HyboCORE®

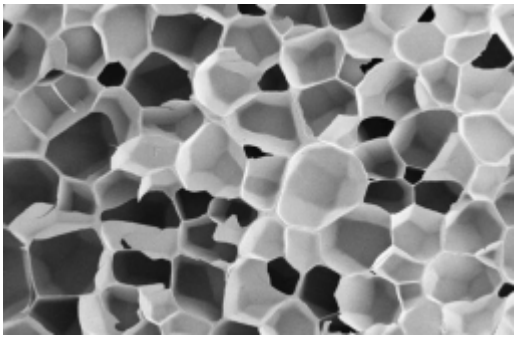
低成本 PMI 泡沫 High Ductibility – Low Cost PMI Rigid Foam

A PMI-based Core material

HyboCORE® based on PMI have proven their worth, particularly at high processing temperature and pressure. They are very easily process and provide considerable cost saving in composite manufacturing.

Property of HyboCORE ®:

- A polymer cell foam, based on Poly Methacrylic Imide(PMI).
- Free from CFC.
- Homogenous and isotropic.
- 100% closed cell.



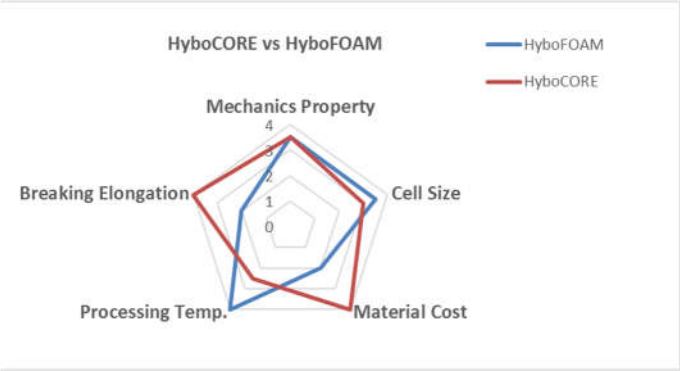
HyboCORE®是一种基于聚甲基丙烯酰亚胺的闭孔刚性泡沫材料，不含卤素。产品的泡沫孔径细小且均匀（0.1毫米-0.3 毫米）

HyboCORE® is a kind of rigid foam based on poly (methyl methacrylate), which is free of halogen. The product has a small and uniform pore size (0.1mm-0.3 mm).

Excellent Ductibility

特别的是，HyboCORE®具备优异的断裂延伸率（Elongation at break），与传统 PMI 泡沫的 4-5%相比，HyboCORE®的断裂延伸率高达约 10%。在保证材料基本力学性能的前提下，极大的提高了泡沫的韧性，改变了常规的刚性泡沫无法兼具工艺性能和冲击强度的矛盾。HyboCORE®可以承受和吸收“冲击/集中”载荷，保证了三明治夹芯结构在承受冲击后的完整性，扩展了复合材料结构的损伤容限和损伤可视性。

In particular, HyboCORE® has excellent Elongation at break. Compared with the traditional PMI foam 4-5%, HyboCORE® can up to 10%. Under the premise of ensuring the basic foam mechanical properties, it greatly improves the foam toughness, and optimized the conventional confliction of processing performance and impact strength. HyboCORE® can withstand the shock absorption / concentration load, to ensure the integrity of sandwich structure under impact, and expand the damage tolerance and damage visibility of composite structures.



Free to Processing

其加工工艺可以耐受最高 150°C 温度和最大 0.5 MPa 的压力，主要适用于中温固化的工艺条件。为了适应不同尺寸和外形工件的加工要求，使用 HyboCore®可以非常容易的采用热压成型，使用各种胶粘剂粘接，或者常见的 CNC 数控机床进行随意的加工。

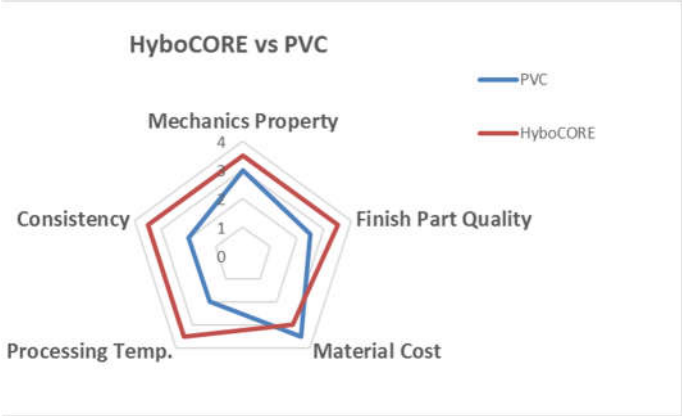
HyboCORE® can withstand the maximum 150°C temperature and maximum pressure of 0.5MPa, and

suitable for middle temperature co-curing processing. In order to adapt to the different sizes and shape of the workpieces, HyboCORE® can be easily shaped in press-molding, and bonded with variety of adhesive, or common CNC machine freely.

HyboCore®的成本极具优势，与 PVC 泡沫芯材处在同一水平。在不影响材料成本的前提下，客户可以采用较高的固化温度与更快的固化速度，降低工艺和制造成本。

HyboCore® is very competent on material cost, which is close to PVC foam core. Providing similar purchasing cost budget, the customer can take higher curing temperature and faster speed, which resulted into lower processing and manufacturing cost.

Advantage vs Counterpart



Mechanics Property 力学性能

	密度 Density	压缩强度 Compression Strength	拉伸强度 Tension Strength	剪切强度 Shear Strength	弹性模量 Elastic Modulus	剪切模量 Shear Modulus	热变形温度 Heat Distortion	断裂延伸率 Elongation at break	空隙直径 Cell Size
Grade	Kg/m³	MPa	MPa	MPa	MPa	MPa	℃	%	mm
Spec.	ASTM D1622	ASTM D1621	ASTM D638	ASTM C273	ASTM D1621	ASTM C273	DIN 53424	ASTM D1621	GB/T 12811
HyboCore® T-60	60_{-15}^{+10}	≥0.64	≥1.40	≥0.67	≥40.00	≥15.07	165	≥5.5	0.1mm-0.3mm
HyboCore® T-80	80_{-10}^{+15}	≥1.12	≥2.34	≥1.20	≥79.43	≥31.14	165	≥5.5	
HyboCore® T-100	100_{-5}^{+15}	≥1.89	≥3.16	≥1.88	≥96.00	≥42.70	165	≥5.5	

注意：以上数值均为最小值。实测值会由于制造偏差而不同。请联系我公司质量管理部门以确认材料质量标准。
Remarks: Technical data values presented above are min. values. Not applicable for designing and acceptance. True data values are subject to normal manufacturing variations. Please contact our QA team for material criterion and standard.

	密度 Density	尺寸 Size(mm)	标准厚度 Standard thi ckness(mm)
HyboCore® T-60	60_{-15}^{+10}	2500x1250	1-110
HyboCore® T-80	80_{-10}^{+15}	2500x1250	1-110
HyboCore® T-100	100_{-5}^{+15}	2500x1250	1-80
Remarks:	Tolerance is +/-0.5mm. For others, please request.		