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DeWAL® V-Series Products for Enclosure Venting Applications

Features:

- Keeps dirt, dust, and debris out of the enclosure
- Ideal combination of breathability and protection
- Naturally hydrophobic and chemically resistant
- Allows for pressure equalization and the passage of water vapor to avoid condensation buildup
- IP tested for submergence and dust protection

Benefits:

- Extends product and maintenance life
- Easily integrated via multiple assembly methods
- Lower system failure rates by allowing the escape of water vapor, heat, and pressure
- Maintenance-free

For designers of enclosures ranging from outdoor lighting to electric meters, DeWAL® ePTFE membrane and laminate vents allow air flow through enclosed components, equalizing pressure while remaining sealed from the environment.

Removing pressure cycles from changes in weather and /or altitude is critical in keeping seals from prematurely failing and housings from cracking. It also increases the life performance of the inside electronics and components.

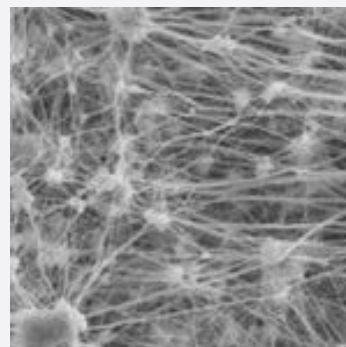


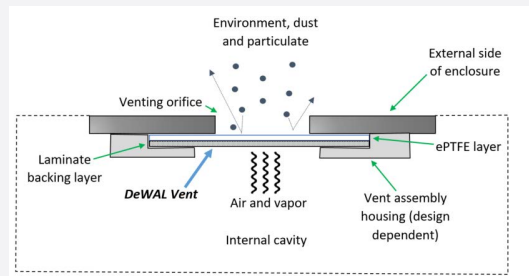
Figure 1: ePTFE Node and Fibril Structure

Assembly Guidance

The PTFE layer of the vent should be oriented towards the environment or the elements intended to be kept out of the enclosure. The following are general guidelines to assembling DeWAL venting products. Final design is dependent upon each individual application and should be tested at the design level to ensure proper fit and function.

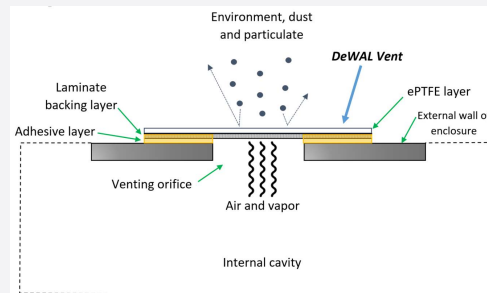
Internal Mounting of Laminate Venting Products

- When using venting laminates, internal assembly can be accomplished using adhesive or a mechanical mounting system
- The backing layer of DeWAL venting products is also heat-press or sonic-weldable and can be mounted to appropriate materials



External Mounting of Laminate Venting Products

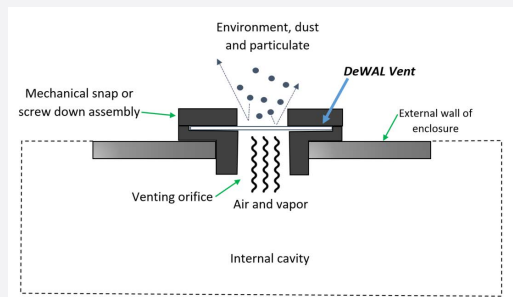
- External mounting of a laminate vent can be achieved using select adhesives for mounting polyester non-wovens and UHW-PE
- These products can also be welded or heat pressed to the exterior of the enclosure if the enclosure is constructed of an appropriate material (e. g. polymers)



Note: When assembling a vent to the exterior of an enclosure, the adhesive or weld will act as a sealant. Ensure the adhesive layer or weld is sufficiently robust to prevent ingress of water or particulate through the edges. Try to select an adhesive system that will penetrate backers to make contact with the ePTFE layer or select an ePTFE membrane only product.

Mechanical Mounting of Membrane Venting Products

- Mechanical mount of a membrane ePTFE vent can be accomplished using a screw or snap vent which is then inserted into a pre-designed hole on the enclosure case
- The membrane ePTFE is generally held in place within the snap vent via mechanical attachment
- Laminates may also be used in snap or screw vents and assembled using an above method



DeWAL® V-Series Products for Enclosure Venting

Available Products

PRODUCT	LAMINATE MATERIAL	TOTAL THICKNESS [ASTM-D374]	MAX AVAILABLE WIDTH	DENSITY [ASTM-D792]	MAX OPERATING TEMP	AIRFLOW, AVERAGE [@70 MBAR]	WATER ENTRY PRESSURE MIN [ASTM D751]	EPTFE TENSILE STRENGTH [ASTM D6040]	EPTFE ELONGATION [ASTM D6040]	WATER AND DUST INGRESS PROTECTION [IEC 60529]
		<i>mm (in)</i>	<i>cm (in)</i>	<i>g/cc</i>	<i>°C (°F)</i>	<i>L/Hr/cm²</i>	<i>kPa (psi)</i>	<i>kPa (psi)</i>	<i>%</i>	
DW353V-03	Non-ePTFE only	0.076 (0.003)	15 (6)	0.7	260 (500)	20	82 (12)	13790 (2000)	15	IP67
DW932V-12	ePTFE/Non-Woven	0.31 (0.012)	48 (19)	N/A*	160 (320)	100	138 (20)	6025 (900)	30	IP67
DW936V-06	ePTFE/Porous UHMW-PE	0.15 (0.006)	48 (19)	N/A*	120 (248)	80	82 (12)	6025 (900)	30	IP67
DW936V-07	ePTFE/Porous UHMW-PE	0.18 (0.007)	48 (19)	N/A*	120 (248)	20	138 (20)	3103 (450)**	24**	IP67

*DW932V-12 and DW936V-06 are constructed with an ePTFE layer of 0.2 g/cc density. DW936V-07 is constructed with a ePTFE layer of 0.4 g/cc relative density.

**Represents calculated values based upon similar product family characteristics.



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