

HZ Grade

High
Performance
Syntactic



Deep Water Foam (Hadal 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 HZ Grade of syntactic has been formulated to survive the deepest depths of the ocean. This class of syntactic will survive crush pressures greater than 20,000 psi making for safe operation in the Hadal Zone. These highly engineered products can provide up to a remarkable 24 pounds of buoyancy per cubic foot at these staggering depths.

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 4 inch x 12 inch x 12 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
HZ - 42	42 ± 2 (0.67 ± .03)	18,000 (1,241)	40,900 (12,460)	16,000 (110)	420 (2.90)	> 20,000 > (1,380)	3 % Max
HZ - 45	45 ± 2 (0.72 ± .03)	18,000 (1,241)	40,900 (12,460)	17,200 (118)	452 (3.12)	> 20,000 > (1,380)	3 % Max