



TECHNICAL DATA

ArmaPET® Struct GR

ArmaPET Struct is the versatile and durable solution for structural sandwich applications, with a more environmentally responsible approach.

- // Proven and reliable performance since 2010
- // Minimal fluctuation in product properties increases process stability
- // Excellent thermal and dimensional stability facilitates repeatability in production
- // Outstanding fatigue resistance bolsters long-term performance and low lifetime maintenance
- // 100% recycled material supports industry environmental and sustainability directives
- // Full range availability anywhere and at any time

www.armacell-core-foams.com



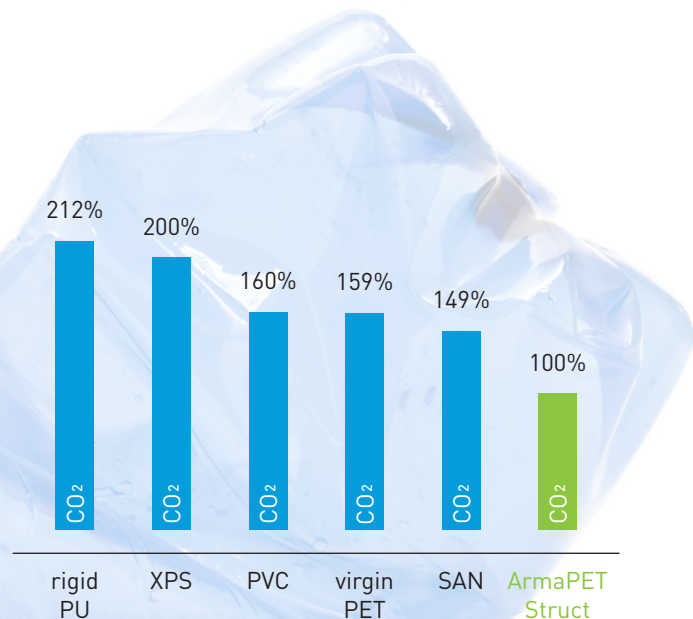
 **armacell**[®]
ArmaPET[®]

ARMAPET STRUCT

Provides a **unique combination of material and processing properties**, such as durability, elevated service temperature stability and excellent compatibility with most common resins and manufacturing methods.

PROCESS TECHNOLOGY WITH LOWEST CO₂ EMISSIONS

Using 100% recycled PET bottles as the base raw material results in significant savings in CO₂ emissions and meets the industry's requirement for the design of sustainable composite structures that are light, durable and recyclable.



REDUCED RESIN UPTAKE THROUGH SURFACE TREATMENT

Applying surface treatment (ST) to ArmaPET Struct is an efficient way to reduce the resin uptake of the foam core, while fully maintaining the product's properties.

ArmaPET Struct is a closed cell foam, however during slicing operations, the cells at the surface are cut and partially open, which leads to increased resin absorption. With Armacell's surface treatment technology, these cells are partially sealed, and the resin uptake compared to that of a non-treated sheet is reduced by 30 to 40%, depending on the density grade.

The specific treatment results in a slight increase in density, depending on the thickness of the ST material, but this is balanced out by the reduction in resin uptake. The ST process has been optimised so that it does not affect the specified material performance properties and does not reduce the adhesion characteristics of our product. Thus, all the mechanical values remain valid for surface treated ArmaPET Struct.

To ensure low resin uptake of ArmaPET Struct for all applications, ArmaPET Struct GR70 to GR250 products in the thickness range of 15 to 200mm for GR70 – GR80 and of 10mm to 200mm for GR100 to GR250 are now available with surface treatment. For further information, please consult our White Paper on surface treatment and resin uptake.

