Products Data Sheet

HXCELL-X

HXCELL-X Series Core Materials

HXCELL-X series is a rigid cross-linked closed cell PVC structural foam material with glue absorption rate that is more than 30% lower than similar products. In liquid resin infusion processes, HXCELL-X has a reduced resin absorption, which thereby decreses product weight.

HXCELL-X series uses a water suspension foaming process, which not only completes the cross-linked structure and makes the foaming more uniform, but also totally avoid the original plate warping and hot pressing caused by the internal structure damage. HXCELL-X series has the characteristics of low water absorption and strong anti-corrosion. Also, its fine microporous structure makes the foam surface has good adhesion.

All these characteristics make the HXCELL-X series suitable for a variety of resin systems and processes. With the large selection range combined with its lightweight characteristics, HXCELL-X is thus an ideal core material for lightweight sandwich structures that can withstand static/dynamic loads.

HXCELL-X series products have the density range from 60kg/m³ to 130kg/m³, and is widely used in wind energy, Marine, medical instruments, special equipment and aerospace and other fields.

HXCELL-X Series Products Performance

Types	Standards	Units	Results	X60	X80	X100	X130
Density	ISO 845	kg/m³	Average	60	80	100	130
			Range	54-69	72-92	90-110	120-150
Compressive strength	ISO 844:2006	MPa	Average	1.01	1.45	2.12	2.13
			Minimum	0.9	1.21	1.8	2.75
Modulus of compression	ISO 844:2006	MPa	Average	76.1	115	178	214
			Minimum	70	100	146	180
Shear strength	ISO 1922:2012	MPa	Average	0.776	1.05	1.43	2.03
			Minimum	0.7	0.85	1.3	1.81
Shear modulus	ISO 1922:2012	MPa	Average	21.2	30.6	38	53
			Minimum	18	25	32	43
Tensile strength	ASTM C297	MPa	Average	1.88	2.36	3.4	4.4
			Minimum	1.7	2.01	2.95	3.4
Tensile modulus	ASTM C297	MPa	Average	82.4	123	176	208
			Minimum	75	101	158	176

**Note: The above data are the average results of various products from the production routine test. Statistical minimums that meet the design requirements*

HXCELL-X Series Products Characteristics

- Low resin absorption rate
- Low water absorption rate
- 100% obturator structure
- Sound and heat insulation
- High strength/rigidity-weight ratio
- Excellent fire resistance
- Impact resistance
- Compatible with multiple resin systems

HXCELL-X Series Technical Characteristics

Characteristics	Standards	Units	X60	X80	X100	X130
Thermal conductivity	EN 12667	W/(m-K)	0.029	0.030	0.032	0.035
Linear thermal expansion coefficient	ISO 4897	x10-6/° C	40	40	40	40
Heat distortion temperature	DIN 53424	° C	+130	+130	+130	+130
Sustained temperature range	/	° C	-200/+90	-200/+90	-200/+90	-200/+90
Dissipation factor	ASTM D 2520	/	0.0003	0.0005	0.0006	0.0009
Permittivity	ASTM D 2520	/	1.04	1.07	1.10	1.14
Poisson's ratio	D638-08	/	0.4	0.4	0.4	0.4

**Note: The above data are the average results of various products from the production routine test. Statistical minimums that meet the design requirements of each classification society are available upon request.*

Continuous operating temperatures are usually -200ºC to 90ºC. For design use under high temperature and continuous load conditions, please contact technical services for detailed design instructions.

Maximum processing temperature depends on time, pressure and process conditions. Therefore, it is recommended to contact technical services to confirm that the specific processing parameters of HXCELL-X series foam are compatible.

HXCELL-XSeries Products Specifications

Specifications	Standards	Units	X60	X80	X100	X130
BLOCK specifications	Length	mm	2400	2100	2050	1950
	Width	mm	1200	1085	1050	980
	Thickness	mm	85	75	70	60
Profile plate specification	Length	mm	1200	1050	1025	975
	Width	mm	1200	1085	1050	980
	Thickness	mm	5-65	5-65	5-60	5-60
Plate specification	Thickness	mm	1-85	1-75	1-70	1-60

**Note: The above data is based on the measurement results of existing products. The latest data suggest that users contact technical service department*

HXCELL-X Series Products Glue Absorbing Capacity

Products	Tests	Units	Sample 1	Sample 2	Sample 3
HXCELL-X60	length*width*height	mm	300*300*25.5	300*300*25.5	300*300*25.5
	core material weight	g	143.6	142.7	144.5
	weight of the sample after perfusion	g	193.3	192.7	203.5
	surface area	m^2	0.2106	0.2106	0.2106
	volume	m^3	0.002295	0.00295	0.002295
	glue absorption per unit area	g/m^2	235.99	237.41	280.15
	average value of glue absorption per unit area	g/m^2	251.2		
	glue absorption per unit volume	g/m^3	21.66	21.79	25.71
	average value of glue absorption per unit volume	g/m^3	23.1		

Disclaimer:

This information sheet is subject to revision and change as material is developed and changed. These data are from tests. If not expressed as minimum values, then the data is average data and the actual results should be verified by actual tests. The data provided is for reference only and we assumes no responsibility and does not constitute a warranty or representation regarding the materials or their use. Our organization reserves the right to publish new alternative data sheets.

HXCELL-X Series Certificate Authority

TYPE APPROVED PRODUCT
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