



## Product Data Sheet

Insulation, Bean Bags, Fabricated Packaging,  
Flotation

# M77A

### Features/Attributes:

- Low Density Potential
- Controlled/Uniform Expansion

### Applications:

- Insulation
- Bean Bags
- Fabricated Packaging
- Flotation

Properties	Typical Values (English Units)	Typical Values (S.I. Units)
<b>Product Properties:</b>		
<b>(A) Bead Size – avg. bead size diameter</b>	0.047 inches	1.20 millimeter
<b>Pentane Content (Avg.)</b>	6.3% by weight	6.3% by weight
<b>Bulk Density</b>	38 – 40 pounds per cubic foot	608 – 640 grams per liter
<b>Thermal Properties:</b>		
<b>Thermal Resistance (R-Value)</b>	3.9- 4.2 per inch	-
<b>Thermal Conductivity<sup>1</sup> (K-factor, Lambda)</b> Foot (ft) British Thermal Unit (Btu) Degree Fahrenheit (°F) Degree Kelvin (°K)	0.240-0.210 Btu-in/(hr-ft <sup>2</sup> -°F)	34.5-30.2 milli-Watts/(meters-°K)
<b>Coefficient of Linear Expansion</b> Inch (in) Centimeter (cm)	3.5 x 10 <sup>-5</sup> in/in/° F	6.3 x 10 <sup>-5</sup> cm/cm/° C
<b>Maximum Continuous Service Temperature</b>	175° F	80° C

<sup>1</sup> 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-ft<sup>2</sup>-°F) or 38.7 mW/(m-K)
- 12.0 pcf (192 g/l) → 0.276 Btu-in/(hr-ft<sup>2</sup>-°F) or 39.8 mW/(m-K)

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## NOVA Chemicals® EPS

**Availability**

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

**Quality and Environmental Management Systems**

M77A resins are manufactured at an ISO 9001 and ISO 14001 registered facility.

**Storage and Handling**

M77A 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 NOVA Chemicals' **Safety Data Sheet (SDS)** and **EPS Storage and Handling Safety Guide** contain important safety information and should be reviewed before using the product. These and additional safety and health information are available on our [Product Care](#) webpage.

**Processing Conditions****Recommended Conditions:****Minimum Density:**

Batch pre-expander:

- 0.85 pounds per cubic foot or 13.6 grams per liter

Continuous pre-expander:

- 0.90 pounds per cubic foot or 14.4 grams per liter

**Pre-puff age time:**

12-48 hours – depending on pre-expanded density and method of bead pre-expansion.

Comprehensive assistance with processing conditions and Technical Services are available from NOVA Chemicals Styrenics Technology Center.

**Environmental Information**

NOVA Chemicals EPS resins are biologically and chemically inert. NOVA Chemicals EPS resins do not contain CFC's (Chlorofluorocarbons). NOVA Chemicals EPS resins are recyclable where expanded polystyrene products are accepted. Visit [epsindustry.org](http://epsindustry.org) or [earth911.com](http://earth911.com) to find an EPS collection program near you.



is the SPI resin code for polystyrene to identify material type for sorting and recycling. Significant information regarding EPS recycling is available from the [EPS Industry Alliance](#). Where recycling of EPS resins is not possible, disposal to landfill or incineration in accordance with applicable laws and regulations is recommended. Contact NOVA Chemicals Styrenics Technology Center for further information on recycling and disposal.

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

**ICC-ES Evaluation Report – ESR 179 8**

[http://www.icc-es.org/reports/pdf\\_files/ICC-ES/ESR-1798.pdf](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

[www.novachemicals.com](http://www.novachemicals.com)

**EPS Sales and Manufacturing****NOVA Chemicals, Inc.**

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Fax: 724.770.6701

**Latin America Sales**

Phone: 724.770.5603  
Fax: 724.770.6701

**Asia and Pacific Rim Sales Office****NOVA Chemicals (International) S.A.**

The Executive Centre Level  
42, Six Battery Road  
Singapore 049909  
Phone: 65.6224.8807  
Fax: 65.6224.1877

