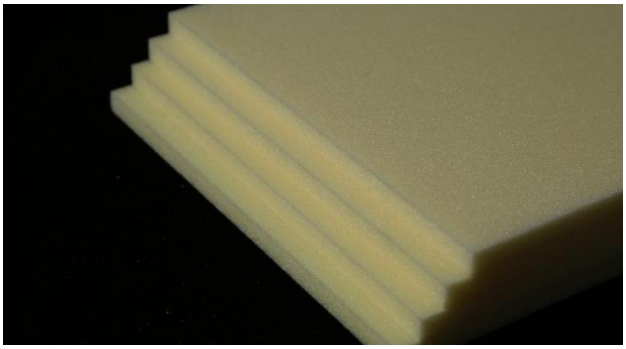
Marex



Product Data Sheet

MAREX PMI -TE Series

MAREX PMI -TE Series Foam Core

MAREX PMI -TE is a cross-linked rigid foam material based on polymethyl methacrylimide, with its main molecular chain being a C-C chain and side chains containing imide structures. The high-performance matrix material and the uniform, dense cell structure endow PMI foam with excellent structural stability and superior mechanical properties, making it the highest-performance core material at equivalent densities.

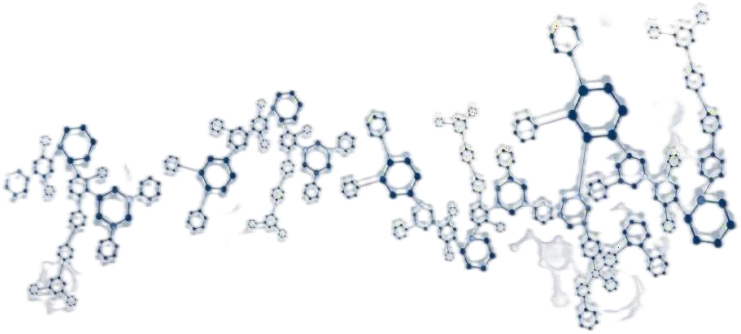
MAREX PMI -TE foam possesses performance characteristics such as high strength-to-weight ratio, high modulus- to-weight ratio, high temperature resistance, high fatigue resistance, and low dielectric. It is widely used in aerospace, military radar, high-speed rail and urban rail transit, ships and yachts, automobile manufacturing, sports equipment, medical devices, audio and acoustic products, and other fields.

MAREX PMI -TE Technical Data Sheet

Item	Standard	Unit	Value type	TE52	TE60	TE75	TE110
Density	ISO 845	kg/m³	Average	52	60	75	110
			Range	±6	±8	±12	±16
Compressive strength	ISO 844:2006	MPa	Average	0.92	1.24	1.87	3.42
Compressive modulus	ISO 844:2006	MPa	Average	38.6	52.2	72.4	123.4
Shear strength	ASTM C273:2012	MPa	Average	0.76	1.03	1.55	2.48
Shear modulus	ASTM C273:2012	MPa	Average	19.1	25.8	36.8	57.9
Tensile strength	ASTM D638	MPa	Average	1.71	2.23	2.87	4.38
Tensile modulus	ASTM D638	MPa	Average	58.4	72.3	96.3	138.7

*****Note: The above data are average results from various products, obtained from routine production testing.

MAREX PMI -TE Characteristics



- With excellent comprehensive mechanical properties, PMI foam is the strongest and most rigid among commonly used foam core materials at the same density.
- 100% closed-cell structure, with small and uniform cell size, and low resin absorption rate, significantly reducing the weight of structural components.
- With high temperature resistance, PMI foam is suitable for various molding processes including autoclave, shortening curing time and improving production efficiency.
- Good resin compatibility, compatible with various resin systems.
- Thermoformable, allowing flexibility for design, with a wide range of applications.
- High fatigue resistance, suitable for use in sandwich structures with high dynamic loads.
- Extremely low thermal expansion coefficient, good dielectric properties and X-ray transparency.

MAREX PMI -TE Technical Characteristics

Item	Standard	Unit	TE52	TE60	TE75	TE110
Thermal conductivity	EN 12667	W/(m-K)	0.031	0.033	0.035	0.038
HDT	DIN 53424	°C	160	160	160	160
Dissipation factor	ASTM D 2520	/	0.0003	0.0004	0.0005	0.0007
Permittivity	ASTM D 2520	/	1.05	1.06	1.08	1.11

*Note: The above data are average results from various products, obtained from routine production testing.

For use under high temperature and continuous load conditions, please contact the technical service department for detailed design instructions.The maximum processing temperature depends on time, pressure, and process conditions. Therefore, it is recommended that the user contact the technical service department to confirm the specific processing parameters .

MAREX PMI -TE Dimensions

Item		Unit	TE52	TE60	TE75	TE110
Block	Length	mm	2500	2500	2500	2250
	Width	mm	1250	1250	1250	1150
	Thickness	mm	90	85	80	75
Flexible panel	Length	mm	1250	1250	1250	1125
	Width	mm	1250	1250	1250	1150
	Thickness	mm	5-65	5-65	5-65	5-65
Rigid panel	Thickness	mm	1-90	1-85	1-80	1-75

*Note：The above data are based on the current measurement results of the existing products being produced. For the latest data, please contact the technical service department.

MAREX-PMI -TE Application Fields



Disclaimer:

This data sheet may be revised and modified due to material development and changes. These data are from testing,and if not represented as minimum value, the data is the average value. The data provided by the company is for reference only and the company does not assume any responsibility, nor does it constitute a guarantee or statement regarding the material or it's use. The company reserves the right to publish new version of data sheet.

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