



Camfil USA
1 North Corporate Drive
Riverdale, NJ 07457
(973) 616-7300

ASHRAE® 52.2-2007(B) Test Results w/Appendix J Results

Filter Description

Manufacturer		Filter Model			Filter Part Number		
Camfil USA		AP-Thirteen®			405413-005		
Filter Type		Media Type		Media Color		Media Area (ft ²)	
Pleated-Panel		Synthetic/Charged		White		17.3	
Nominal Size	Actual Size						
HxWxD	Hgt (in)	Wid (in)	Dep (in)	Pleats/Pockets	UL Rating	LabFile	CrRef
24x24x2	23 3/8	23 3/8	1 3/4	28	Class 2	1483	1483

ASHRAE® 52.2-2007(B)

Date:	02/20/2009		
Test Number:	2009-0220-1018		
Test Data	Test Results	Rated Values	
AirFlow (cfm)	1970	1970	
Nominal Vel (fpm)	493	493	
Initial ΔP (inWG)	0.40	0.40	
MERV	13	13	@1970cfm
E ₁ (0.3-1.0μm), (%)	45	n/a	
E ₂ (1.0-3.0μm), (%)	90	≥ 90	
E ₃ (3.0-10μm), (%)	95	≥ 90	
Final DP, (inWG)	1.0	1.0	
Arrestance, (%)	97	98	
DHC, (g)	93		

ASHRAE® 52.2-2007(B) w/App J

Date:	02/23/2009		
Test Number:	2009-0223-1112		
Test Data	Test Results	Rated Values	
AirFlow (cfm)	1970	1970	
Nominal Vel (fpm)	493	493	
Initial ΔP (inWG)	0.41	0.40	
MERV-A	8A	13A	@1970cfm
E ₁ -A (0.3-1.0μm), (%)	16	n/a	
E ₂ -A (1.0-3.0μm), (%)	62	≥ 90	
E ₃ -A (3.0-10μm), (%)	74	≥ 90	
Final DP, (inWG)	1.0	1.0	
Arrestance-A, (%)	96	98	
DHC-A, (g)	96		

Temp, (F)	74	Test Aerosol	KCL
RH, (%)	38	Loading Dust	ASHRAE

Temp, (F)	74	Test Aerosol	KCL
RH, (%)	37	Loading Dust	ASHRAE

Comments

Comments

Certified Test Per ASHRAE 52.2-2007 (B)

Operator

Particle Counter

Model

Approval:

Don Thornburg
Electronic Signature, Original on file

A. Acain

Climet

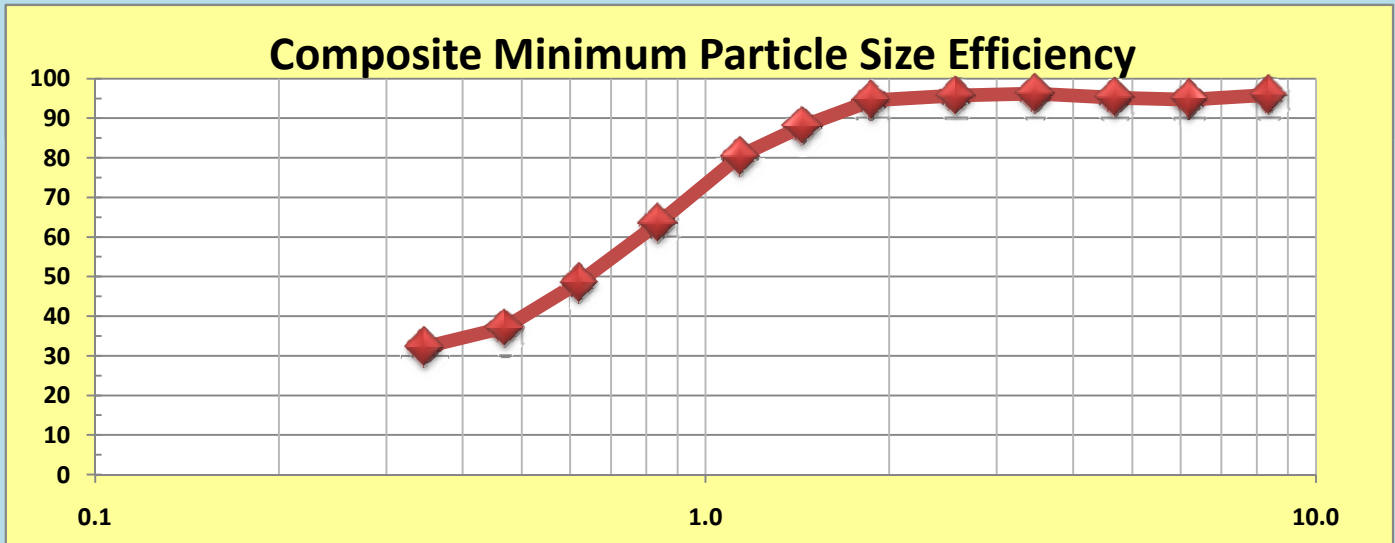
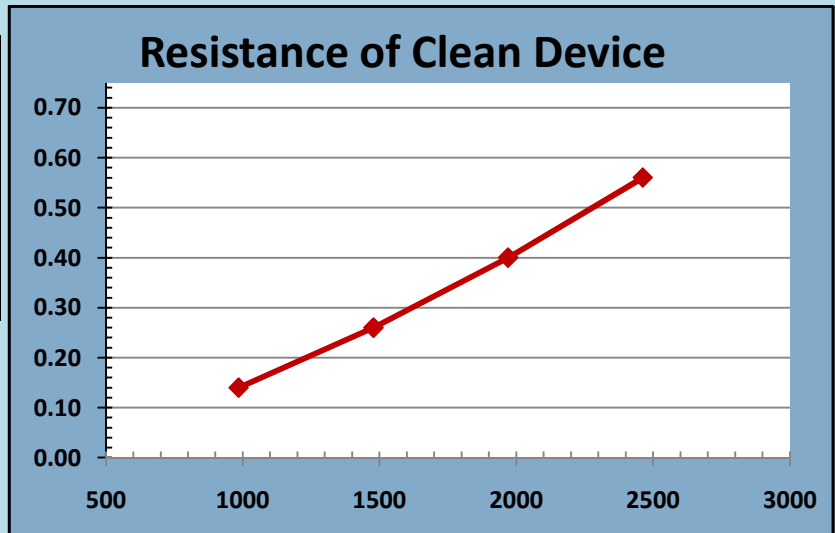
CI-500