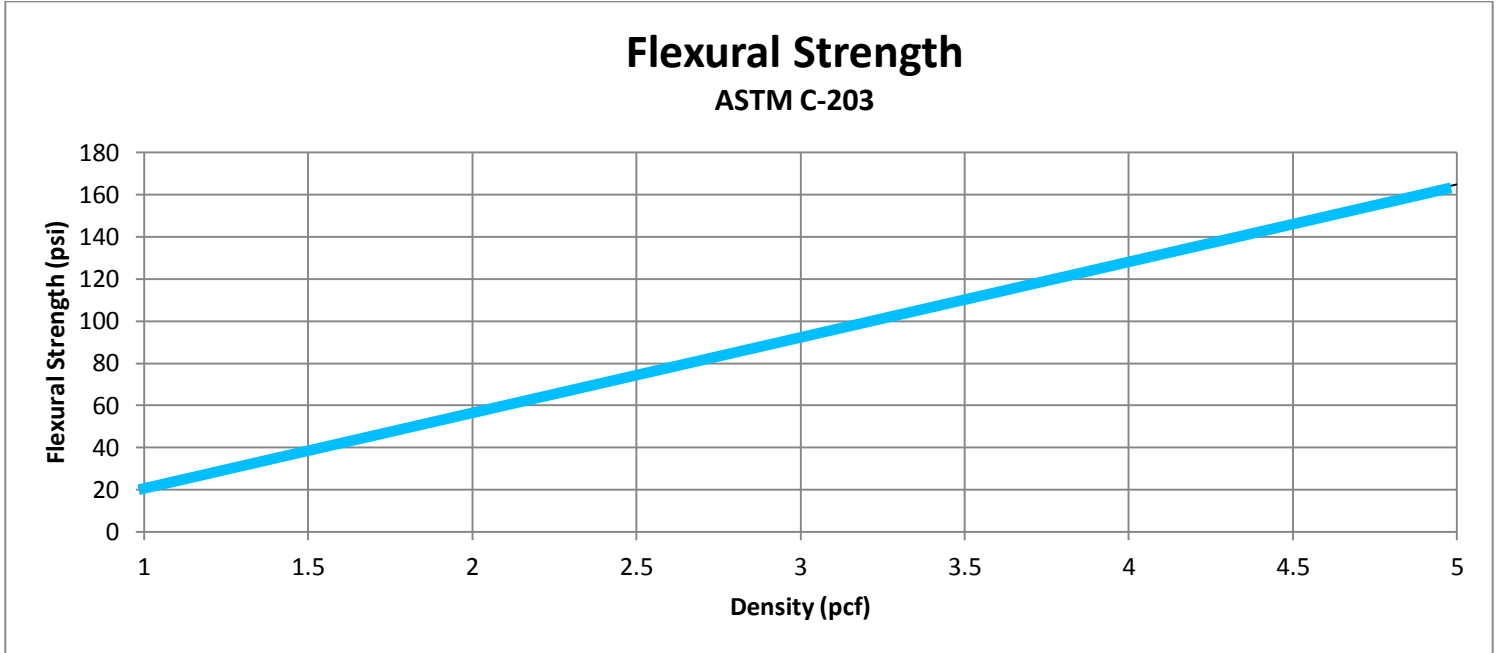
**Technical Center****NOVA Chemicals Expandable Styrenics Technology Center**

400 Frankfort Road  
Monaca, PA 15061  
Phone: 724.770.5555  
Fax: 724.770.5601

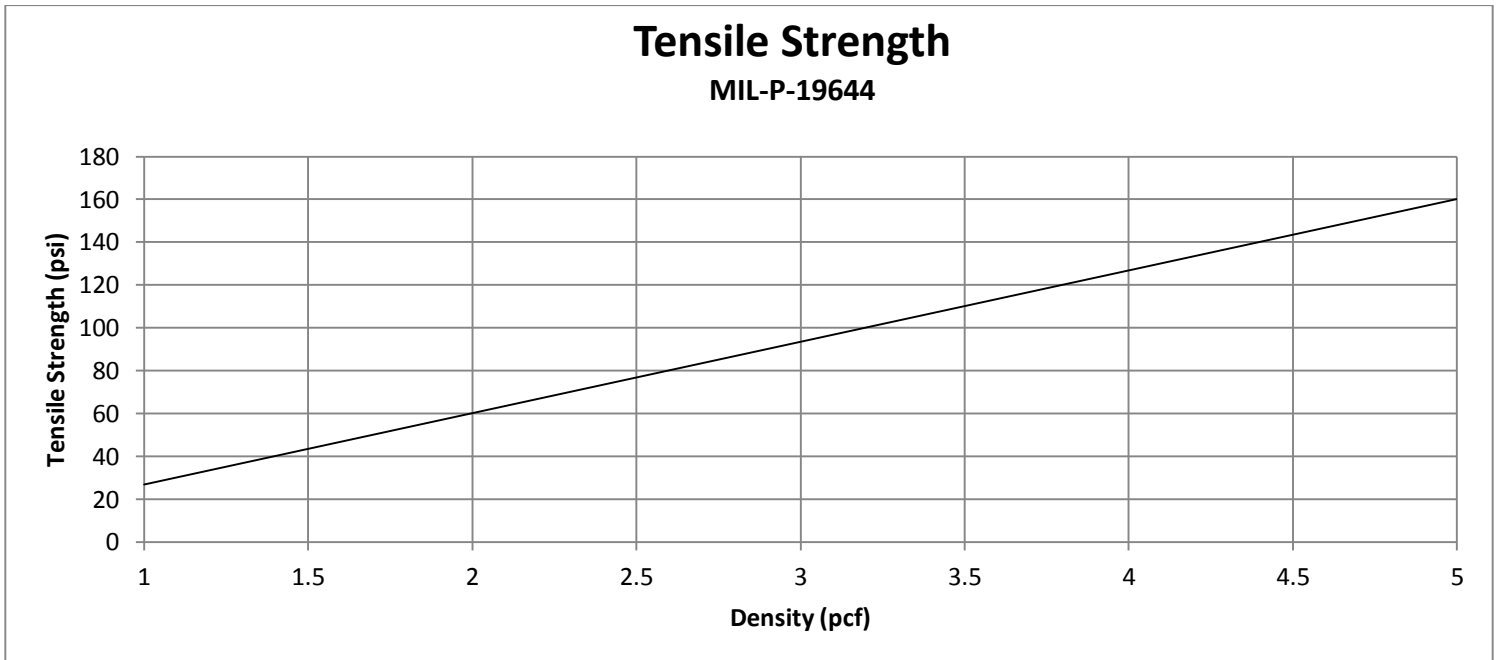
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# NOVA Chemicals<sup>®</sup> EPS

