

Open Cell Polyurethane Ester Foam S82N

Description

Polyurethane ester foam is an open cell foam with excellent memory and very soft compression characteristics. It has a fairly high tensile strength for a polyurethane, but not compared to polyethylenes. It can be torn by hand and punctured with a blunt object with moderate pressure, and is also permeable to air and water.

Ester has a uniform texture and density throughout, with no skin on either face. It is slightly more rigid and supportive than ether and therefore a slightly better shock absorbing material and vibration dampening material that's often made into charcoal packaging foam. It is also more susceptible to hydrolysis than ether and doesn't withstand the breakdown of molecules as well when in contact with water.

Common applications include:

- Protective packaging
- Insulated containers
- Appliances, filters, gaskets, vibration pads
- Automotive, aerospace, marine
- Lab and pharmaceutical packs
- Construction materials
- Sound absorption
- Cleaning products (sponges and mops)

Typical Properties

Physical Property	Test Method	Specifications	Test Results
Composition		Polyester Polyurethane	
Density	ASTM D3574	2.0 ± 10%	
Compression Force Deflection (psi)	ASTM D3574	0.55 min 0.60 min	0.75 0.85
-25% Deflection			
-50% Deflection			
Tensile Strength	ASTM D3574	16 min	20
Elongation (%)	ASTM D3574	90 min	116
Tear Resistance (lb/in)	ASTM D3574	1.30 min	
Retention of tensile strength after 3hrs, 105°C, steam autoclave (%)	ASTM D3574	70 min	Pass
Retention of tensile strength after 22hrs, 140°C, dry heat aging (%)	ASTM D3574	70 min	Pass
Compression Set (%)	FMVSS-302 UL 94/HF-1	30 max	
Flammability Characteristics		Pass	
R Value		4 per inch	