



AI-24 Syntactic Foam

Technical Data Sheet

The AI Grade of syntactic has been formulated to take advantage of the inherent insulative properties of the material due the cellular structure resulting in interesting acoustic properties. The high strength and stiffness means these properties do not change at depth allowing use in acoustic windows and transducer isolators and de-couplers.

This specialty material is constructed as block and 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 ~4.5" x 12 x 24. Custom sizes are available upon request.

Typical Properties

Product	Density lb/ft ³ (g/cc)	Compressive Strength psi (Mpa)	Compressive Modulus ksi (Gpa)	Hydrostatic Crush psi (Bar)	Speed of Sound [@ 1MHz] Ft/sec (meters/sec)	Specific Acoustic Impedance MRayls(SI)
AI - 24	24 ± 2 (0.38 ± .03)	3,500 (24.1)	215 (1.5)	4,300 (297)	7050 ± 165 (2150 ± 50)	0.825



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 extreme hydrostatic pressures experienced by today's manned and unmanned subsea vehicles.