Technical Data

ArmaPET Struct GR

			GR70	GR80	GR100	GR115	GR135	GR150	GR200	GR250	GR320 ⁽¹⁾
Density	ISO 845	kg/m ³	70 ⁽²⁾	80 ⁽³⁾	100 ⁽³⁾	115 ⁽³⁾	135 ⁽³⁾	150 ⁽⁴⁾	200 ⁽⁴⁾	250 ⁽⁴⁾	320 ⁽⁴⁾
		lb/ft ³	4.4 ⁽²⁾	5.0 ⁽³⁾	6.2 ⁽³⁾	7.2 ⁽³⁾	8.4 ⁽³⁾	9.4 ⁽⁴⁾	12.5 ⁽⁴⁾	15.6 ⁽⁴⁾	20.0 ⁽⁴⁾
Compression Strength	ISO 844	MPa	0.75	1.0	1.5	1.8	2.3	2.6	4.0	5.3	7.0
		psi	110	145	220	260	335	375	580	770	1015
Compression Modulus	ISO 844	MPa	110	130	160	175	190	200	230	270	320
		psi	15'955	18'855	23'205	25'380	27'555	29'005	33'360	39'160	46'410
Shear Strength ⁽⁵⁾	ISO 1922	MPa	0.5	0.6	0.75	0.95	1.2	1.35	1.75	2.0	2.1
		psi	75	85	110	140	175	195	255	290	305
Shear Modulus ⁽⁵⁾	ISO 1922	MPa	13	16	21	26	35	37	51	70	90
		psi	1'885	2'320	3'045	3'770	5'075	5'365	7'395	10'150	13'050
Shear Strain ⁽⁵⁾	ISO 1922	%	15	13	10	10	7	7	5	3	2
Tensile Strength	ASTM C 297	MPa	1.8	2.0	2.5	2.9	3.0	3.3	3.9	4.3	4.8
		psi	260	290	365	420	435	480	565	625	695
Tensile Modulus	ASTM C 297	MPa	66	80	120	140	140	185	235	270	350
		psi	9'570	11'600	17'400	20'300	20'300	26'825	34'075	39'150	50'750
Thermal Conductivity	at 23 °C	W/(m·K)	0.034	0.034	0.034	0.034	0.037	0.041	0.043	0.047	tbd
		at 73.4 °F	BTU.in/ FT ² .hr.°F	0.236	0.236	0.236	0.236	0.257	0.284	0.298	0.326
Reaction to fire	EN 13501-1	Class	E ⁽⁶⁾	E ⁽⁶⁾	E ⁽⁶⁾	E ⁽⁶⁾	E ⁽⁶⁾	E ⁽⁶⁾	E ⁽⁶⁾	E ⁽⁶⁾	E ⁽⁶⁾

		Length	Width	Diagonal	Thickness
Dimensions	mm	2448	1008 1220 ⁽⁷⁾	Depending on length & width combination	GR70-GR320: 5-200mm ^{(8) (9)}
	inch	96.38	39.68 48.03 ⁽⁷⁾	Depending on length & width combination	GR70-GR320: 0.2 - 7.87
Tolerances at room temperature	mm	+/- 5	+/- 5	≤ 4	≤ 100mm: +/- 0.5 ≥ 100mm: +/- 1
	inch	+/- 0.2	+/- 0.2	≤ 0.16	≤ 3.94: +/- 0.02 ≥ 3.94: +/- 0.04

(1) Preliminary data (indication based on a limited number of tests).
(2) Tolerances: -5/+8 kg/m³, -0.3/+0.5 lb/ft³
(3) Tolerances: +/- 5 kg/m³, +/- 0.3 lb/ft³
(4) Tolerances: +/- 5 %
(5) // direction [parallel to the weld]
(6) Tested according to EN ISO 11925-2 at a thickness of 25 mm / 0.98 inch.
Further information available on request.
(7) Available on request.
(8) Thickness in Suzhou plant is GR70-GR320: 5-150 mm.
(9) No half-board for thickness ≤ 5 mm in grade GR70-GR80.

All values are average production figures.
Minimum values on request.
Our products are CFC / HFC free.
Physical properties are not affected by variances in colour.
Customs tariff code: 39.21.19.00

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ABOUT ARMACELL

As the inventors of flexible foam for equipment insulation and a leading provider of engineered foams, Armacell develops innovative and safe thermal, acoustic and mechanical solutions that create sustainable value for its customers. Armacell's products significantly contribute to global energy efficiency making a difference around the world every day. With 3,000 employees and 23 production plants in 15 countries, the company operates two main businesses, Advanced Insulation and Engineered Foams. Armacell focuses on insulation materials for technical equipment, high-performance foams for high-tech and lightweight applications and next generation aerogel blanket technology.

For more company information, please visit:
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