

General Description

The PET Foam is a closed-cell, thermoplastic and recyclable rigid foam with excellent technical properties. It is suitable for the construction of high-strength lightweight components. The honeycomb structure provides more flexibility and is easy to handle. The core is applicable with all known resin systems and processes.

Properties

- Excellent fatigue resistance
- Excellent long-term thermal stability up to 100°C
- Very high processing temperature up to 150°C
- Closed-cell foam (no water absorption, no re-expansion, no outgassing)
- Easy processing with all known resin systems and processes
- Very high chemical resistance
- Homogenous connection of all components
- Excellent surface adhesion (connection between the surfaces and core)
- Highly consistent material properties
- Good thermal insulation
- DNV GL certificated
- Integrated flowing aid

Application

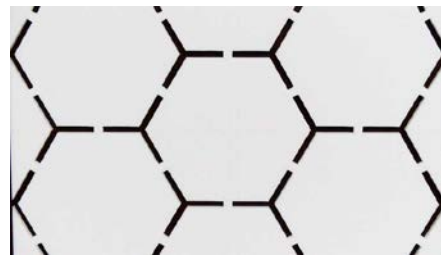
- **Rail and road vehicles:** roofs, floor panels, interior, front masks, side panels
- **Ship and boat building:** hull, deck, mast, superstructures, interior
- **Industrial components:** container, covers, safety doors, sleeves, sport equipment
- **Architecture and Construction:** roofs, walls, panels
- **Aviation:** interior, kitchen furniture, radoms
- **Motorsport:** spoiler, bonnet, side elements

Processing

- Hand lay-up
- Vacuum Infusion
- Vacuum Assisted RTM (VARTM, LRTM and HP-RTM)
- Wet pressing
- Autoclave
- Prepreg
- SMC
- Bonding

Structure Pattern

HX: Hexagon



Resin uptake

Surface: PET 400g/m²/side

Structure HX: 75g/m²/mm

The resin uptake depends on the process as well. Please only use these formula as an indication value.

Foam Type			PET 100kg/m ³	PET 150kg/m ³	PET 200kg/m ³	
Structure Pattern			HX	HX	HX	
Density		Kg/m ³	Basic ¹	110	145	195
			Hybrid ²	182	222	267
Shear Modulus	ASTM C 273	MPa	Basic ¹	20	30	33
			Hybrid ²	52	62	72
Shear Strength	ASTM C 273	MPa	Basic ¹	0.52	0.91	1.3
			Hybrid ²	1.08	1.47	1.76
Compression Modulus	ISO 844:2014	MPa	Basic ¹	40	60	65
			Hybrid ²	159	196	216
Compression Strength	ISO 844:2014	MPa	Basic ¹	1.00	1.20	1.7
			Hybrid ²	4.6	4.8	5.3
Thermal Conductivity	At 23 °C	W/mK	Basic ¹	0.029	0.035	tbd
Standard Sheets	Width	mm ± 5		405	405	405
	Length	mm ± 5		1015	1015	1015
	Thickness	mm ± 0.3		3 - 29	3 - 29	3 - 29

Remark:

1: The values above are the actual values of the suppliers of the precursor material. We can't give a guarantee for the quality of the values and the related measurements. The properties of processing of the individual foam system are primarily evaluated knowing that the quality of the foam core is essential for the quality of the composite. The size of the cavities and the properties have a major influence of the final part. Please regard that every part requires its own calculation of strength and component testing. Basic foam means foam without structure.

2: The values above are based on measurements on specimen of sandwich panels produced with an Epoxy system and Vacuum Injection technology. These values can differ depending on the manufacturing process. Please use the above values only as an indication for your analysis and please provide your own measurements. Specimen thickness of 20mm. Hybrid means foam core and structure filled with Epoxy resin.

Disclaimer of Liability

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