

aspire® Membrane Laminates for Life Sciences and Medical Applications

Medical and life science companies must keep liquid and particulate contaminants out of sensitive devices without allowing pressure and temperature to build up in dynamic challenging conditions. To help enhance your customers' devices for better performance and longevity, we developed **aspire** microfiltration media. These microfiltration and venting membrane laminates can easily integrate into a range of product designs, offering different economic and performance benefits.

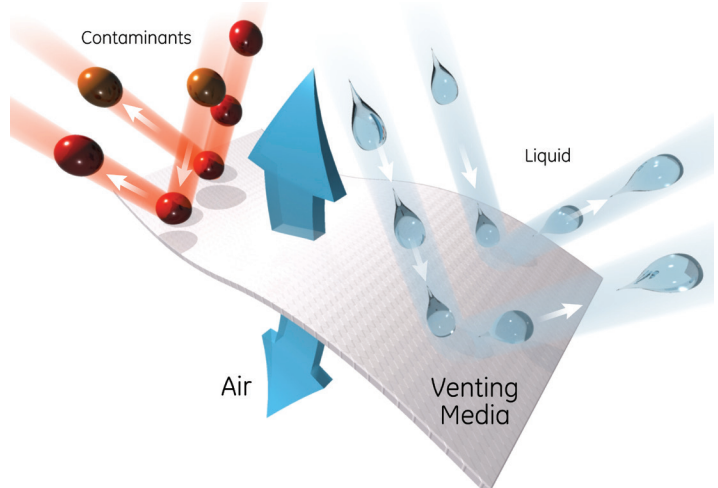
When incorporated properly into a die-cut part, **aspire** membrane laminates provide protection against fluid and dust penetration into sensitive medical and life science

devices while providing the right amount of air permeability to keep the pressure and temperature balanced inside the device. The **aspire** vents are made from treated expanded polytetrafluoroethylene (ePTFE), an air permeable, hydrophobic (water repellent) micro-porous membrane. Its three-dimensional web-like structure contains billions of microscopic pores, allowing air to easily pass through while preventing liquids and particulates as small as 0.1 micron from passing and collecting on the membrane's outer surface. The inherent fluid resistance and non-stick nature of **aspire** membrane laminates aid in the removal of dust and fluid captured on the surface.

Advantages of aspire

Our expertise in treating ePTFE provides enhancements over the traditional material currently in use by other manufacturers.

- Provides a consistent long-term barrier to airborne and liquid contaminants
- Increases performance in challenging environments
- Integrates easily into most manufacturing processes
- Helps you to design a cost-effective venting solution
- Individual fibers within the microstructure are coated to increase resistance to wetting and particle penetration
- Provides a high level of air permeability
- Membrane surface chemistry can be customized to meet customer needs, including hydrophobic (water repellent), oleophobic (oil repellent), and hydrophilic compatibility



Medical and life science devices are often sterilized with gamma radiation, EtO sterilization, and autoclave sterilization. The industry uses integrity testing to determine the ability of the membrane to retain its air permeability and pore size after sterilization and/or radiation exposure. As illustrated in the data charts on page 2, our product portfolio meets the industry required specification for air permeability and water entry pressure after EtO and autoclave sterilization, as well as after exposure to 2MRAD of gamma radiation. In addition, we have products that retain property values after 4MRAD of gamma radiation.

Potential Medical Device Applications

- IV filter and venting components
- Medical pump and sensor vents
- Drainage bag vents
- Surgical suction filters
- Surgical smoke filtration
- Laboratory and syringe filters
- Renal dialysis transducer protectors

FACT SHEET

aspire® Membrane Laminates for Life Sciences and Medical Applications

Performance Data

Part #	After Gamma Sterilization, 4.0 MRAD					After Gamma Radiation, 4.0 MRAD				
	Doses range (K Gy)	Exposure time, min	Air permeability, cfm@0.5"wc	WEP, psi (Mullen)	IPA bubble point, psi	Doses range (K Gy)	Exposure time, min	Air permeability, cfm@0.5"wc	WEP, psi (Mullen)	IPA bubble point, psi
QP917	36.0-44.0	245	0.123	32	26	22.5-27.5	157	0	41	25.45
QP908EXPA	36.0-44.0	245	4.59	0	0	22.5-27.5	157	4.03	0	0
QP917EXPA	36.0-44.0	245	0	49	34.74	22.5-27.5	157	0	46	32.25
QP931EXPA	36.0-44.0	245	0.253	40	17.91	22.5-27.5	157	0.246	43	17.76
QP907EXPA	36.0-44.0	245	2.75	0	0	22.5-27.5	157	2.47	0	0
QP931	36.0-44.0	245	0.319	14	13.29	22.5-27.5	157	0.308	25	18.19
QP909	36.0-44.0	245	0.806	20	6.96	22.5-27.5	157	0.621	24	3.25
QL822	36.0-44.0	245	0.388	13	16.25	22.5-27.5	157	0.404	25	14.52

Part #	After EtO Sterilization, 100%		
	Air permeability, cfm@0.5"wc	WEP, psi (Mullen)	IPA bubble point, psi
QP917	114	56.22	8.5
QP908EXPA	3.19	61.29	
QP917EXPA	0.01	58.82	
QP931EXPA	0.295	12.04	
QP907EXPA	3.03	41.78	
QP931	0.275	40.78	
QP909	0.734	45.7	
QL822	0.328		

Part #	After Sterilization, 121°C, 30 mins		
	Air permeability, cfm@0.5"wc	WEP, psi (Mullen)	IPA bubble point, psi
QP917	0.0791	51	
QP908EXPA	2.97	8.45	
QP917EXPA	0.0092	65	
QP931EXPA	0.289	47.14	
QP907EXPA	3.05	12.51	
QP931	0.283	47.99	
QP909	0.283	40.47	
QL822	0.775	45.7	
	0.335		

		Performance		Compatibility			
		Air permeability, cfm @ 0.5" wc	WEP, psi (Mullen)	IPA bubble point, psi	ETO	gamma (4 megrad)	autoclave (121°C)
0.2 um	QP931	0.2	>50	>20	X	X*	X
0.45 um	QP909	0.8	>20	>10	X	X*	X
1.0 um	QP908	0.2	>5	>2	X	X*	X
3.0 um	QP230	>5	>2	>1	X	X*	X

Part #	Initial		
	Air permeability cfm@0.5"wc	WEP, psi (Mullen)	IPA bubble point, psi
QP917	0.08	49.66	26
QP908EXPA	4.11	8.45	4.6
QP917EXPA	0.009	64.47	35.4
QP931EXPA	0.283	47.14	23.45
QP907EXPA	2.74	2.51	2.88
QP931	0.257	46.86	21
QP909	0.804	36.51	10
QL822	0.277	45	19.9

We are a committed filter media rolled goods supplier. Our full product offering has the breadth to offer all types of membrane media to simplify your supply chain and the technical depth of specialty coated membranes for optimal performance. Only CLARCOR Industrial Air can provide you with a reputation for quality and innovation, pipeline of products, and a partnership focused on helping you stay on top of the market.

For more information, contact your **aspire** representative at **CLARCOR Industrial Air**:

11501 Outlook Street, Suite 100 | Overland Park, KS 66211

T: +1.800.821.2222 | T: +1.816.356.8400 | F: +1.816.353.1873

Email: filtration@clarcor.com