Camfil USA Permission Required for Distribution

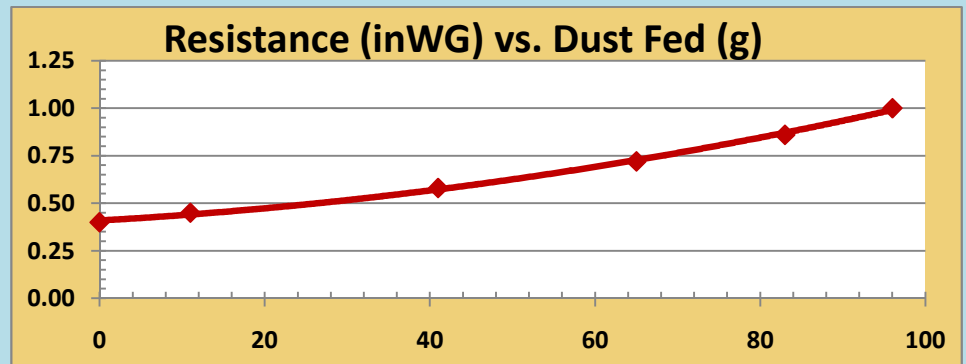
ASHRAE® 52.2-2007(B) Test Results

Date:	02/20/2009	Test Number:	2009-0220-1018
Manufacturer	Filter Model	Filter Part Number	
Camfil USA	AP-Thirteen®	405413-005	

Clean Resistance Table			
cfm	m ³ /s	inWG	Pa
985	0.46	0.14	35
1478	0.70	0.26	65
1970	0.93	0.4	100
2462	1.16	0.56	139



