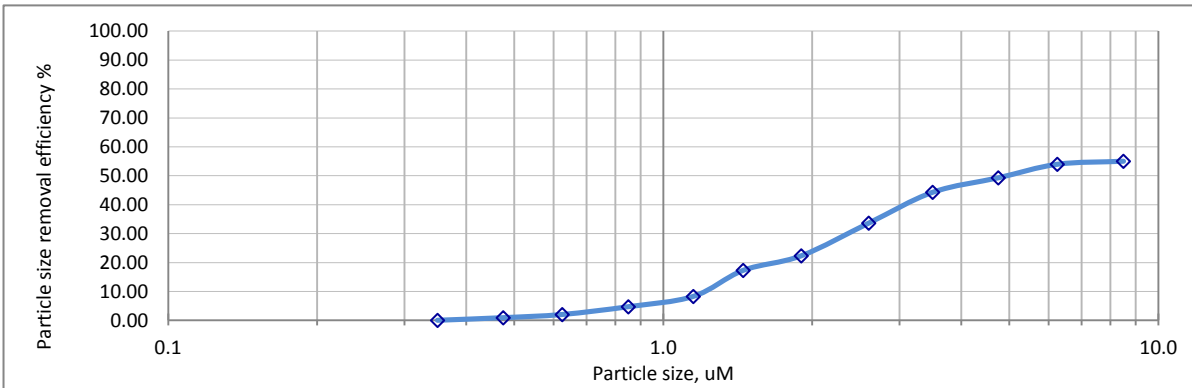
Airflow vs. Resistance



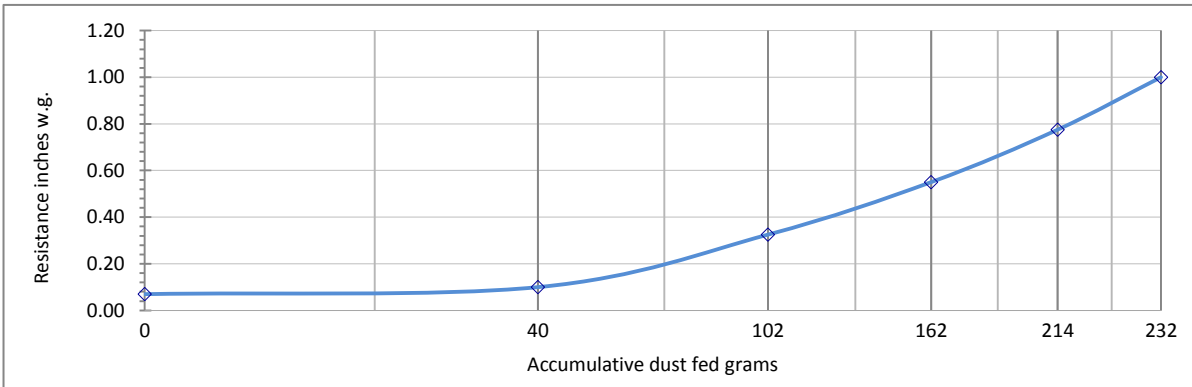
Particle Size Efficiency after Incremental Dust Loading



Composite Minimum Efficiency



Resistance vs. Synthetic Loading Dust Fed



Airflow vs. Resistance	Diameter ASME Flow Nozzle (Inches)				Constant				
	8.50				21.62234				
	144				4.00				
	Air Velocity	Airflow m ³ /s	Pascal Pa.	inches w.g.	Air Velocity	Airflow	Airflow rate %	Resistance D	Resistance D
	m/s		Orifice	Orifice	ft/min	ft ³ /min	of test airflow	P in. w.g.	P Pa.
	0.00	0.00	0.00	0.000	0	0	0%	0.00	0.00
	0.37	0.14	8.88	0.036	74	295	25%	0.01	1.25
	0.75	0.28	35.53	0.143	148	590	50%	0.02	4.98
	1.12	0.42	79.94	0.321	221	885	75%	0.04	9.96
	1.50	0.56	142.11	0.571	295	1180	100%	0.07	17.44
1.87	0.70	222.05	0.891	369	1475	125%	0.11	27.40	
2.25	0.84	319.76	1.284	443	1770	150%		0.00	

