IN-SITU FOAMED CORES FOR GEOMETRICALLY COMPLEX COMPOSITE PARTS

Lightweight design is a key requirement in many industries, with designers today looking to find innovative solutions, like fiber-reinforced sandwich construction, for their applications. These composite part designs can be complex and foam cores used in sandwich structures must meet many requirements, while still remaining cost- and time-efficient.

With innovative ROHACELL® Triple F in-mold foamed (IMF) cores, cost effective manufacturing of complex three-dimensional cores for high, volume serial production of carbon-fiber composites is now possible.

Even geometries that were previously impossible to create with NC machining are now quick and easy to produce, since the core is foamed “in situ” – directly inside a mold.

Plus, ROHACELL® Triple F offers the potential to lower cost per part by the reduction of waste, manual work and cycle times.

FAST PROCESSING CYCLES, HIGH VOLUME PRODUCTION

With temperature resistance of up to 130 °C (266 °F) and pressure resistance of up to 3.5 MPa (508 psi), depending upon density, ROHACELL® Triple F is an ideal foam core for fast and efficient curing processes, not only for RTM or wet pressing, but also for high pressure RTM processes like compression-RTM.

DENSITY ADJUSTABLE TO YOUR NEEDS

Depending on the mechanical properties required by your production or life service conditions, core density can be adjusted during the foaming process to your choice of a core density between 75 kg/m³ and 200 kg/m³ (4.68 lb/ft³ and 12.5 lbs/ft³) - resulting in a ready-to-use shaped core that is customized to your specific application requirements.

ROHACELL® TRIPLE F FOAM CORE:

- In-situ foamed
- Complex geometries
- Integrated inserts, if needed
- High compression strength and temperature resistance at low density
- Compatible with fast curing processes
- No hazardous ingredients
- Fire resistance according to DIN 75200 specification

ROHACELL® Triple F particle structure ensures high damage tolerance and is compatible with all common thermosets.

INTEGRATE COMPONENTS DURING FOAMING

ROHACELL® Triple F foam cores significantly reduce preparation time and are quick and simple to use.

Inserts can be directly integrated during the core foaming process, resulting in a final core part that is ready to be used for lay-up and curing production.

TIME CONSUMING REWORKING AND CONDITIONING ARE NOT NEEDED

Fine surface details are accurately reproduced during foaming and the final core has a smooth surface that provides excellent adhesion to facing layers.
INTERESTED IN ROHACELL® TRIPLE F CORES?

Shaped IMF cores, as well as faced sandwich components with an IMF core made of ROHACELL® Triple F, are available for customers worldwide.

If you have questions or would like to discuss using a ROHACELL® Triple F core in an application, talk with the ROHACELL® representative in your region.

Europe
Evonik Resource Efficiency GmbH
Nils Kerestes
Darmstadt, Germany
Phone +49 6151 18-4014
Mobile +49 1726577785
nils.kerestes@evonik.com

North, South and Central America
Evonik Corporation
Blake Juhl
Theodore, Alabama, USA
Phone +1 801 495-9403
blake.juhl@evonik.com

Asia
Evonik Specialty Chemicals (Shanghai) Co., Ltd.
诸静 Zhu Jing
Shanghai, China
Phone +86 21 6119 1544
Mobile +86 15900641267
jing1.zhu@evonik.com

Technical data values presented above are typical for nominal density, subject to normal manufacturing variations. All data presented is for ROHACELL® Triple F 1–5 x A05 at 23°C if not indicated otherwise. *: Compressive strength at 3% deformation. Data values are based on ISO standard test methods, however ASTM values can be confirmed upon request.

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.