



2820 S. English Station Road - Louisville, KY 40299

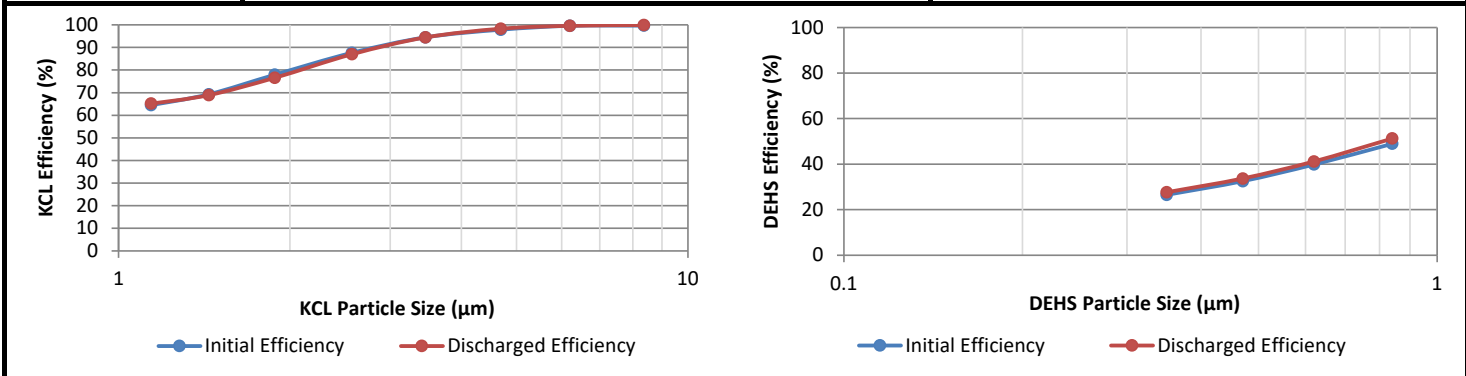
TEST NO. 18-408-2

ISO 16890-2 /-4:2016 Air Filter Test Result Summary

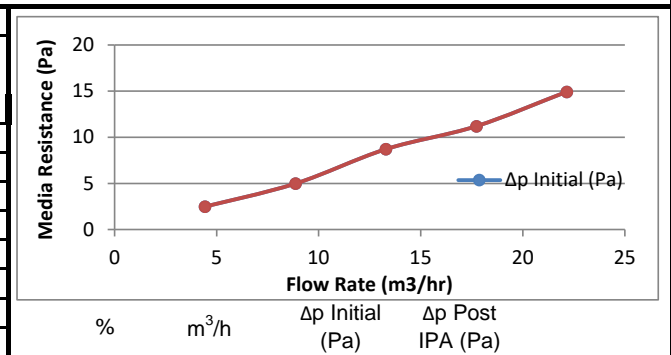
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Counter Information	Manufacturer <u>TSI, Inc.</u>	Test Conditions	Test Flow Rate <u>10.5 CFM / 17.84 m3/h</u>
	Model No. <u>3330</u>		Test Aerosol <u>Aerosolized KCl & DEHS</u>
Serial No. <u>3330123101</u>	Temperature <u>76.2 Deg F / 24.6 Deg C</u>		
IPA Discharge Method <input checked="" type="checkbox"/> Vapor Treated <input type="checkbox"/> IPA Dip Method	Relative Humidity <u>48.3 %</u>		
			Barometer <u>29.32 in Hg / 99.29 kPa</u>

Device Tested	Manufacturer <u>Abalioglu Teknoloji</u>	Single sample was tested untreated, than conditioned using IPA Vapor for 24 hours and retested.
	Model <u>Flat Sheet Media</u>	
	Dimensions <u>1.0 ft² / 0.0929 m²</u>	
	Type of Media <u>Synthetic</u>	
	Media Area <u>1.0 ft² / 0.0929 m²</u>	
	Construction <u>NA</u>	
	Filter/Media Electrostatic Charge <u>No</u>	
	Media Color <u>White</u>	
	Media Adhesive <u>NA</u>	
Sample Procurement <u>Abalioglu Teknoloji</u>		



KCL					
Range (µm)	Geo. Mean	Initial Efficiency (%)	Discharged Efficiency (%)	Upstream Number of Particles per Test	
				Pre	Post
1.0-1.3	1.14	64	65	16803	16490
1.3-1.6	1.44	69	69	16440	15148
1.6-2.0	1.88	78	77	39311	34354
2.0-3.0	2.57	88	87	22759	24040
3.0-4.0	3.46	94	94	9860	14345
4.0-5.5	4.69	98	98	4844	8737
5.5-7.0	6.20	100	100	1017	2568
7.0-10.0	8.37	100	100	511	1727



DEHS					
Range (µm)	Geo. Mean	Initial Efficiency (%)	Discharged Efficiency (%)	Upstream Number of Particles per Test	
				Pre	Post
0.3-0.4	0.35	27	28	94960	125864
0.4-0.55	0.47	33	34	79773	105718
0.55-0.7	0.62	40	41	43052	56742
0.7-1.0	0.84	49	51	46364	60831

Reporting Data			
	ePM ₁	ePM _{2,5}	ePM ₁₀
Minimum	37%	49%	80%
Average	36%	49%	80%
Reported	35%	45%	80%

