

Deep Water Foam (Abyssopelagic Zone)

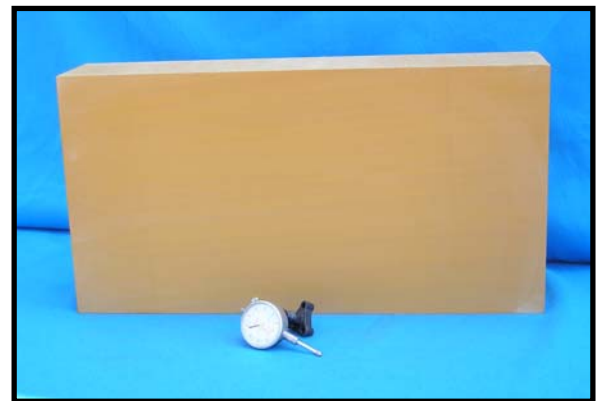
107 Frank Mossberg Drive
Attleboro, MA 02703
TEL (508) 226-3907 FAX (508) 226 - 3902
tech@esyntactic.com www.esyntactic.com

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 AZ Grade of syntactics have been designed and constructed to operate in the deep-water regions of the ocean's Abyssopelagic Zone. (below 4,000 meters/13,100 feet). Standard products, ranging in density from 34 to 40 lbs/ft³, may be selected for customer use based on the specific depth requirements, required buoyancy, desired safety factor, and cost.

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 x12 inch, but custom sizes and shapes, including round stock, 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 |
|---------|---|-------------------------------------|--------------------------------------|---|--|--------------------------------------|---------------------------------------|
| AZ - 34 | 34 ± 2 (0.55 ± .03) | 9,000 (620) | 20,500 (6,230) | 9,200 (63.4) | 328 (2.26) | 11,500 (793) | 3 % Max |
| AZ - 38 | 38 ± 2 (0.61 ± .03) | 11,000 (758) | 25,000 (7,620) | 12,300 (84.8) | 394 (2.72) | 15,375 (1,060) | 3 % Max |
| AZ - 40 | 40 ± 2 (0.61 ± .03) | 12,500 (861) | 28,400 (8,660) | 14,200 (97.9) | 400 (2.72) | 16,000 (1,100) | 3 % Max |