ROHACELL®

Technical 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 an entirely 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 220 °C (428 °F), processing or curing temperatures can be increased higher than other core materials allow (e.g., typical cure cycle at 180 °C/0.7 MPa acceptable). 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 Sandwich Technology Center supply you with finished, ready-to-use shaped 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.

Physical properties

Property	Test method	Unit	ROHACELL® 71HERO	ROHACELL® 110 HERO	ROHACELL® 150 HERO	ROHACELL® 200 HERO
Density	ISO 845	kg/m³	75	110	150	205
Tensile strength	ISO 527-2	MPa	4.1	6.3	8.8	12.3
Tensile modulus	ISO 527-2	MPa	123	189	269	389
Elongation at break	ISO 527-2	%	9.5	9.9	10.3	10.8
Compressive strength	ISO 844	MPa	1.1	2.5	4.3	7.1
Compressive modulus	ISO 844	MPa	48	83	124	180
Shear strength	ASTM C 273	MPa	1.3	2.3	3.5	5.2
Shear modulus	ASTM C 273	MPa	28	50	75	109
Maximum shear strain	ASTM C 273	%	7.2	7.2	7.2	7.2

Technical data values presented above are typical for nominal density, subject to normal manufacturing variations.

All ROHACELL® products are closed-cell rigid foams based on polymethacrylimide (PMI) chemistry and contain no CFC's.

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