

Product Information

ROHACELL® HERO

Innovative **ROHACELL® HERO** delivers the latest in materials technology for composite aircraft structures that are lightweight, durable over their lifetime and less expensive to produce.

It's the new standard in aircraft structural core material!

KEEPING IT LIGHT

Sandwich technology is an excellent way to reduce weight and thanks to its outstanding mechanical properties and low density, **ROHACELL® HERO** sandwich cores offer the most weight saving potential of all structural foams.

Featuring a closed cell structure, **ROHACELL® HERO** minimizes added weight by taking up resin only in the cut surface cells – resulting in a lighter finished part weight compared with traditional honeycomb structures.

LONG HAUL DURABILITY

Offering excellent elongation at break properties, **ROHACELL® HERO** remains robust and durable for the lifetime of the aircraft.

Surface impact damage is easily visible during inspections and rework/repair is simple since the core damage does not extend beyond the initial impact location and there is no water ingress as can occur with honeycomb core structures.

IT CAN TAKE THE HEAT

With heat resistance of up to 210 °C (428 °F), processing or curing temperatures can be increased higher than other core materials allow (e.g., typical cure cycle at 180 °C/356 °F with maximum pressure dependent upon density). This results in significant reductions in total cycle time and faster part manufacturing.

No other core material offers such ease of processing in a wide variety of processes, including autoclave, resin infusion, RTM and VARTM.

WE CAN HELP YOU SHAPE THE FUTURE

Let our Shapes Department supply you with finished, ready-to-use net-shape **ROHACELL® HERO** parts. Your cores will be delivered ready for immediate use in your next processing step.

- Eliminate waste
- Reduce in-house production time
- Up to 30 % cost savings



ROHACELL® HERO IN FLIGHT

ROHACELL® HERO is a recommended grade for core material in sandwich structures for aircraft wings, landing gear doors, radomes, vertical and horizontal stabilizers, ailerons and other areas subject to surface impact damage.

Property	Test Method*	Unit	ROHACELL® 51 HERO	ROHACELL® 71 HERO	ROHACELL® 110 HERO	ROHACELL® 200 HERO
Density	ISO 845 ASTM D 1622	kg/m ³ lbs/ft ³	52 3.25	75 4.68	110 6.87	205 12.80
Compressive Strength	ISO 844 ASTM D 1621	MPa psi	0.6 87	1.1 160	2.5 363	7.1 1,030
Compressive Modulus	ISO 844 ASTM D 1621	MPa psi	32 4,640	48 6,960	83 12,000	180 26,100
Tensile Strength	ISO 527-2 ASTM D 638	MPa psi	2.6 377	4.1 595	6.3 914	12.3 1,780
Tensile Modulus	ISO 527-2 ASTM D 638	MPa psi	82 11,900	123 17,800	189 27,400	389 56,400
Elongation at Break	ISO 527-2 ASTM D 638	%	8	9.5	9.9	10.8
Shear Strength	DIN 53294 ASTM C 273	MPa psi	0.7 102	1.3 189	2.3 334	5.2 754
Shear Modulus	DIN 53294 ASTM C 273	MPa psi	22 3,190	28 4,060	50 7,250	109 15,800
Maximum Shear Strain	DIN 53294 ASTM C 273	%	7.0	7.2	7.2	7.2
Glass Transition Temperature		°C °F	N/A	207 405	203 397	200 392
Coefficient of Thermal Expansion		1/K*10E-5	3.76	3.77	3.72	4.26

Technical data values presented above are typical for nominal density, subject to normal manufacturing variations. *Data values are based on ISO & DIN standard test methods, however ASTM values can be confirmed upon request. All ROHACELL® products are closed-cell rigid foams based on polymethacrylimide (PMI) chemistry and contain no CFC's.

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