

Polyurethane Flame-Retardant Media(WS-PRT)

Product Features

Whalesens WS-PRT polyether flame-retardant foam is a high-performance polyether polyurethane reticulated foam. Advanced thermal de-filming process completely removes cell walls, forming a 3D skeletal structure with open-cell ratio >97%. The base material has very high chemical stability, not easy to hydrolyze and become brittle.

Available as sheets or precision die-cut per customer drawings, widely used in:

Charging piles & power equipment: intake/exhaust dust and insect protection, bottom waterproof breathable gaskets.

Commercial vehicles & engineering machinery: heavy air filtration, oil mist separation, cab ventilation.

Ships & yachts: engine room filtration, speaker protection, cabin splash-proof ventilation.

Industrial equipment & home appliances: motor protection, speaker grilles, scrubbers, vacuum cleaner filtration.

HVAC: medium filtration, pre-filtration layer.



Key Properties

Excellent hydrolysis resistance: even in high humidity environments (charging piles, ships, outdoor equipment), resists hydrolysis aging, prevents brittleness and powdering, greatly extends service life.

Wide temperature stability: maintains physical properties and elasticity from -45°F to 225°F (-43°C to 107°C), suitable for outdoor sun exposure, cold regions, and equipment heat.

High efficiency, low resistance, depth loading: fully open 3D structure, excellent air permeability. Can composite different pore sizes for two- or three-stage gradient filtration, balancing capacity and low resistance.

Safe and reliable: flame retardant grade options, low combustion characteristics, suitable for power equipment and ventilation systems requiring fire safety.

Customizable structure: support pore size combinations, special shapes, composite processing, adapt to various installation spaces and functional needs.

Parameter	Typical value	Remarks
Base material	Polyether polyurethane	Ensures hydrolysis stability
Standard color	Charcoal gray	Other colors customizable
Density	1.4 lb/ft ³ (22.4 kg/m ³)	±10% tolerance
Pore size range	10- 60 ppi	±5 ppi accuracy; single or multi-stage composite
Tensile strength	20 psi (0.14 MPa)	±2 psi
Tear strength	≥ 4.5 lbs/in (0.79 kN/m)	Tear-resistant, easy installation
Elongation at break	180%	Flexible, impact-resistant, adapts to vibration
Operating temperature	-45°F to 225°F (-43°C to 107°C)	All-weather use
Hydrolysis stability	Excellent	Core advantage
Standards	UL 94-1、UL900、B1、B2	Meets air filter combustion test standards

Model	PPI	Size	Application
WS-PRF-T20	20PPI	1.2×2, 1×2 m, thickness customizable	General outdoor electrical cabinets
WS-PRF-T30	30PPI	1.2×2, 1×2 m, thickness customizable	General outdoor electrical cabinets
WS-PRF-T50	50PPI	1.2×2, 1×2 m, thickness customizable	Charging pile cooling air inlet (Disney same)
WS-PRF-T60	60PPI	1.2×2, 1×2 m, thickness customizable	High dust industrial environment electrical cabinets

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