

M77_G SERIES

Styropek Expandable

POLYSTYRENE RESINS

PRODUCT DATA SHEET

June 2023



High Density Geofoam/Construction Materials

Features/Attributes:

- Ultra - Low Pentane
- Reduced Prepuff Age Times
- Fast Molding Cycles
- Controlled/Uniform Expansion for High Density Applications

Applications:

- Geofoam
- Insulated Concrete Forms (ICF)
- High Density Sheathing
- Below Grade Insulation vs. XPS

GRADE-SPECIFIC PROPERTIES

		M77AG	M77BG	M77CG
Bead Size	English Units	0.05 inches	0.033 inches	0.016 inches
Average Bead Diameter	S.I. Units	1.25 millimeters	0.85 millimeters	0.60 millimeters
Pentane Content	% by weight	4.2%	3.8%	4.5%

MATERIAL PROPERTIES

Properties	Typical Values (English Units)	Typical Values (S.I. Units)
Bulk Density	38 – 40 pounds per cubic foot	608 – 640 grams per liter
Thermal Properties:		
Thermal Resistance (R-Value)	3.9- 4.2 per inch	
Thermal Conductivity ¹ (K-factor, Lambda) Foot (ft) British Thermal Unit (Btu) Degree Fahrenheit (°F) Degree Centigrade (°C)	0.240 - 0.210 Btu-in/(hr-ft ² -°F)	34.5 - 30.2 milli-Watts/ (meters-°Kelvin)
Coefficient of Linear Expansion Inch (in) Centimeter (cm)	3.5 x 10 ⁻⁵ in/in/° F	6.3 cm/cm/° C
Maximum Continuous Service Temperature	175° F	80° C

¹ The thermal conductivity of expanded polystyrene at an average temperature of 75°F (24°C) is lowest at 3.5 pounds per cubic foot (pcf). It rises slightly at lower density until about 1.5 pcf where it increases rapidly. The rate of increase is much less at higher densities:

8,0 pcf (128 g/l) → 0,269 Btu-in/(hr-ft²-°F) or 38,7 mW/(m-K)
12,0 pcf (192 g/l) → 0,276 Btu-in/(hr-ft²-°F) or 39,8 mW/(m-K)

Styropek

www.styropek.com

AVAILABILITY

STYROPEK® expandable polystyrene (EPS resins) are produced at the Beaver Valley plant site (Monaca, PA) and are available in 2205 pound (1 metric tonne) bulk bags. The product type and batch number are clearly marked on each bag. Contact the STYROPEK sales office in your region.



QUALITY AND ENVIRONMENTAL MANAGEMENT SYSTEMS

M77_G resins are manufactured at an ISO 9001 and ISO 14001 registered facility.

STORAGE AND HANDLING

M77_G should be stored in a cool, dry place away from direct sunlight. This product can release pentane during expansion and molding. Pentane is a highly flammable gas in the presence of open flames, lit cigarettes, sparks, static electricity discharges, or heat. Prolonged or improper storage can result in deterioration of product properties. Care should be taken when handling and transferring product to prevent foreign matter contamination. The STYROPEK' **Safety Data Sheet (SDS) and EPS Storage and Handling Safety Guide** contain important safety information and should be reviewed before using the product.

Typical Processing Conditions

Actual results may vary by customer location and equipment.

Minimum Density:	Batch pre-expander:		Continuous pre-expander:	
	pounds per cubic foot	grams per liter	pounds per cubic foot	grams per liter
M77AG	0.95	15	2.00	32
M77BG	1.25	20	2.20	35
M77CG	1.30	21	—	—

Pre-puff age time:	Units	M77AG	M77BG	M77CG
	Hours		12 to 48	8 to 48

Comprehensive assistance with processing conditions and Technical Services are available from STYROPEK Styrenics Technology Center

ENVIRONMENTAL INFORMATION

STYROPEK® EPS resins are biologically and chemically inert. STYROPEK® EPS resins does not contain CFC's (Chlorofluorocarbons). STYROPEK® EPS resins are recyclable where expanded polystyrene products are accepted. Visit <http://epsindustry.org/> to find an EPS collection program near you.



is the SPI resin code for polystyrene to identify material type for sorting and recycling.

Where recycling of EPS resins is not possible, disposal to landfill or incineration in accordance with applicable laws and regulations is recommended. Contact STYROPEK Styrenics Technology Center for further information on recycling and disposal.