ΔP (inWG)	Dust Fed (g)
0.40	0
0.45	11
0.58	41
0.72	65
0.86	83
1.00	96

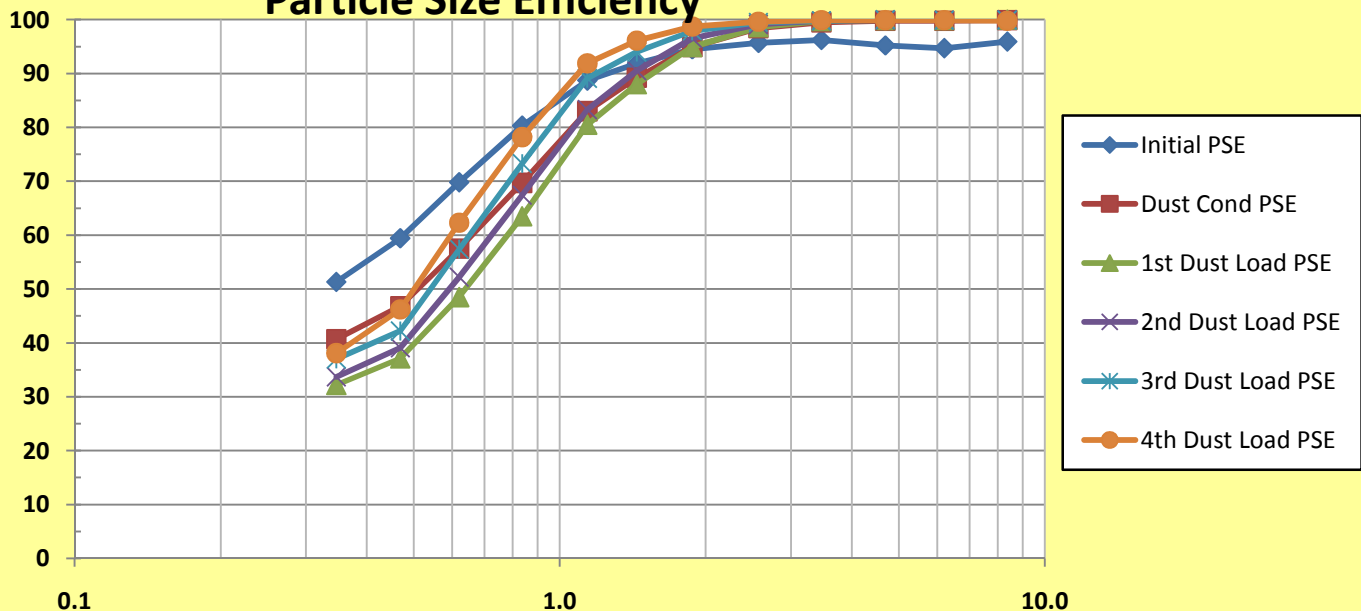




ASHRAE® 52.2-2007(B) Test Results

Date			02/20/2009			Test Number			2009-0220-1018				
Manufacturer				Filter Model						Filter Part Number			
Camfil USA				AP-Thirteen®						405413-005			
Efficiency Data Table													
	1	2	3	4	5	6	7	8	9	10	11	12	
Minimum Dia (µm)	0.3	0.4	0.55	0.7	1.0	1.3	1.6	2.2	3.0	4.0	5.5	7.0	0.35
Maximum Dia (µm)	0.4	0.55	0.7	1.0	1.3	1.6	2.2	3.0	4.0	5.5	7.0	10.0	0.45
Geometric Mean (µm)	0.35	0.47	0.62	0.84	1.14	1.44	1.88	2.57	3.46	4.69	6.20	8.37	0.40
Initial PSE	51	59	70	80	89	92	95	96	96	95	95	96	54
Dust Cond PSE	41	47	58	70	83	89	95	98	100	100	100	100	42
1st Dust Load PSE	32	37	49	64	81	88	95	99	100	100	100	100	33
2nd Dust Load PSE	34	39	52	67	83	91	97	99	100	100	100	100	34
3rd Dust Load PSE	37	42	57	73	89	94	98	100	100	100	100	100	37
4th Dust Load PSE	38	46	62	78	92	96	99	100	100	100	100	100	39
Composite Min PSE	32	37	49	64	81	88	95	96	96	95	95	96	33

