

Product Information

ROHACELL® S

SELF-EXTINGUISHING FOAM

ROHACELL® S is closed-cell rigid foam based on polymethacrylimide (PMI) chemistry that is completely free of CFC's. This rigid foam is self-extinguishing and particularly suitable for applications in rail vehicles and watercraft, as well as use in the aerospace industry.

WEIGHT SAVINGS

When building composite sandwich components, lightweight ROHACELL® S has a closed cell structure that ensures the resin stays exactly where you want it - in the interface. This eliminates excess and unnecessary resin that adds undesirable weight to the finished part.

PROCESSING AND PRODUCTION

ROHACELL® S foam is suitable for both prepreg processing and vacuum infusion at temperatures up to 130 °C (266 °F) and pressures up to 0.35 MPa (50 psi). Curing method options include autoclave, RTM, VARTM and press.

Using a ROHACELL® core makes it possible to produce sandwich components in a single step (co-curing), resulting in reduced overall production time.

THERMOFORMING AND SHAPING

ROHACELL® S can be easily thermoformed or CNC machined to meet customer requirements. High precision, pre-shaped and ready-to-use foam cores in complex or simple geometries can also be supplied by the ROHACELL® Shapes Department.

Property	Test Method*	Unit	ROHACELL® 51 S	ROHACELL® 71 S	ROHACELL® 110 S
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
Compressive Strength	ISO 844 ASTM D 1621	MPa psi	0.7 101	1.5 217	2.8 406
Tensile Strength	ISO 527-2 ASTM D 638	MPa psi	1.1 159	1.9 275	3.2 464
Tensile Modulus	ISO 527-2 ASTM D 638	MPa psi	50 7,250	90 13,050	150 21,750
Elongation at Break	ISO 527-2 ASTM D 638	%	3.5	3.5	3.5
Shear Strength	DIN 53294 ASTM C 273	MPa psi	0.6 87	1.2 174	2.2 319
Shear Modulus	DIN 53294 ASTM C 273	MPa psi	20 2,900	34 4,930	55 7,975

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. ** Density values are valid for full-size sheets with a minimum thickness of 10 mm (0.39 inch) only. Other density ranges are available upon request.

SPECIFICATION COMPLIANCE

ROHACELL® S can be supplied with test certificates confirming compliance with multiple specifications, including:

- FAR 25.853 (a)(1)(i) AIM 2.0002 Small Burner Test vertical (60s)
- FAR 25.853 (a)(1)(ii) AIM 2.0002 Small Burner Test vertical (12s)
- FAR 25.853 (a)(1)(iv) AIM 2.0003 Small Burner Test horizontal (15s)
- FAR 25.853 (a)(1)(v) AIM 2.0003 Small Burner Test horizontal (15s)
- FAR 25.853 (d) AIM 2.0007 Determination of the specific optical smoke density of aircraft materials

FOR MORE INFORMATION

If you have questions or would like to discuss using ROHACELL® S 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.

Disclaimer

ROHACELL® is a registered trademark of Evonik Industries and its subsidiaries.

This information and all technical and other advice are based on Evonik's present knowledge and experience. However, Evonik assumes no liability for such information or advice, including the extent to which such information or advice may relate to third party intellectual property rights. Evonik reserves the right to make any changes to information or advice at any time, without prior or subsequent notice. EVONIK DISCLAIMS ALL REPRESENTATIONS AND WARRANTIES, WHETHER EXPRESS OR IMPLIED, AND SHALL HAVE NO LIABILITY FOR, MERCHANTABILITY OF THE PRODUCT OR ITS FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE), OR OTHERWISE. EVONIK SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. It is the customer's sole responsibility to arrange for inspection and testing of all products by qualified experts. Reference to trade names used by other companies is neither a recommendation, nor an endorsement of the corresponding product, and does not imply that similar products could not be used.

Evonik Operations GmbH | Smart Materials

High Performance Polymers
Performance Foams
64293 Darmstadt, Germany
Phone +49 61 51 18-1005

Evonik Corporation

Theodore, Alabama USA
Phone +1 866 764-6235

Evonik Specialty Chemicals (Shanghai) Co., Ltd.

Shanghai, China
Phone +86 21 6119 3788