STYROPEK® is a proud member of EPS Industry Alliance. For additional EPS information please visit: <http://epsindustry.org/>

ICC-ES EVALUATION REPORT – ESR 1798

http://www.icc-es.org/reports/pdf_files/ICC-ES/ESR-1798.pdf

UL LISTINGS

<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.html>

Construction File number R4775

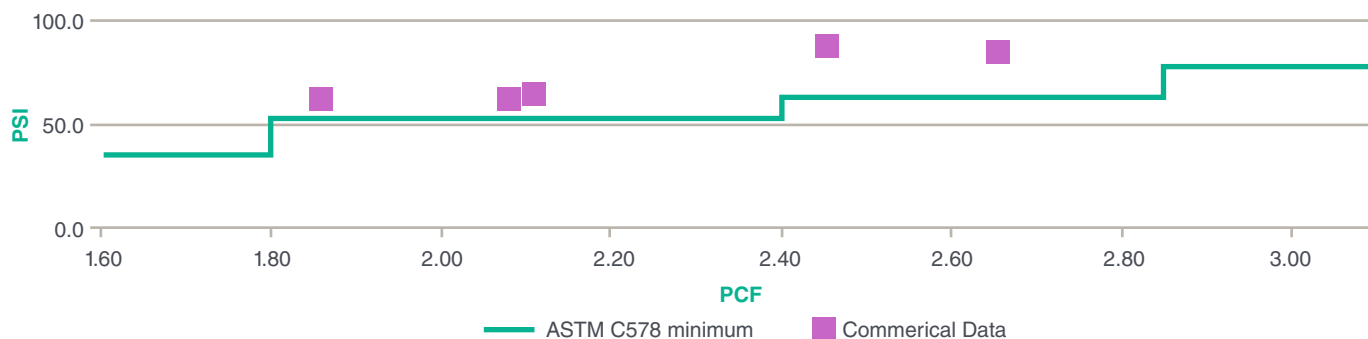
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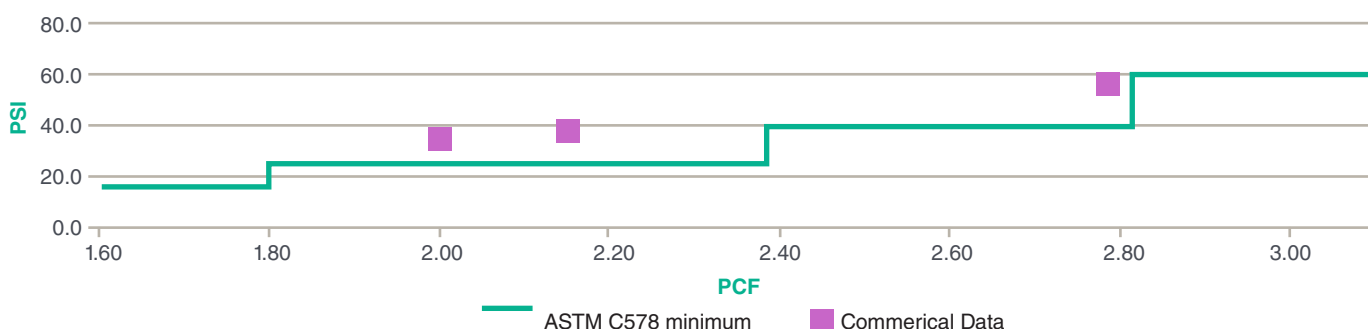


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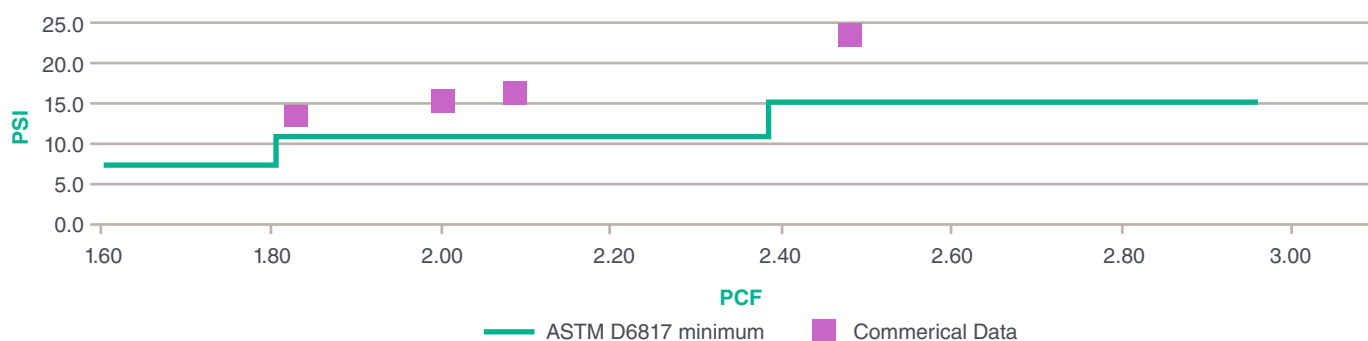
ASTM C578 Flexural Results



ASTM C578 Compressive Results



ASTM D6817 Geofom Compressive Results (1% Strain)



Flexural Strength - Pounds per square inch (psi) and Density – Pounds per Cubic Foot (pcf)

The product properties in the data sheet have been determined in accordance with the current testing methods of the American Society for Testing and Materials (ASTM), wherever possible.

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