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.

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

- FAR 25.853 (a)(1)(i) AITM 2.0002 Small Burner Test vertical (60s)
- FAR 25.853 (a)(1)(ii) AITM 2.0002 Small Burner Test vertical (12s)
- FAR 25.853 (a)(1)(iv) AITM 2.0003 Small Burner Test horizontal (15s)
- FAR 25.853 (a)(1)(v) AITM 2.0003 Small Burner Test horizontal (15s)
- FAR 25.853 (d) AITM 2.0007 Determination of the specific optical smoke density of aircraft materials
- AITM 3.0005 Determination of gas components of smoke generated by aircraft interior materials
## ROHACELL® S properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Standard</th>
<th>Unit</th>
<th>ROHACELL® 51 S</th>
<th>ROHACELL® 71 S</th>
<th>ROHACELL® 110 S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>*</td>
<td>kg/m³</td>
<td>52 ± 12</td>
<td>75 ± 15</td>
<td>110 ± 21</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>lbs/ft³</td>
<td>3.25 ± 0.75</td>
<td>4.68 ± 0.94</td>
<td>6.87 ± 1.31</td>
</tr>
<tr>
<td>Compressive</td>
<td>ISO 844</td>
<td>MPa</td>
<td>0.7</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>Strength</td>
<td>ASTM D 1621</td>
<td>psi</td>
<td>101</td>
<td>217</td>
<td>406</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ISO 527–2</td>
<td>MPa</td>
<td>1.1</td>
<td>1.9</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>ASTM D 638</td>
<td>psi</td>
<td>159</td>
<td>275</td>
<td>464</td>
</tr>
<tr>
<td>Elastic Modulus</td>
<td>ISO 527–2</td>
<td>MPa</td>
<td>50</td>
<td>90</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>ASTM D 638</td>
<td>psi</td>
<td>7,250</td>
<td>13,050</td>
<td>21,750</td>
</tr>
<tr>
<td>Shear Strength</td>
<td>DIN 53294</td>
<td>MPa</td>
<td>0.6</td>
<td>1.2</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>ASTM C 273</td>
<td>psi</td>
<td>87</td>
<td>174</td>
<td>319</td>
</tr>
<tr>
<td>Shear Modulus</td>
<td>DIN 53294</td>
<td>MPa</td>
<td>20</td>
<td>34</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>ASTM C 273</td>
<td>psi</td>
<td>2,900</td>
<td>4,930</td>
<td>7,975</td>
</tr>
<tr>
<td>Strain at break</td>
<td>ISO 527,2</td>
<td>%</td>
<td>3.5</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>ASTM D 638</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technical data of our products are typical values for the nominal density.

* 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.

---

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 Resource Efficiency GmbH
High Performance Polymers
64293 Darmstadt, Germany
Phone +49 6151 18–1005
E-mail rohacell@evonik.com
www.rohacell.com

Americas
Evonik Foams Inc.
Theodore, Alabama, USA
Phone +1 866 764–6235

Evonik Specialty Chemicals
(Shanghai) Co., Ltd.
Shanghai, China
Phone +86 1391 6212034

Evonik. Power to create.