## TYPICAL MECHANICAL PROPERTIES:

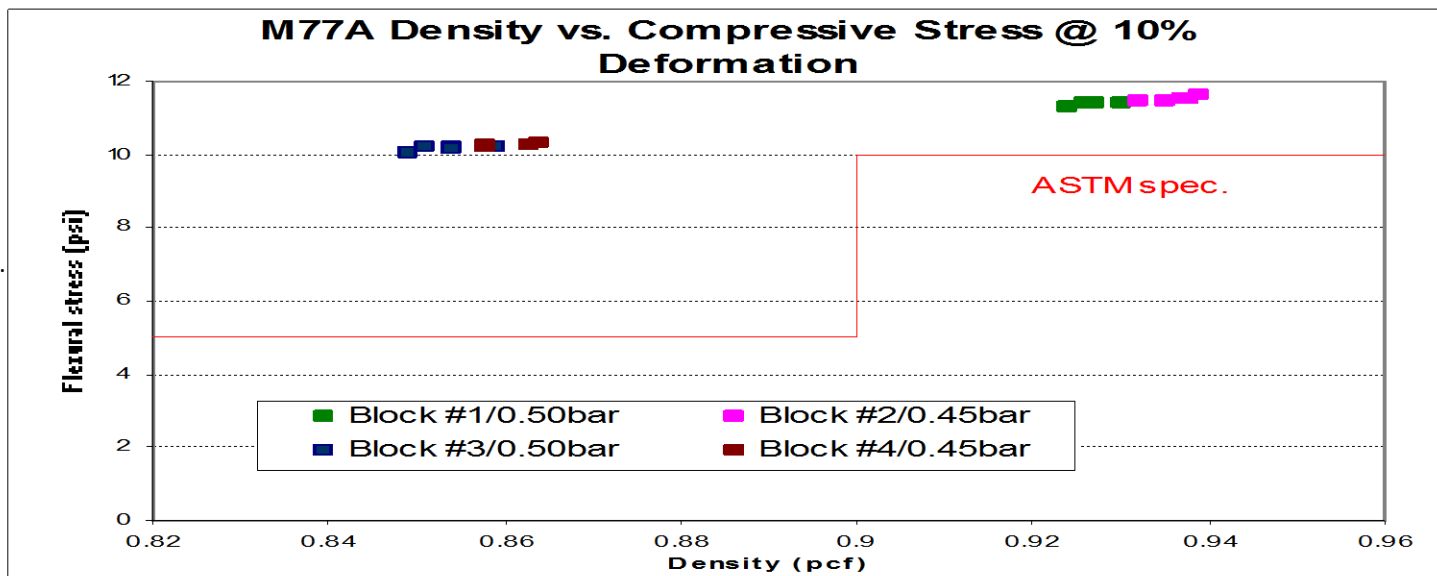


Flexural Strength - Pounds per square inch (psi) and Density – Pounds per Cubic Foot (pcf).



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## NOVA Chemicals® EPS



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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