Requestor Information	Test Requestor <u>Aysegul Zumbuller Fener</u>	Phone: _____
	Company Name <u>Abalioglu Teknoloji</u>	Email: aysegul.fener@abaliogluteknoloji.com.tr
Test Operator Information	Company Address <u>Sumer Mah, Cal Cad. N 78 20175 Denizli Turke</u>	Requested Date: <u>8/5/2018</u>
	Test Performed By: <u>Glen Toloczko</u> Approved by: _____	Completion Date: <u>8/20/2018</u>

ISO 16890-1												
Data Entry Table							Reporting Data					
DEHS								ePM ₁	ePM _{2.5}	ePM ₁₀		
d _i	d _{i+1}	d _m	Δln d _i	E _i	E _{D,i}	E _{A,i}	Minimum	37%	49%	--		
0.30	0.40	0.35	0.29	26.5%	27.7%	27.1%	Average	36%	49%	80%		
0.40	0.55	0.47	0.32	32.5%	33.7%	33.1%	Reported	35%	45%	80%		
0.55	0.70	0.62	0.24	39.8%	41.2%	40.5%						
0.70	1.00	0.84	0.36	48.9%	51.3%	50.1%						
KCL												
1.00	1.30	1.14	0.26	64.5%	65.1%	64.8%						
1.30	1.60	1.44	0.21	69.3%	68.9%	69.1%						
1.60	2.20	1.88	0.32	77.9%	76.6%	77.2%						
2.20	3.00	2.57	0.31	87.6%	87.0%	87.3%						
3.00	4.00	3.46	0.29	94.5%	94.4%	94.5%						
4.00	5.50	4.69	0.32	97.9%	98.3%	98.1%						
5.50	7.00	6.20	0.24	99.6%	99.6%	99.6%						
7.00	10.00	8.37	0.36	99.6%	99.9%	99.8%						
ePM ₁ Calculations												
d _i	d _{i+1}	d _m	Δln d _i	E _{A,i}	q _{3σ}	q _{3σ} *Δln d _i	E _{D,i} *q _{3σ} *Δln d _i	E _{A,i} *q _{3σ} *Δln d _i	E _{min} (PM ₁)	E(PM ₁)		
0.30	0.40	0.35	0.29	27.1%	22.627%	0.065095	0.018010	0.017641	37%	36%		
0.40	0.55	0.47	0.32	33.1%	19.891%	0.063343	0.021352	0.020979				
0.55	0.70	0.62	0.24	40.5%	15.837%	0.038193	0.015734	0.015477				
0.70	1.00	0.84	0.36	50.1%	11.522%	0.041097	0.021064	0.020588				
Sums:					0.207728	0.076160	0.074685					
ePM _{2.5} Calculations												
d _i	d _{i+1}	d _m	Δln d _i	E _{A,i}	q _{3σ}	q _{3σ} *Δln d _i	E _{D,i} *q _{3σ} *Δln d _i	E _{A,i} *q _{3σ} *Δln d _i	E _{min} (PM _{2.5})	E(PM _{2.5})		
0.30	0.40	0.35	0.29	27.1%	22.627%	0.065095	0.018010	0.017641	49%	49%		
0.40	0.55	0.47	0.32	33.1%	19.891%	0.063343	0.021352	0.020979				
0.55	0.70	0.62	0.24	40.5%	15.837%	0.038193	0.015734	0.015477				
0.70	1.00	0.84	0.36	50.1%	11.522%	0.041097	0.021064	0.020588				
1.00	1.30	1.14	0.26	64.8%	8.503%	0.022309	0.014533	0.014460				
1.30	1.60	1.44	0.21	69.1%	7.618%	0.015817	0.010899	0.010928				
1.60	2.20	1.88	0.32	77.2%	8.022%	0.025546	0.019556	0.019729				
2.20	3.00	2.57	0.31	87.3%	9.984%	0.030966	0.026940	0.027038				
Sums:					0.302366	0.148088	0.146841					
ePM ₁₀ Calculations												
d _i	d _{i+1}	d _m	Δln d _i	E _{A,i}	q _{3σ}	q _{3σ} *Δln d _i	E _{D,i} *q _{3σ} *Δln d _i	E _{A,i} *q _{3σ} *Δln d _i	E _{min} (PM ₁₀)	E(PM ₁₀)		
0.30	0.40	0.35	0.29	27.1%	9.412%	0.027077	0.007491	0.007338	80%	80%		
0.40	0.55	0.47	0.32	33.1%	8.395%	0.026733	0.009011	0.008854				
0.55	0.70	0.62	0.24	40.5%	7.432%	0.017924	0.007384	0.007263				
0.70	1.00	0.84	0.36	50.1%	7.014%	0.025016	0.012822	0.012532				
1.00	1.30	1.14	0.26	64.8%	7.628%	0.020013	0.013037	0.012972				
1.30	1.60	1.44	0.21	69.1%	8.833%	0.018340	0.012637	0.012671				
1.60	2.20	1.88	0.32	77.2%	10.804%	0.034406	0.026339	0.026573				
2.20	3.00	2.57	0.31	87.3%	13.726%	0.042573	0.037038	0.037172				
3.00	4.00	3.46	0.29	94.5%	16.708%	0.048067	0.045391	0.045402				
4.00	5.50	4.69	0.32	98.1%	19.542%	0.062233	0.061166	0.061031				
5.50	7.00	6.20	0.24	99.6%	21.671%	0.052261	0.052039	0.052038				
7.00	10.00	8.37	0.36	99.8%	23.143%	0.082545	0.082461	0.082358				
Sums:					0.457189	0.366817	0.366205					

