TESTING SERVICES – MEMBRANE

1. Capillary Flow Porometer: Gas-Liquid test method			USD
No.	Testing Results	≤ 5 Pcs	> 5 Pcs
GL-01	Bubble Point	$70	$63
GL-02	BP, Mean Flow Pore size & Pore distribution	$180	$162
-GP	Gas permeability	$100	$90
-H	Hollow Fiber test (or other non-flat sheet samples)	+ $30	+ $30

2. Capillary Flow Porometer: Liquid-Liquid test method			USD
No.	Testing Results	≤ 5 Pcs	> 5 Pcs
LL-01	Bubble Point	$100	$90
LL-02	Bubble Point, Mean Flow Pore size and Pore distribution	$250	$225
-LP	Liquid Permeability	$150	$135
-H	Hollow Fiber test (or other non-flat sheet samples)	+ $50	+ $50

3. Porosimeter: Water Intrusion (Hydrophobic Material)			USD
No.	Testing Results	≤ 5 Pcs	> 5 Pcs
WI-01	Pore Volume, Pore Size Distribution	$250	$225
WI-02	Porosity%	+ $50	+ $50

TESTING SERVICES – FACE MASK

EUROPE: EN 14683:2019 Medical face masks. Requirements & test method			USD
Test Items	Test Standards	Sample required Q'ty	Price (Standard)
Bacterial Filtration Efficiency	EN 14683 Annex B	10	$1,335
Differential pressure	EN 14683 Annex C	10	$360
Splash resistance pressure	ISO 22609	18	$435
Microbial cleanliness (Bioburden)	EN 14683 / EN ISO 11737-1	10	$1,530

Performance requirements for medical face masks
EN 14683: 2019 Barrier Levels

	Type I*	Type II	Type IIR
Bacterial Filtration Efficiency (BFE) (%)	≥ 95	≥ 98	≥ 98
Differential pressure (Pa/cm²)	< 40	< 40	< 60
Splash resistance pressure (kPa)	Not required		> 16.0
Microbial cleanliness (cfu/g)	≤ 30	≤ 30	≤ 30

*Type I medical face masks should only be used for patients and other persons to reduce the risk of spread of infections particularly in epidemic or pandemic situations. Type I masks are not intended for use by healthcare professionals in an operating room or in other medical settings with similar requirements.

NIOSH Non-Powered Air-Purifying Particulate Respirators			USD
Test Items	Test Standards	Sample required Q'ty	Price (Standard)
Initial efficiency and resistance	42 CFR Part 84.182	15	$435

TESTING SERVICES – FACE MASK

U.S.A.: ASTM F2100 - 19 Standard Specification for Performance of Materials Used in Medical Face Masks			USD
Test Items	Test Standards	Sample required Q'ty	Price (Standard)
Bacterial Filtration Efficiency	ASTM F2100 9.1 / ASTM F2101	10	$1,335
Virus Filtration Efficiency	ASTM F2101 modified	7	$1,800
Differential pressure	ASTM F2100 9.2 / EN 14683 Annex C	10	$360
Particulate Filtration Efficiency	ASTM F200 9.3 / ASTM F2299	10	$1,080
Resistance to Penetration by Synthetic Blood (32pcs)	ASTM F2100 9.4 / ASTM F1862	40	$1,050
Flammability	ASTM F2100 9.5 / 16 CFR PART 1610	15	$135

Performance requirements for medical face masks ASTM F2100-19			
	Level 1	Level 2	Level 3
Bacterial Filtration Efficiency (BFE) (%)	≥ 95	≥ 98	≥ 98
Differential pressure (mm H_2O/cm^2)	< 5.0	< 6.0	< 6.0
Sub-micron Particulate Filtration Efficiency at 0.1 micron (PFE) (%)	≥ 95	≥ 98	≥ 98
Resistance to Penetration by Synthetic Blood (minimum pressure in mmHg for pass result)	Pass at 80 mmHg	Pass at 120 mmHg	Pass at 160 mmHg
Flammability	Class 1 (≥ 3.5 seconds)		