Production Information

HyboFOAM® C

Introduction

HyboFOAM® C is a closed-cell rigid foam based on polymethacrylimide (PMI), which contains no halogen at all. The cell size is fine and uniform.

Processing and production

HyboFOAM® C can withstand a medium temperature curing process with a maximum temperature of 180 ℃ and a maximum pressure of 0.7 MPa, depending on the density. Suitable for curing methods such as autoclave, vacuum bag, RTM, VARTM, VARI, HP-RTM, etc.

Due to its excellent surface resin absorption, engineers can find a perfect balance between peel strength and lightweight requirements.

Application

The application of **HyboFOAM® C** is pretty wide. Basically, it is suitable for most of sandwich structure composites parts, including X-Ray/CT tables, sports equipment; vehicle/high speed railway, and floating/fishing kits, etc.

Thermoforming and Shaping

To meet different dimension parts and geometry, it is very easy to shape **HyboFOAM® C** by thermo-shaping, bonding by various adhesive, and common CNC machine.

HYBO can also directly provide high-precision preformed or ready to use foam core materials with complex or simple geometric shapes.

Property	Test Method*	Unit	HyboFOAM® C 32	HyboFOAM® C 52	HyboFOAM® C 75	HyboFOAM® C 110	HyboFOAM® C 150	HyboFOAM® C 200
Density	GB/T 6343 ASTM D1622 ISO 845	kg/m^3 g/cm^3 lb/ft^3	32 0.032 2.00	52 0.052 3.24	75 0.075 4.68	110 0.11 6.86	150 0.15 9.36	200 0.2 12.48
Compressive Strength	GB/T 8810 ASTM D1621 ISO 844	MPa psi	0.4 58	1 145	1.7 247	3.2 464	5 725	9 1305
Compressive Modulus		MPa psi	12 1740	40 5800	75 10875	120 17400	190 27550	300 43500
Tensile Strength	GB/T 1040.2 ASTM D638 ISO 527-2	MPa psi	1 145	1.9 276	2.8 406	4.2 609	5.2 754	8 1160
Tensile Modulus		MPa psi	35 5075	68 9860	110 15950	150 21750	200 29000	260 37700
Elongation at Break		%	3.5	3.5	3.5	3.5	3.3	3.3
Shear Strength	GB/T 1455 ASTM C273 DIN 53294	MPa psi	0.4 58	0.8 116	1.3 189	2.4 348	3.3 479	/ /
Shear Modulus		MPa psi	12 1740	20 2900	35 5075	50 7250	75 10875	/ /
Heat Distortion Temperature	DIN 53424	℃	190	200	210	215	—	—

The above values are typical values for nominal density, and the measured values will vary due to manufacturing deviations.
* Data is based on ASTM standard test methods, but GB or ISO values can be confirmed upon request.