

Expandable Polystyrene Resins

Product Data Sheet

Packaging/Fabricated Packaging R185B

Features/Attributes:	Applications:
Mid-Range Pentane	Packaging
Reduced Prepuff Age Times	Fabricated Packaging
Fast Molding Cycles	Shippers/Coolers

Properties	Typical Values (English Units)	Typical Values (S.I. Units)
Product Properties:		
Mid –Range Pentane Content	5.0% by weight	5.0% by weight
“B” Bead Size (average in/mm)	0.034	0.875
Bulk Density	38 – 40 pounds per cubic foot	608 – 640 grams per liter
Maximum Continuous Service Temperature	175° F	80° C

Bead Size Description

	Cumulative US Standard Sieve
“B” Intermediate	96% thru 16 on 30

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Availability

NOVA Chemicals expandable polystyrene (EPS) resins are produced at the Monaca, PA plant site 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 NOVA Chemicals sales office in your region.

Quality and Environmental Management Systems

R185B resins are manufactured at an ISO 9001 and ISO 14001 registered facility.

Storage and Handling

R185B resins 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' **Material Safety Data Sheet (MSDS)** 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:

- 1.10 pounds per cubic foot or 17.5 grams per liter

Continuous pre-expander:

- 1.40 pounds per cubic foot or 22.5 grams per liter


Pre-puff age time:

4-36 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 or 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: epsindustry.org

www.novachemicals.com

EPS Sales and Manufacturing

NOVA Chemicals, Inc.

400 Frankfort Road
Monaca, PA 15061
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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.

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Singapore 049909
Phone: 65.6224.8807
Fax: 65.6224.1877

Technical Center

NOVA Chemicals Performance Styrenics Technology Center

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

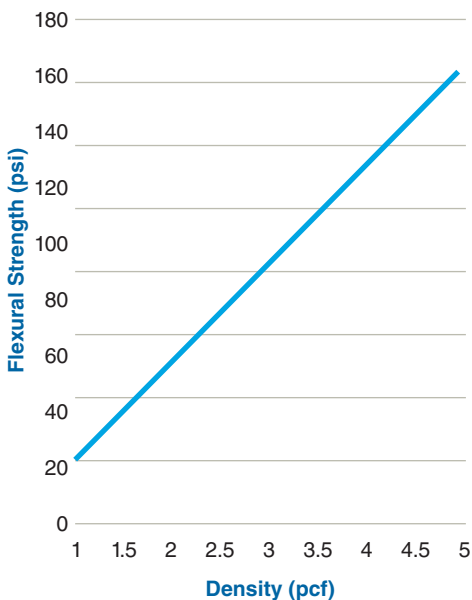
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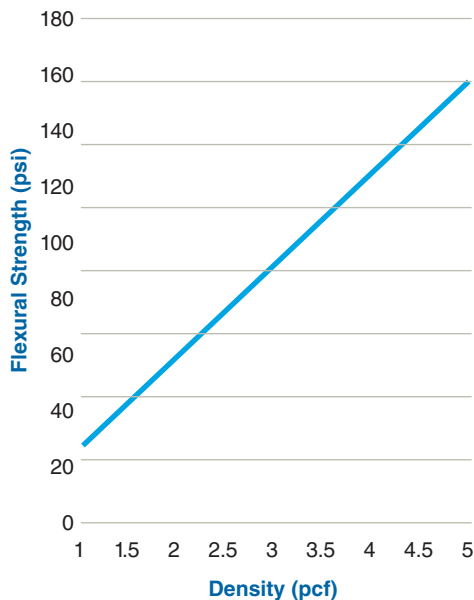
Packaging/Fabricated Packaging R185B

TYPICAL MECHANICAL PROPERTIES

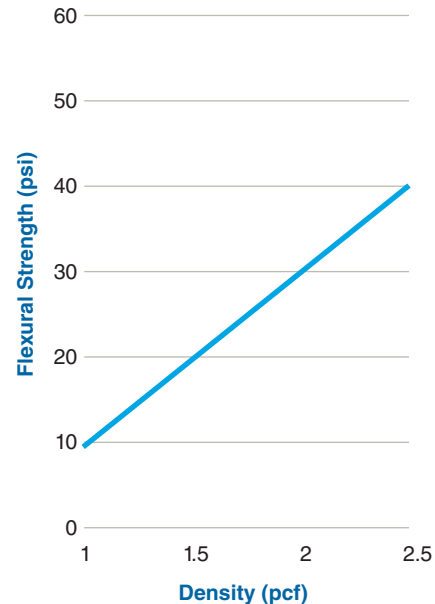
Flexural Strengths — ASTM C-203



Tensile Strength — MIL-P-19644



Compressive Strength at 10% Deformation — ASTM D-1621



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

Thermal Conductivity, k, vs Density Mean Temperature 75°F (24°C) ASTM — C-518

	Density (pcf)				
Units	1.0	1.25	1.5	2.0	2.5
Btu in./hr-ft ² -°F	.255	.244	.242	.239	.235

Water Vapor Permeability ASTM C-355

Nominal Density		Perm-In.		Perm-Cm.	
		Plaques	Blocks	Plaques	Blocks
pcf	Fusion				
1.0	Optimum	1.0-2.0	1.5-3.0	1.5-3.5	2.0-5.0
1.4	Optimum	0.5-2.0	1.5-3.0	1.5-3.0	2.0-5.0
2.2	Optimum	0.5-1.5	1.0-2.5	1.0-2.5	2.0-4.0
2.5	Optimum	0.5-1.5	1.0-2.5	1.0-2.5	1.5-4.0
1.0	Minimum	1.5-3.0	2.0-3.5	2.5-5.0	2.5-6.0
2.3	Minimum	1.0-2.0	1.5-3.0	1.5-3.5	2.5-5.0

Water Absorption MIL-P-19644

Lbs of Water Absorbed per sq. ft. of Specimen Surface.				Kg of Water Absorbed per sq. meter of Specimen Surface		
Nominal Density						
pcf	kg/m ³	Actual	Specification Max	Actual	Specification Max	% By Volume
1.0	16	0.05	0.12	0.24	-	2.8
1.5	24	0.04	-	0.20	-	2.3
2.0	32	0.04	0.12	0.20	0.59	2.3
2.5	40	0.04	-	0.20	-	2.3
3.0	48	0.04	0.12	0.20	0.59	2.3
5.0	80	0.03	0.10	0.15	0.49	1.7

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.