Particle Size Efficiency after incremental Dust Loading	D P in. w.g.		0.07		0.10		0.33		0.55		0.78		1.00	
	D P Pa.		17.44		24.91		80.95		137.00		193.04		249.09	
	Size Range Boundaries													
	O.P.C. Channel	Lower-Upper Limit	Geo. Mean Dia. uM	Initial PSE Test	PSE after 1st dust loading	PSE after 2nd dust loading	PSE after 3rd dust loading	PSE after 4th dust loading	PSE after 5th dust loading	Composite minimum				
	1	0.30-0.40	0.35	0.00	1.11	2.66	5.10	5.10	4.26	0.00				
	2	0.40-0.55	0.48	0.90	3.95	7.26	11.10	12.00	11.15	0.90				
	3	0.55-0.70	0.63	2.00	5.26	10.99	13.20	13.69	13.29	2.00				
	4	0.70-1.00	0.85	4.69	8.99	16.99	18.26	19.47	18.26	4.69				
	5	1.00-1.30	1.15	8.26	16.99	29.26	33.90	33.89	32.26	8.26				
	6	1.30-1.60	1.45	17.26	26.27	33.20	35.69	36.14	32.99	17.26				
7	1.60-2.20	1.90	22.30	33.11	39.69	42.12	42.69	40.26	22.30					
8	2.20-3.00	2.60	33.60	42.25	45.89	50.00	53.66	53.65	33.60					
9	3.00-4.00	3.50	44.26	46.26	55.69	56.11	57.69	54.26	44.26					
10	4.00-5.50	4.75	49.26	52.26	62.21	63.14	64.12	65.26	49.26					
11	5.50-7.00	6.25	53.94	55.35	62.30	62.59	63.33	66.30	53.94					
12	7.00-10.00	8.50	54.99	58.29	66.90	67.24	67.69	66.36	54.99					
		.30-1.0 uM	E ₁	24.29	29.17	36.09	38.20	39.12	38.19	1.90				
		1.0 to 3.0 uM	E ₂	20.36	29.66	37.01	40.43	41.60	39.79	20.36				
		3.0 to 10.00 uM	E ₃	50.61	53.04	61.78	62.27	63.21	63.05	50.61				

Resistance vs. Synthetic Loading Dust Fed	Weight dust fed grams		0		40		62		60		52		18	
	Accumulative dust fed grams		0		40		102		162		214		232	
	Initial DP		0.07		0.07		0.10		0.33		0.55		0.78	
	Final DP		0.07		0.10		0.33		0.55		0.78		1.00	
	Initial weight grams		N/A		1793.00		1809.00		1823.90		1836.90		1842.10	
	Final weight grams		N/A		1809.00		1823.90		1836.50		1842.10		1842.90	
	Weight gain grams		N/A		16		14.9		12.6		5.2		0.8	
	Arrestance grams		N/A		24		47.1		47.4		46.8		17.2	
	% Arrestance		N/A		60.00		75.97		79.00		90.00		95.56	

Minimum Efficiency Reporting Value (MERV) Parameters	Composite Average Particle Size					Acronym ref: ANSI/ASHRAE Standard 52.2	
	MERV	Range 1	Range 2	Range 3	Average	ASME	American Society of Mechanical Engineers
		.30-1.00	1.00-3.00	3.00-10.00	Arrestance %	DHC	Dust Holding Capacity
	1	n/a	n/a	E3<20	Aavg<65	MERV	Minimum Efficiency Reporting Value
	2	n/a	n/a	E3<20	65<=Aavg	OPC	Optical Particle Counter
	3	n/a	n/a	E3<20	70<=Aavg	PSE	Particle Size Removal Efficiency
	4	n/a	n/a	E3<20	75<=Aavg	W.G.	Water Gauge
	5	n/a	n/a	20<=E3	n/a	uM	Micrometer (Micron)
	6	n/a	n/a	35<=E3	n/a	CPC	Condensation Particle Counter
	7	n/a	n/a	50<=E3	n/a	CT	Cumulative Conditioning
8	n/a	20<=E2	70<=E3	n/a	KCI	Potassium Chloride	
9	n/a	35<=E2	75<=E3	n/a	Comments:		
10	n/a	50<=E2	80<=E3	n/a			
11	20<=E1	65<=E2	85<=E3	n/a			
12	35<=E1	80<=E2	90<=E3	n/a			
13	50<=E1	85<=E2	90<=E3	n/a			
14	75<=E1	90<=E2	95<=E3	n/a			
15	85<=E1	90<=E2	95<=E3	n/a			
16	95<=E1	95<=E2	95<=E3	n/a			

This report applies to the tested device only