ENGINEERED SYNTACTIC SYSTEMS

www.esyntactic.com
(508)226-3907
tech@esyntactic.com

Macrosphere Syntactic Foam

MacroCore

Technical Data Sheet

Proven Performance

MacroCore® is a specially engineered, high-quality macrosphere syntactic foam designed to meet core material requirements for a variety of subsea and oceanographic applications. The combination of advanced composite syntactics with a toughened resin matrix provides much higher stiffness and shear strengths, plus far greater impact and shock properties than standard core materials.

As a closed-cell structure, the core easily processes in all composite applications including vacuum bag, RTM and pultrusion without increasing overall density. Due to the nature of the constituent materials, the density, strength and stiffness of MacroCore may be tailored to the specific requirements of the end user.

Sheet Size

MacroCore is offered in standard size sheets of 24” x 48” (610 x 1,219 mm). Customer specified sizes and cast contoured shapes are also available.

4”x 24”x 48” 102 x 610 x 1,219 mm
6"x 24"x 48” 152 x 610 x 1,219 mm

Product Availability

MacroCore is offered in a range of “standard” densities as well as specialty grades. Cast as single units, MacroCore is available as sheets or near-net shape or finished geometries. Sheets come standard with planed surfaces with the cut spheres exposed, but integral skins of random glass mats may also be molded into the surface.

Sheets or trimmed parts may be bonded together to form larger structures or machined to final shape. Both planed and machined surfaces are designed to resist water ingression even with direct exposure.

Industry Applications

MacroCore is a completely isotropic material, finding use in critical areas where the performance of less substantial core materials such as Balsa, Honeycomb or blown foams may not be sufficient. The material has found most significant use in composite-to-metal joint applications; a well-documented area of concern for all composite structures. Other potential uses include windblade joints, utility poles and marine based composites.

Highlights

- Isotropic Shear Properties
- Excellent Strength and Stiffness
- Range of Densities and Grades
- Larger Sizes and Custom Structures
- Low Water Absorption