

BZ Grade

High
Performance
Syntactic

Engineered Syntactic Systems

Deep Water Foam (Bathypelagic Zone)

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Overview

Syntactic foams are a unique combination of hollow spheres, a resin matrix, and other additives. When combined and processed properly, the constituents form a lightweight homogeneous material having high compressive and hydrostatic strengths. This yields a product able to withstand the high hydrostatic pressures experienced by today's manned and unmanned subsea vehicles.



The BZ Grade of material is specially engineered, high performance syntactics capable of operating within much of the Bathypelagic Zone (down to 4,000 meters or 13,100 feet). Due to the nature of the syntactic constituent materials, the BZ Grade is available in a range of densities and strengths. The product is cast in block, sheet or rod form and has isotropic properties. It may be cut or machined to any size or shape to consistent buoyancy at depth.

Each block is cast as a single unit, but may be cut to fit the application requirement. Blocks or trimmed parts may also be bonded together to form a larger structure. Standard block size is 6 inch x 12 inch x 12 inch

or 6 inch x 12 inch x 24 inch, but custom sizes and shapes are available.

Properties

Properties provided below are typical for the cast block:

Product	Density lb/ft ³ (g/cc)	Service Pressure psi (Bar)	Service Depth feet (meters)	Compressive Strength psi (Mpa)	Compressive Modulus ksi (Gpa)	Hydrostatic Crush psi (Bar)	Weight gain 24 hours @ depth
BZ - 24	24 ± 2 (0.39 ± .03)	3,000 (204)	6,757 (2,000)	3,500 (24.1)	163 (1.12)	4,500 (310)	3 % Max
BZ - 26	26 ± 2 (0.42 ± .03)	4,300 (296)	9,750 (2,980)	3,950 (27.2)	180 (1.24)	5,350 (370)	3 % Max
BZ - 28	28 ± 2 (0.45 ± .03)	5,500 (379)	12,500 (3,810)	4,880 (33.6)	210 (1.45)	6,200 (427)	3 % Max
BZ - 30	30 ± 2 (0.48 ± .03)	6,000 (414)	13,600 (4,150)	5,200 (35.9)	240 (1.65)	7,000 (482)	3 % Max