



FACT SHEET

Membrane Laminates for Automotive Applications

Enhanced Protection and Performance

Automotive suppliers must keep liquid and particulate contaminants out of sensitive devices—while relieving the pressure build-up associated with changing temperatures and environmental conditions. Many suppliers use membrane vents as a technical solution for their devices to keep their electronics operating properly.

Vents made from this membrane laminates provide airflow that exceeds automotive manufacturing requirements — while our patented oleophobic chemistry can provide the level of environmental protection necessary to help ensure long term performance of equipment components.

Take a Closer Look

These air-permeable microporous membranes are made from treated, expanded polytetrafluoroethylene (ePTFE) and contain a three dimensional web-like structure. The membrane pores are designed to prevent liquids and particulates as small as 0.1 micron from passing through, while allowing air to easily pass through. The liquids and particles are then collected on the membrane's outer surface. With their inherent fluid-resistance and non-stick nature, our laminates aid in the removal of any dust and fluid captured on the membrane's surface.

Quality Products and Process

At Seal Design, Inc., we take our reputation for quality and innovation to heart. In addition to advanced membrane technologies, we are committed to outstanding customer service, including rapid response times, on-time delivery, and technical expertise and support. Our inventory approach to order fulfillment ensures that we can meet your dynamic product and service demands on schedule without sacrificing quality.

The Membrane Applications

The membrane laminates (when die-cut properly into an automotive vent) help sensitive components to avoid condensation and equalize pressure in a variety of applications, including:

- Automotive lighting and lamp housings
- Electrical motors
- Electronic control units and connectors
- Battery venting solutions
- Fluid reservoirs

Advantages of aspire

- Protecting and equalizing pressure
- Reducing stress on seals for longer product life
- Improving reliability and extending product life
- Perform well in challenging engine compartment applications
- Resisting chemical and thermal attacks
- Maintaining gas permeability even after exposure to contaminants
- Increasing resistance to wetting and particle penetration (due to coating of individual fibers within the microstructure)
- Retaining a high level of air permeability
- Tailoring membrane chemistry for desired application



FACT SHEET

aspire[®] Membrane Laminates for Automotive Applications

Performance Data

QBV657

Water Entry Pressure	≥ 14.5 psi (>1.0 bar), ASTM D751
Air Permeability	500 mL/min/cm ² @ 1 psi, ASTM D737
Moisture Vapor Transmission Rate	>13,500 g/m ² /day, JIS L1099 B-2

QP944

Water Entry Pressure	≥ 14.5 psi (>1.0 bar), @ 30 sec, ASTM D751
Air Permeability	0.09 to 0.5 ft ³ /ft ² /min @ 125 pa (calc. 9 – 50 l/h/cm ² @ 0.07 bar), ASTM D737
Moisture Vapor Transmission Rate	>5000 g/m ² /day, JIS L1099 B-2

Chemical Resistance

The venting media has been sprayed with a number of chemical agents and stored under two different conditions and then tested for strength:

Fluid type	Water Entry Pr (Mullen-ASTM D751), psi	
	T = 105°C, 48 hrs	T = Room temperature, 48 hrs
Engine oil	30	41
Transmission fluid	41	40
Diesel fuel	38	24
Brake fluid	12	22
Carwash fluid	38	38

Airflow

CLARCOR Industrial Air membrane	Initial	After heat treatment
Air perm@70 mbar/1.015 psi	48	46
Water entry pressure	Pass	Pass

Reliability Test (BOSCH 5.0)

Test type	Environmental condition		
	Temp storing, 105°C, 48 hrs	Temp storing, -40°C, 48 hrs	Temp storing, 85°C, 85% RH, 48 hrs
Appearance	Smooth, no visible damages like wrinkles, cracks or holes	Smooth, no visible damages like wrinkles, cracks or holes	Smooth, no visible damages like wrinkles, cracks or holes
Air perm @70 mbar/ 1.015 psi (L/h/cm ²)	39.67	30.38	42
Water retention (600 mbar, 30 sec)	Pass	Pass	Pass

Wettability Test on QBV657

(Initial, without heating)

Fluid type	Exposure time: 30 secs	Exposure time: 16 hrs
Engine oil	Pass	Pass
Transmission fluid	Pass	Pass
Diesel fuel	Fail	Fail
Brake fluid	Pass	Pass
Carwash fluid	Pass	Pass

After heating the samples @ 100°C, 80% RH, 14 days

Fluid type	Exposure time: 30 secs	Exposure time: 16 hrs
Engine oil	Pass	Pass
Transmission fluid	Pass	Pass
Diesel fuel	Fail	Fail
Brake fluid	Pass	Pass
Carwash fluid	Pass	Pass

**Seal & Design
Able Division**
5533 Steeles Avenue West Unit 11
Toronto, Ontario M9L 1S7
Ph: (416) 741-0750
Gasket@AbleSealAndDesign.com

**Seal & Design
Corporate Headquarters**
4015 Casilio Parkway
Clarence, NY 14031
Ph: (716) 759-2222
Info@SealAndDesign.com
www.SealAndDesign.com

**Seal & Design
Higbee Division**
6741 Thompson Rd N
Syracuse, NY 13221
Ph: (315) 432-8021
Sales@Higbee-Inc.com