

PMI Foam

PMI (polymethacrylimide) RS foam is specially developed for use as a structural core in connection with vacuum infusion processes. It is applied in components of aviation, aerospace, sports equipment with resin injection process to reduce the weight.

PMI core makes it possible to produce sandwich components in a single step (co-curing), resulting in reduced overall production time. It is highly suitable with autoclave technologies and vacuum infusion processes, including RTM (Resin Transfer Moulding) and VARTM (Vacuum Assisted Resin transfer moulding) processes.

Its cell size is small, achieves an optimal compromise between low resin absorption and satisfactory bonding of the facings to the core.

MECHANICAL PERFORMANCES

		PMI 24	PMI 30	PMI 50	PMI 75	PMI 110	PMI 200
Density kg/m ³	ISO845	24±3	30±3	50±5	75±7	110±10	200±15
Compressive strength (MPa)	ISO844	0.25	0.40	0.85	1.70	3.60	9.50
Tensile strength (MPa)	ASTM D638	0.6	0.80	1.68	2.30	3.70	7.00
Elastic Modulus (MPa)	ASTM D638	25	38	83	108	197	380
Elongation at break (MPa)	ASTM D638	2.8	2.4	2.6	2.8	2.8	3.0
Flexural strength (MPa)	ASTM D790	0.4	0.80	1.60	2.90	5.20	13.0
Shear strength (MPa)	ASTM C273	0.3	0.40	0.85	1.25	2.38	5.00
Shear modulus (MPa)	ASTM C273	12	15	30	48	80	160
Compressive creep (%)	GB/T 15048	≥2.0					/
Temperature resistance (°C)	DIN 53424	≥200					
Size		2500x1250 mm			2160x1100 mm		
Standard thickness range		1-60 mm	1-60 mm	1-120 mm	1-100 mm	1-90 mm	
Thickness tolerance		±0.2 mm					

Note: 1-4mm thick sheet is supplied in 1/4 or 1/2 sheet size.
 All heat-treated sheets supplied in sealed aluminum packaging

Processing and production

PMI is especially suitable for vacuum infusion and RTM processes due to its optimized cell structure, where it can be used at temperature up to 180°C with pressure up to 0.7 MPa after heat treatment.

Thermoforming and shaping

PMI can be easily thermoformed or CNC machined to meet customers' requirements, bringing tremendous manufacturing advantages. High precision, pre-shaped and ready-to-use foam cores in complex or simple geometries can also be supplied by the Machining Department.

Compressive creep testing conditions

PMI 24	130 °C/0.1MPa/2h
PMI 30	130 °C/0.1MPa/2h
PMI 50	130 °C/0.3MPa/2h
PMI 75	150 °C/0.3MPa/2h
PMI 110	180 °C/0.3MPa/2h

Comparison with PET and PVC foams

The densities considered for the following analysis are:

- PMI 110 kg/m³
- PET 110 kg/m³
- PVC 100 kg/m³