Particle Size Efficiency



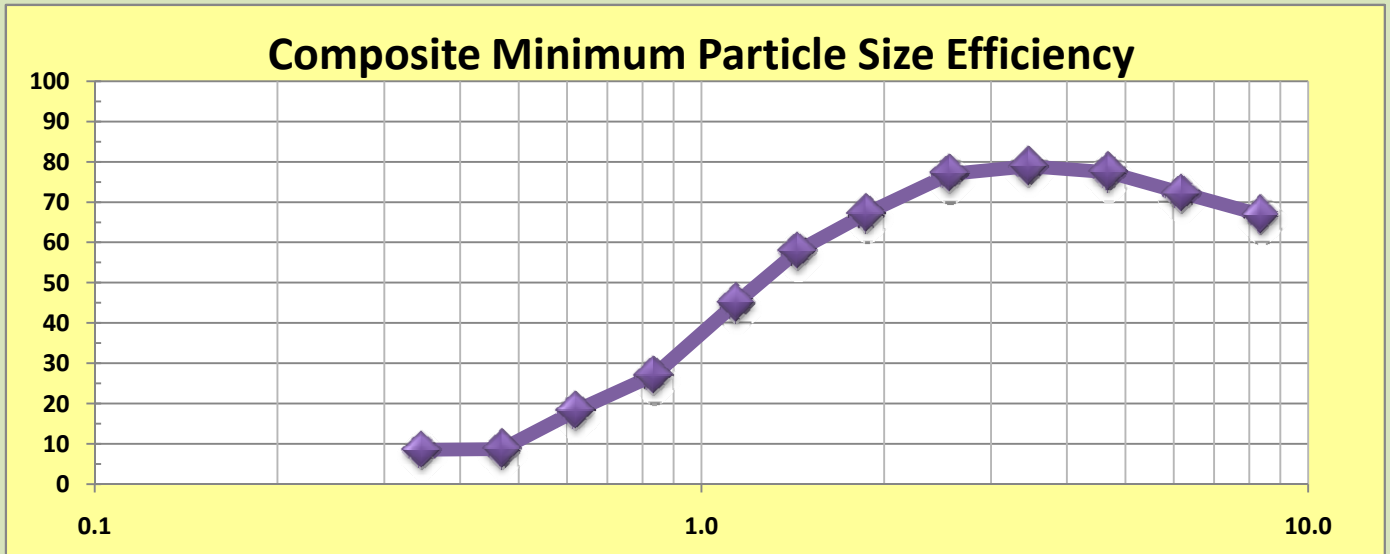
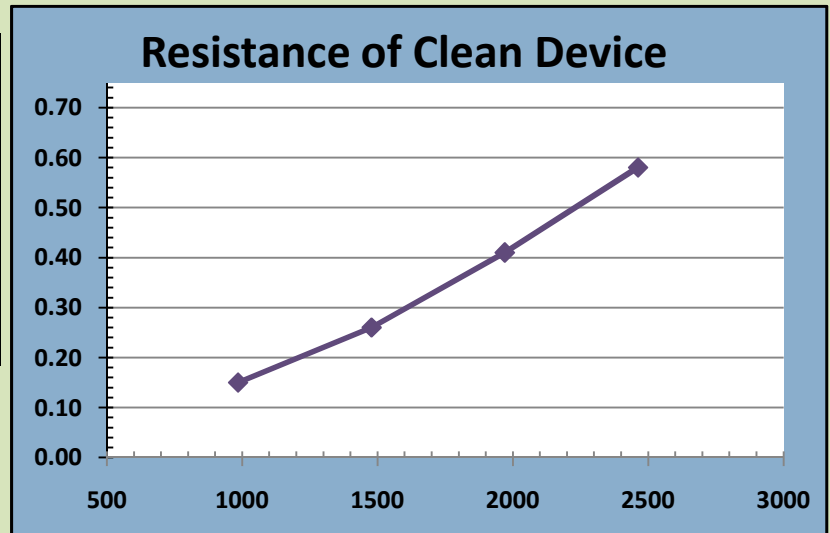
All testing is performed in compliance with the latest revision of ASHRAE Standard 52.2 in a state-of-the-art laboratory facility located at Camfil's U.S. corporate headquarters in Riverdale, NJ. Test Reports without DHC values show efficiency only and the associated MERV value is a estimated value based on the single efficiency data shown. For more information, contact your local Camfil USA representative or distributor.

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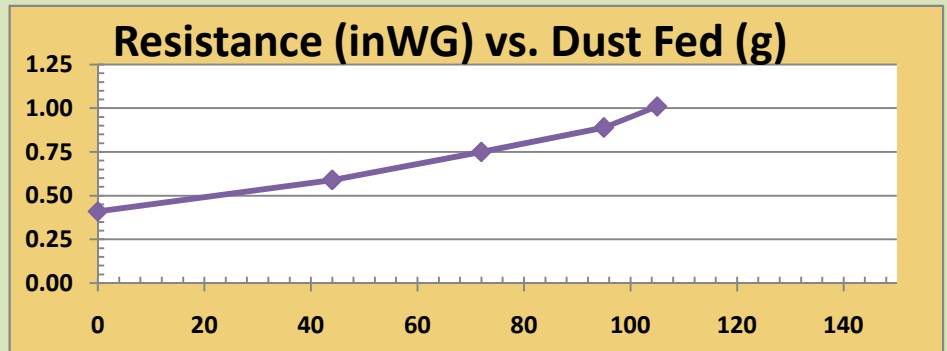
ASHRAE® 52.2-2007(B) Test Results w/ Appendix J Results

