

Product Information

ROHACELL® HE

HIGH PERFORMANCE FOAM FOR DEMANDING MANUFACTURING PROCESS CONDITIONS AND TOUGH STRUCTURES

ROHACELL® HE foam core is engineered for use in applications which demand superior impact resistance and enhanced elongation at break from composite structure.

Based on polymethacrylimide (PMI) chemistry, ROHACELL® HE is engineered to meet rigorous demands of various applications from across several markets, such as Industrial, Transportation, Sports, Marine which make sandwich components in a single step process (co-curing).

ROHACELL® HE foam cores offers outstanding thermal & mechanical properties, especially under compressive and shear load at low, room and elevated temperature required in demanding applications with substantial dynamic mechanical

loads. These attributes also make it a great choice for making process efficiencies to reduce cycle times which helps to lower cost to manufacture.

WEIGHT SAVINGS

ROHACELL® HE features a fine cell structure giving it a smooth surface finish that reduces resin uptake while still maintaining a good adhesion to face sheet. This improvement boosts process efficiency, leading to the creation of innovative, cost-effective and reliable new products.

FAST AND EFFICIENT PROCESSING

Excellent thermal stability facilitates processing up to 180 °C (356 °F) | 130 °C (266 °F) under pressure in all common processes like resin transfer molding, vacuum infusion, prepreg and autoclave curing, compression molding and hand lay-up. ROHACELL® HE is easy to shape by CNC machining, thermoforming or thermoshaping techniques.

| Property | Test Method* | Unit | ROHACELL® 51 HE | ROHACELL® 71 HE | ROHACELL® 110 HE | ROHACELL® 200 HE |
|---|---------------------------------|--|------------------------|------------------------|-------------------------|-------------------------|
| Density | ISO 845 ASTM D 1622 | kg/m ³ lbs/ft ³ | 52 ± 12 3.25 ± 0.75 | 75 ± 15 4.68 ± 0.94 | 110 ± 21 6.87 ± 1.31 | 205 ± 35 12.8 ± 2.18 |
| Compressive Strength | ISO 844 ASTM D 1621 | MPa psi | 0.6 87 | 1.1 160 | 2.5 363 | 7.19 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 | 7 | 7 | 7 |
| Coefficient of Thermal Expansion | | 1/K*10E-5 | 3.8 | 3.8 | 3.7 | 4.3 |
| Compressive Creep Resistance ≤ 3% for Non-HT Material | Temperature Pressure Time | °C MPa h | 130 0.25 2 | 130 0.35 2 | 130 0.7 2 | 130 0.7 2 |

Technical data of our product are typical values for nominal density. All ROHACELL® products are closed-cell rigid foams based on polymethacrylimide (PMI) chemistry and contain no CFC's.

FOR MORE INFORMATION

If you have questions or would like to discuss using **ROHACELL® HE** in your application, we encourage you to talk with your local ROHACELL® representative.

Visit www.rohacell.com to locate and directly connect with the contact in your region, by phone or email at ROHACELL@evonik.com

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