



MacroFoam

Macrosphere Syntactic Foam

Technical Data Sheet

Highlights

- **Operational Depth Range (Surface - 1600 Meters)**
- **Lowest Density Available in the Entire Industry**
- **Range of Densities and Grades**
- **Larger Sizes and Custom Structures**
- **Low Water Absorption at Depth**



Proven Performance

MacroFoam is a specially engineered, high quality macrosphere syntactic foam designed to meet the requirements of a variety of subsea and oceanographic applications. MacroFoam products integrate fiber reinforced spheres into the standard syntactic structure, which produce a unique new set of properties. These properties allow for the attainment of lower densities in some applications as well as the fabrication of larger standard sizes and custom structures. Additionally, the inclusion of the fiber reinforced macrospheres into the syntactic system generally equates to lower cost buoyancy for a given depth.

Due to the nature of the constituent materials, the density, strength and stiffness of MacroFoam may be tailored to meet the specific requirements of the end user's application, providing greater flexibility for challenging designs.

Industry Applications

Although these versatile syntactic materials may be used for a variety of subsea and oceanographic projects, they are predominantly used for traditional floatation applications such as buoys, cable floats, diving floatation and instrumentation support. Ultra-durable MacroFoam provides the ideal solution when reliable performance, larger or custom sized structures or cost-effective buoyancy is required for successful operation.

Product Availability

MacroFoam is offered in a range of "standard" densities as well as specialty grades. Cast as single units, MacroFoam 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 ingress even with direct exposure.

Sheet Size

MacroFoam is offered in standard off-the-shelf sheets of 24" x 60", but customer specified sizes and cast contoured shapes are also available.

4"x 24"x 60"	5"x 24"x 60"
6"x 24"x 60"	8"x 24"x 60"



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Macrosphere Syntactic Materials

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Typical Properties Chart

Product	Color	Density	Depth Rating	Hydrostatic Crush	Compressive Strength	Compressive Modulus	Shear Strength
		lb/ft ³ (g/cc)	feet (meters)	feet (meters)	psi (MPa)	ksi (GPa)	psi (MPa)
MacroFoam - 18	Natural	18 ± 2.0 (0.29 ± .03)	1 000 (300)	1 485 (450)	1 200 (8.27)	65 (0.448)	625 (4.31)
MacroFoam - 20	White	20 ± 1.5 (0.32 ± .02)	1 650 (500)	2 485 (760)	1 700 (11.72)	78 (0.537)	750 (5.17)
MacroFoam - 22	Yellow	22 ± 1.5 (0.35 ± .02)	2 500 (750)	3 725 (1 135)	1 900 (13.09)	80 (0.550)	810 (5.56)
MacroFoam - 24	Red	24 ± 1.5 (0.39 ± .02)	3 280 (1 000)	4 965 (1 515)	2 100 (14.47)	82 (0.565)	900 (6.25)
MacroFoam - 26	Tan	26 ± 1.5 (0.42 ± .02)	4 100 (1 250)	6 200 (1 895)	2 600 (17.92)	92 (0.634)	1 075 (7.41)
MacroFoam - 28	Green	28 ± 1.5 (0.45 ± .02)	4 920 (1 500)	7 450 (2 270)	3 200 (22.06)	100 (0.689)	1 300 (8.96)
MacroFoam - 30	Blue	30 ± 1.5 (0.48 ± .02)	6 560 (2 000)	9 930 (3 025)	4 700 (32.41)	124 (0.855)	1 600 (11.03)