

HyboFOAM® AF

Introduction

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

HyboFOAM® AF improves its temperature resistance while maintaining excellent mechanical properties on the basis of HyboFOAM® C, making it highly suitable for resin liquid forming processes.

Application

HyboFOAM® AF used in the manufacture of high-grade composite components, such as aircraft, space/launch vehicles, unmanned aerial vehicles, etc..

Processing and production

HyboFOAM® AF can withstand a medium temperature curing process with a maximum temperature of 180 °C 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.

Thermoforming and Shaping

To meet different dimension parts and geometry, it is very easy to shape HyboFOAM® AF 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® AF 52	HyboFOAM® AF 75	HyboFOAM® AF 110
Density	GB/T 6343	kg/m ³	52	75	110
	ASTM D1622	g/cm ³	0.052	0.075	0.11
	ISO 845	lb/ft ³	3.25	4.68	6.87
Compressive Strength	GB/T 8810 ASTM D1621	MPa	1	1.7	3.2
		psi	145	247	464
Compressive Modulus	ISO 844	MPa	40	75	120
		psi	5800	10875	17400
Tensile Strength	GB/T 1040.2 ASTM D638 ISO 527-2	MPa	1.9	2.8	4.2
		psi	276	406	609
Tensile Modulus		MPa	68	110	150
		psi	9860	15950	21750
Elongation at Break		%	3.5	3.5	3.5
Shear Strength	GB/T 1455 ASTM C273	MPa	0.8	1.3	2.4
		psi	116	189	348
Shear Modulus	DIN 53294	MPa	20	35	50
		psi	2900	5075	7250
Heat Deflection Temperature	GB/T 31295 DIN 53424	°C	≥200		

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.

For More Information

If you have questions or want to discuss the use of **HyboFOAM® AF** in your application, we recommend that you communicate with your local contacts.

Please visit www.hybofoam.com, find and contact the local contact person directly by phone or email.

Disclaimer

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