

Report No : MFE20200519-111
 Brand/Applicant : GRAPHENE COATED POLYESTER FABRIC 2AM TM / บริษัท ไอเดียดี จำกัด (สำนักงานใหญ่)
 Address: ซอยหมู่บ้านเสรีวิลล่า แยก3 แขวงหนองบอน เขตประเวศ กรุงเทพมหานคร 10250
 เลขประจำตัวผู้เสียภาษี 0105562102578
 Sample ID / Product : GRAPHENE MASK
 Testing Date : 18 May 2020
 Testing Facility : RUEE, Research Unit of Applied Electric Field in Engineering
 Test Procedure : Mono-disperse Polystyrene Latex, (PSL) Penetration

Summary: This procedure was performed to evaluate the non-viable particle filtration efficiency (PFE) of the test article. Polystyrene Latex (PSL) were nebulized Mono-dispersedly and passed through the test article. The particles that passed through the test article were enumerated by Scanning Mobility Particle Sizer (SMPS) and Condensation Particle Counter (CPC).

Two-minute particle concentration count were performed, with and without the test article in the system. The filtration efficiency was calculated using the average number of particles penetrating the test article compared to the average of the control values.

Filtration Efficiency Test

Test condition

Area Tested: 22.09 cm²
 Particle Size: 0.1 um
 Environment: 24°C, 42% (RH)
 References: Classifier, Brand TSI, model 3082, SN: 3082001807003
 CPC, Brand TSI, model 3788, SN:3788180801

Tested Result: Average Filtration Efficiency **71.93 %**

Test #	Concentration (#/cm ³)		Efficiency	
	Control	Penetrate		
1	73746.00	20945.00	71.60	%
2	73756.00	20695.00	71.94	%
3	73713.00	20803.00	71.78	%
4	73695.00	20705.00	71.91	%
5	73722.00	20945.00	71.59	%
Average	73726.40	20695.00	71.93	%

Pressure drop Test

Test condition

Area Tested: 22.09 cm²
 Flow rate 10 LPM
 Flow velocity 15.5 cm/s
 Environment: 24°C, 42% (RH)
 References: Classifier, Brand TSI, model 3082, SN: 3082001807003
 CPC, Brand TSI, model 3788, SN:3788180801

Tested Result: Average Pressure drop = **0.31 kPa**
31.61 mm H2O

Test #	Pressure (kPa)		Pressure drop	
	Control	Penetrate		
1	95.90	95.60	0.31	kPa
2	95.90	95.60	0.31	kPa
3	95.90	95.60	0.31	kPa
4	95.90	95.60	0.31	kPa
5	95.90	95.60	0.31	kPa
Average	95.90	95.60	0.31	kPa



Study Director Assoc. Prof. Dr. Panich Intra

19 May 2020

Study Completion Date