HORIZON
Redefine Materials Frontier

REGEECORE

TECHNICAL DATA



REGEECORE®-HK

RECYCLABLE PET SANDWICH CORE

REGEECORE®-HK Series is a recyclable, linear rigid PET foam product available in a density range from 80 kg/m³ to 320 kg/m³. The closed-cell structure of REGEECORE®-HK Series prevents internal structural damage caused by high temperature and pressure, and completely eliminates the risk of warpage and delamination of the original board. The product offers excellent dimensional stability and processability, making it suitable for various sandwich structure manufacturing processes such as vacuum infusion, RTM, compression molding, and autoclave molding. Thanks to its linear chemical characteristics, REGEECORE®-HK Series exhibits outstanding thermoformability on curved surfaces and is 100% recyclable, highlighting its environmental performance. In addition, REGEECORE®-HK Series features excellent specific stiffness and specific strength, superior long-term fatigue resistance, impact resistance, low water absorption, as well as good sound insulation and thermal insulation effects. Its molding temperature can reach 150°C, meeting the high-temperature processing requirements of most composite materials. Based on the above advantages, REGEECORE®-HK has been widely used in rail transportation, building construction, furniture production, wind power generation, Recreational Vehicle,box containers, and other fields.

MECHANICAL PROPERTIES

Property	Test Procedure	Unit	Statistical Value	HK80	HK100	HK150	HK200	HK250	HK320
Density	ISO 845	kg/m³	Max.	90	105	157	210	260	330
			Avg.	80	100	150	200	250	320
			Min.	75	95	143	190	235	310
Compressive Strength	ISO 844:2006	MPa	Avg.	0.95	1.5	2.75	4	4.4	6.7
			Min.	0.85	1.3	2.6	3.8	4.1	6.4
Compressive Modulus	ISO 844:2006	MPa	Avg.	65	110	170	280	330	370
			Min.	55	90	140	250	300	340
Tensile Strength	ASTM C297	MPa	Avg.	1.95	2.2	2.7	3.5	3.8	4.3
			Min.	1.8	1.95	2.55	3.2	3.65	4.15
Tensile Modulus	ASTM C297	MPa	Avg.	100	105	200	230	270	340
			Min.	90	95	180	200	250	300
Shear Strength	ISO 1922:2012	MPa	Avg.	0.58	0.85	1.4	1.94	2.46	2.78
			Min.	0.5	0.75	1.28	1.63	2.22	2.5
Shear Modulus	ISO 1922:2012	MPa	Avg.	20	26	50	65	70	120
			Min.	18	23	40	55	60	100

***Note:** (1) The above data are average values from routine production tests. Statistical minimum values required by classification societies are available upon request.
(2) Test direction: Out-of-plane direction.

PRODUCT CHARACTERISTICS

- **Excellent resin compatibility: Compatible with various resin systems and featuring outstanding chemical stability.**
- **Superior high-temperature resistance: Withstands processing temperatures up to 150°C.**
- **Outstanding mechanical properties: Boasts high compressive, shear and tensile strength as well as modulus; its high-modulus characteristic effectively prevents deformation.**
- **Remarkable weight reduction effect: Used as core material for composite materials, it efficiently cuts down the weight of structural components while meeting performance requirements, reducing relevant costs accordingly.**
- **Eco-friendly and recyclable: 100% environmentally recyclable. As a thermoplastic plastic foam, it can be recycled and pelletized for circular production.**
- **Excellent hydrolysis resistance: Resistant to hydrolysis and damp-heat aging, suited for high-humidity marine environments.**

DIMENSIONS

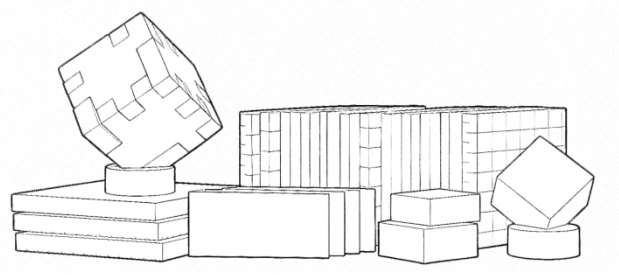
Format	Specifications	Unit	HK80	HK100	HK150	HK200	HK250	HK320
Plain Sheet	L	mm	2500±10					
	W	mm	1020±10					
	THK.	mm	3-1250					

***Note:** The recommended storage life of REGEECORE®-HK foam core is 60 months under proper storage conditions. All technical data are based on tests conducted under specific conditions in accordance with relevant standards. Please verify product suitability for the intended application and ensure compliance with applicable regulations before using. All information is provided in good faith and is believed to be accurate at the time of publication. For the latest data, please contact our technical service department.

REGEECORE®-HK IS TYPE APPROVED BY:

Disclaimer:

This data sheet may be subject to revision and changes due to development and changes of the material. The data is derived from tests and practical experience. If not stated as minimum values, the data is average data and should be treated as such. Relevant calculations should be verified by actual tests. The data is furnished without liability for the company and does not constitute any warranty or representation in respect of the material or its use. The company reserves the right to release new data sheets in replacement.



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