Date:	02/23/2009	Test Number:	2009-0223-1112
Manufacturer	Filter Model	Filter Part Number	
Camfil USA	AP-Thirteen®	405413-005	

Clean Resistance Table			
cfm	m ³ /s	inWG	Pa
985	0.46	0.15	37
1478	0.70	0.26	65
1970	0.93	0.41	102
2462	1.16	0.58	144



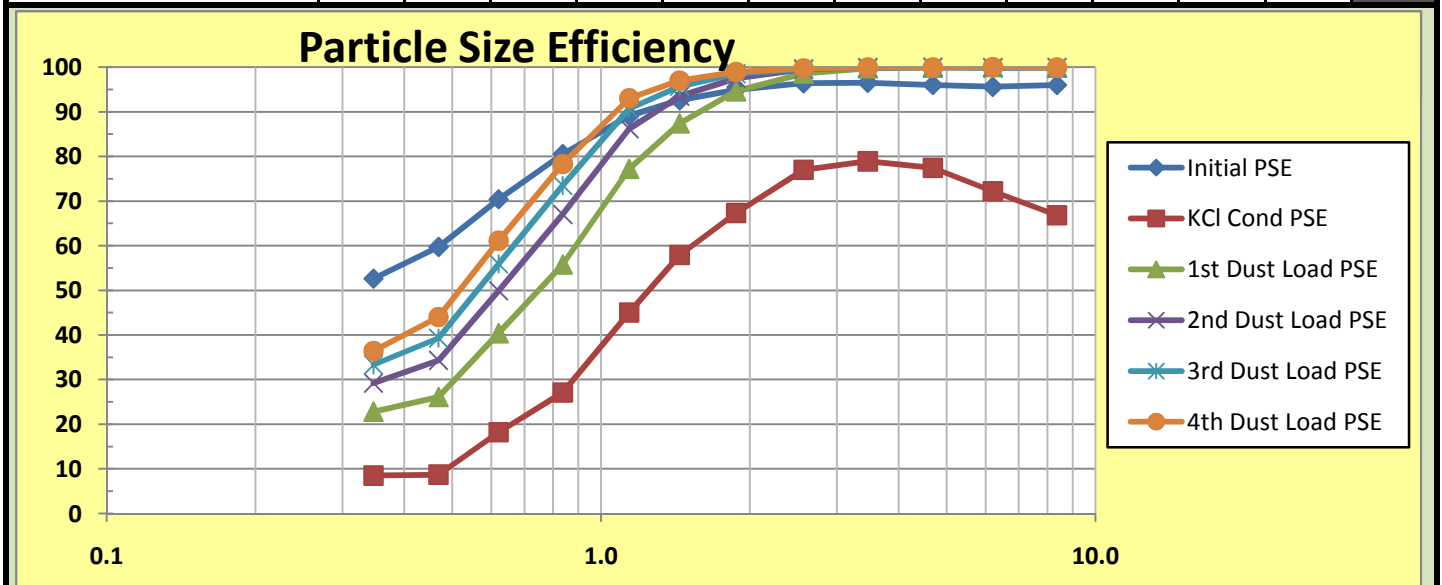
ΔP (inWG)	Dust Fed (g)
0.41	0
0.59	44
0.75	72
0.89	95
1.01	105





ASHRAE® 52.2-2007(B) Test Results w/ Appendix J Results

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Geometric Mean (µm)	0.35	0.47	0.62	0.84	1.14	1.44	1.88	2.57	3.46	4.69	6.20	8.37	0.40
Initial PSE	53	60	70	81	89	93	95	96	97	96	96	96	55
KCl Cond PSE	9	9	18	27	45	58	67	77	79	77	72	67	7
1st Dust Load PSE	23	26	40	56	77	87	95	99	100	100	100	100	22
2nd Dust Load PSE	29	34	50	67	86	94	98	100	100	100	100	100	29
3rd Dust Load PSE	33	39	56	74	91	96	99	100	100	100	100	100	33
4th Dust Load PSE	36	44	61	78	93	97	99	100	100	100	100	100	37
Composite Min PSE	9	9	18	27	45	58	67	77	79	77	72	67	7



Bkg Concentration (particles/cm ³)	Avg Cond Aerosol Conc (particles/cm ³)	Cumulative Cond Duration (minutes)	Cumulative Cond CT (particles-min/cm ³)	
5.3	5.57E+05	340	1.89E+08	
Large Particle Concentration (Particles ft ³)	Ratio Small to Large (>20,000)	Conditioning ΔP (inWG)	Same duct?	
84,292	187,048	Initial ΔP		
		Final ΔP		
		0.41	0.41	Yes