

고성능 섬유 소재 기반 부직포 필터의 성능 평가 (451건)

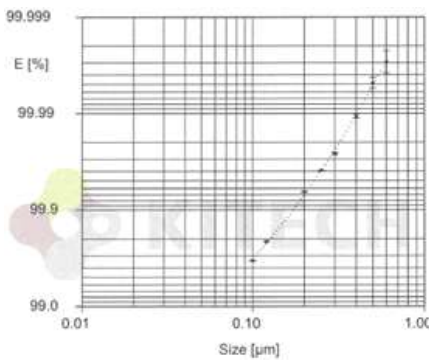
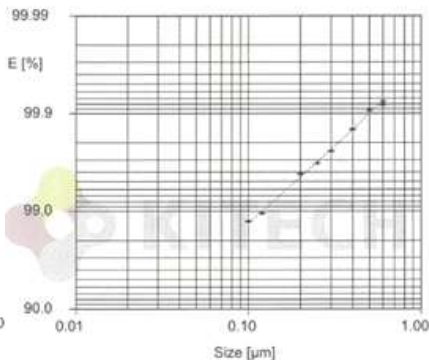
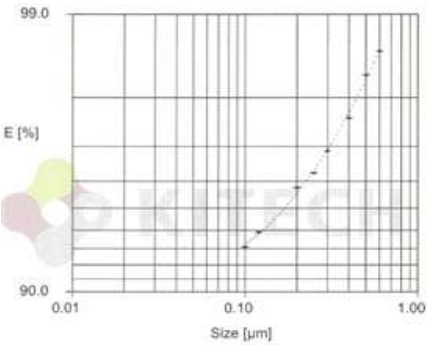
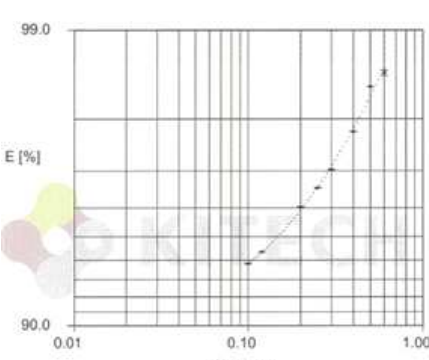
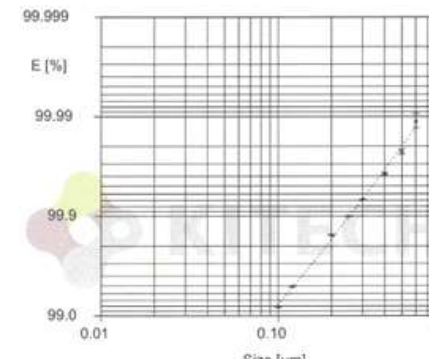
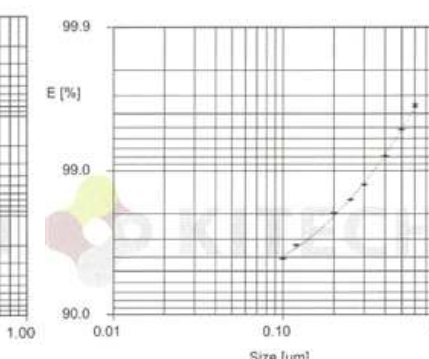
- 필터의 입자 포집 효율 및 압력 강하 특성을 평가하기 위해 BS EN ISO 29463-3:2018 시험법을 기반으로 분석함.
- TSI 자동 필터 테스터를 이용하여 NaCl 에어로졸을 32.0 L/min(면속도 5.334 cm/s) 조건으로 주입하고, 필터 전후단의 입자 농도를 비교하여 0.1~0.6 μm 입자 크기별 분율 효율을 측정함.
- 이를 통해 MPPS, 차압 및 0.3 μm 입자 포집 효율을 평가함.

[입자 크기별 여과 성능 시험 결과]

구분		입자 크기 (μ m)	효율 (%)	차압 (mmH2O)	침투율 (%)	P-95% 침투율 (%)	MPPS (μ m)
시료 #1 (헤파 필터)	시료 #1-1	0.10	99.663	3.584	0.337	0.337	0.1
		0.12	99.787	3.594	0.213	0.213	
		0.20	99.935	3.578	0.065	0.065	
		0.25	99.961	3.582	0.039	0.039	
		0.30	99.974	3.566	0.026	0.027	
		0.40	99.989	3.523	0.011	0.011	
		0.50	99.995	3.509	0.005	0.005	
		0.60	99.997	3.498	0.003	0.004	
	시료 #1-2	0.10	98.724	1.812	1.276	1.276	0.1
		0.12	98.940	1.761	1.060	1.060	
		0.20	99.580	1.749	0.420	0.420	
		0.25	99.675	1.756	0.325	0.325	
		0.30	99.757	1.775	0.243	0.243	
		0.40	99.854	1.761	0.146	0.149	
		0.50	99.908	1.743	0.092	0.095	
		0.60	99.922	1.774	0.078	0.083	
	시료 #1-3	0.1	93.104	1.292	6.896	6.896	0.1
		0.12	93.888	1.301	6.112	6.112	
		0.20	95.776	1.279	4.224	4.224	
		0.25	96.264	1.291	3.736	3.736	
		0.30	96.890	1.317	3.110	3.110	
		0.40	97.630	1.267	2.370	2.370	
		0.50	98.340	1.303	1.660	1.660	
		0.60	98.641	1.275	1.359	1.359	
	시료 #1-4	0.1	93.822	1.803	6.178	6.178	0.1
		0.12	94.361	1.794	5.639	5.639	
		0.20	96.026	1.756	3.974	3.974	
		0.25	96.577	1.771	3.423	3.423	
		0.30	97.029	1.756	2.971	2.971	
		0.40	97.790	1.768	2.210	2.210	
		0.50	98.442	1.787	1.558	1.558	
		0.60	98.602	1.707	1.398	1.428	
	시료 #1-5	0.1	99.186	3.675	0.814	0.814	0.1
		0.12	99.491	3.625	0.509	0.509	
		0.20	99.846	3.641	0.154	0.154	
		0.25	99.899	3.653	0.101	0.101	
		0.30	99.931	3.618	0.069	0.069	
		0.40	99.962	3.594	0.038	0.039	
		0.50	99.977	3.616	0.023	0.024	
		0.60	99.989	3.602	0.011	0.013	

	시료 #1-6	0.1	95.900	0.841	4.100	4.100	0.1
		0.12	96.717	0.835	3.283	3.283	
		0.20	98.034	0.873	1.966	1.966	
		0.25	98.406	0.845	1.594	1.594	
		0.30	98.749	0.833	1.251	1.251	
		0.40	99.209	0.819	0.791	0.791	
		0.50	99.483	0.826	0.517	0.517	
		0.60	99.649	0.838	0.351	0.361	

[입자 크기별 효율 결과]

구분	측정 결과	
시료 #1	#1 헤파 필터	
		
	시료 #1-1	시료 #1-2
		
	시료 #1-3	시료 #1-4
		
시료 #1-5	시료 #1-6	