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Technical Data Sheet
PET FOAM

P series PET structural foam is a closed-cell, thermoplastic structural foam with excellent mechanical properties and can be used as structural core material. It can not only enhance the strength and rigidity of the structure, but also reduce the weight of the whole structure. PET foam has good workability. Its strong resin affinity (good bonding/infusion with various resins) is suitable for various processes and is difficult to produce deformation at higher temperatures. It is the best choice for many sandwich structure solutions. Because of its green recyclable properties, it has become a rare sustainable core material for structural foam.

Properties：

- **Outstanding thermal stability**: It can withstand +200℃ high temperature for a short time during processing, and can withstand +120℃ high temperature for a long time during service life. At 120 ℃ for two hours, the expansion rate in all directions is very small, which is conducive to post curing, more effective elimination of internal stress and improvement of adhesive strength.
- **Superior mechanical properties**: Higher compressive, tensile, shear strength and modulus. High modulus means that it is not easy to produce deformation.
- **Good applicability**: Very friendly to most resins and most materials. It can not only be well combined with FRP, but also be well bonded with aluminum, iron, wood, stone and so on.
- **Excellent weight loss effect**: PET foam combined with fiberglass prepreg or wood can effectively reduce the weight of structural parts in order to save costs effectively.
- **Recyclability**: Supercritical CO2 physical foaming technology is adopted, no emission is generated and no harmful substances are added in the production process. It’s a thermoplastic foam, which can be recycled after being scrapped.

Applications：

- **Clean energy:** wind turbine blade, large wind turbine cabin cover
- **Transportation:** high-speed rail front, high-speed rail floor, refrigerated truck body, logistics truck body, ship deck, transport pallet
- **Construction and furniture:** exhibition stand, bathroom stand, high-grade furniture, building curtain wall, interior structure

Standard specification：

Technical Process	Dimensions	Unit	P80	P100	P120	P150	P200	P250
Plain sheet	Length	mm	1220/2440	1220/2440	1220/2440	1220/2440	1220/2440	1220/2440
	Width	mm	1150	1150	1150	1150	1150	1150
Contour Sheet	Length	mm	1220/2440	1220/2440	1220/2440	1220/2440	1220/2440	1220/2440
	Width	mm	1150	1150	1150	1150	1150	1150

Remarks: Size and shape can be customized according to customer requirements.
Mechanical properties：

Test Item	Standard	Unit	Value	P80	P100	P100H	P120	P150	P200	P250
Density	ISO 845	kg/m³	AVG INTERVAL	80 80-90	100 100-110	105 100-110	120 120-130	150 150-160	200 190-210	250 235-260
Compressive Strength	ISO 844	MPa	AVG MIN	0.85 0.80	1.20 1.10	1.20 1.10	1.80 1.55	2.40 2.20	3.90 3.40	5.20 4.80
Compression Modulus	ISO 844	MPa	AVG MIN	75 65	100 90	100 90	115 105	140 125	200 170	235 210
Tensile Strength	ASTM C297	MPa	AVG MIN	1.40 1.30	1.80 1.60	1.80 1.60	2.20 1.90	2.50 2.20	3.20 2.60	4.00 3.60
Tensile Modulus	ASTM C297	MPa	AVG MIN	90 80	110 100	110 100	120 105	160 130	210 180	275 250
Shear Strength	ISO 1922	MPa	AVG MIN	0.55 0.45	0.80 0.75	0.80 0.75	0.90 0.80	1.25 1.05	1.70 1.50	2.05 1.80
Shear Modulus	ISO 1922	MPa	AVG MIN	13.5 12.0	23.0 21.0	23.0 21.0	27.0 24.0	35.0 31.0	51.0 48.0	70.0 60.0
Shear elongation at break	ISO 1922	%	AVG MIN	20 12	10 5	30 25	8.0 6.0	7 5	6.0 5.0	5.0 4.0