

ShelterFoam GPS Type I

Enterprises

ShelterFoam GPS Graphite Enhanced Polystyrene Rigid Insulation Board

ShelterFoam GPS is a unique high-performance, closed cell, lightweight, mold and mildew resistant expanded polystyrene material used as rigid thermal insulation in the construction industry. This product has a distinct Silver-Gray color, due to the high purity graphite that is contained within the polymer intercellular substance of the foam board. The graphite particles reflect and absorb the radiant energy, which increases the insulation R-value. This bonus is obtained, while still retaining all of the performance of standard rigid insulation. ShelterFoam GPS meets or exceeds the highest standards under ASTM C578 and D6817 for expanded polystyrene, and is recognized by the ICC-ES and UL. Approved for use in certain NFPA 285 wall assemblies.



Advantages of ShelterFoam GPS

- Long-term R-values: ShelterFoam GPS has no thermal drift, and its physical properties remain stable over its entire service life. The long term R-values actually increase during colder temperatures
- Mold and Mildew Resistant: ShelterFoam GPS does not support mold or mildew growth
- Water Resistant and Closed Cell Foam: ShelterFoam GPS is breathable and does not retain moisture and maintains its physical properties even under extreme environmental conditions
- Code Approvals: This product has been recognized by The International Code Council Evaluation Service, and is manufactured from UL tested and approved raw materials
- Independent Third Party Tested and Certified: Ongoing quarterly testing program
- Proven Performance: Graphite is the most stable form of carbon that is both safe and chemically inert. ShelterFoam GPS reflects radiant heat energy, reduces thermal conductivity, and increases R-value as much as 25%. The R-value is increased with the combination of GPS Matrix along with cell gas and radiation.
- Qualifies for LEED credits

ShelterFoam GPS Sizes

- ShelterFoam GPS is lightweight and easy to cut into custom shapes and sizes for any application.
- ShelterFoam GPS is available in 2' x 4', 2' x 8' and 4' x 8 foot sheets, with thicknesses ranging from 1/2" to 48" thicknesses, in job specific quantities.
- ShelterFoam GPS can be cut to custom lengths and widths with minimal impact on lead times. Tapered panels are also available.

ShelterFoam - EPS Physical Properties

Design Values		Type I	ASTM #
NOMINAL DENSITY (description /classification name)	lb/ft ³ (kg/m ³)	1.00 (16.0)	C303
R-VALUE (per 1.0625 inch) Thermal Resistance	@ 25 deg. F @ 40 deg. F @ 75 deg. F	5.5 5.3 5.1	C518 or C177
COMPRESSIVE RESISTANCE @ 10% Deformation	Minimum psi Actual	10.0 – ASTM C578 13.0	D1621
FLEXURAL STRENGTH	Minimum psi	25.0	C203
WATER VAPOR PERMEABILITY	Maximum Permeability (per inch)	4.0	E96
WATER ABSORPTION (by total immersion)	% by Volume, maximum	1.1%	C272
DIMENSIONAL STABILITY	% Change, maximum	2.0%	D2126
OXYGEN INDEX	Volume %	24.0%	D2863
FLAME SPREAD INDEX	Class A	5 or less	E84
SMOKE DEVELOPMENT INDEX	—	25 or less	E84

**Properties are based on data provided by resin manufacturers, independent test agencies and Shelter Enterprises Inc. Complies with fire resistance requirements, as part of an exterior non load-bearing wall assembly*

Typical Applications for ShelterFoam GPS

ShelterFoam GPS is commonly used within a variety of industrial, commercial, and residential projects. These uses include Exterior Insulation Finish Systems (EIFS), traditional and one-coat stucco systems. Continuous insulation sheathing, Tilt up walls, sheathing systems, under slab and perimeter/foundation applications, cavity walls, interior walls, cold storage walls and floors, commercial roofing, garage and entry doors, insulated vinyl siding, radiant flooring, Structural Insulated Panels (SIPS), along with attics and crawl spaces to name a few. ShelterFoam GPS achieves a higher R-value in a thinner profile, making it ideal for space-constrained applications. This product has even become the leading form of insulation in Europe over the past few decades.