

# 34R PRODUCT SERIES

# EXPANDABLE

# POLYSTYRENE RESINE

TECHNICAL LEAFLET  
June 2023



## FEATURES/ATTRIBUTES:

- Various Pentane Levels- *standard (high)*, *"IP" (mid-level)*, and *"LV" (low)*
- Faster Aging Times/Faster Cycle Times/Good Strength

## APPLICATIONS:

- Packaging
- Fabricated Packaging
- Shippers/Coolers/Fish Boxes

Product Properties	Typical Values (English Units)	Typical Values (S.I. Units)
Pentane Content "A" Bead Low Pentane/ Mid Pentane/ High Pentane "B" Bead Low Pentane/ Mid Pentane/ High Pentane "C" Bead Low Pentane/ Mid Pentane/ High Pentane	L (4.2%) M (4,8 %) H (6.1%) by weight L (4.1%) M (4,7 %) H (6.0%) by weight L (4.1%) M (4,6 %) H (5.7%) by weight	L (4.2%) M (4,8 %) H (6.1%) by weight L (4.1%) M (4,7 %) H (6.0%) by weight L (4.1%) M (4,6 %) H (5.7%) by weight
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
"A" Large	96% thru 10 on 20
"B" Intermediate	96% thru 16 on 30
"C" Small	98% thru 25 on 45

## AVAILABILITY

Styropek® expandable polystyrene (EPS) resins are produced at the Painesville, OH 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 Styropek sales office in your region.

## QUALITY AND ENVIRONMENTAL MANAGEMENT SYSTEMS

34R resins are manufactured at an ISO 9001 and ISO 14001 registered facility.

## STORAGE AND HANDLING

34R 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 Styropek' **Safety Data Sheet (SDS) and EPS Storage and Handling Safety Guide** contain important safety information and should be reviewed before using the product.

## PROCESSING CONDITIONS

Recommended Conditions:

For recommended minimum densities of Styropek EPS Resins, please visit: <https://www.styropek.com>

### Pre-puff age time:

4-48 hours – depending on pre-expanded density and method of bead pre-expansion.

Comprehensive assistance with processing conditions and Technical Services are available from Styropek.

## ENVIRONMENTAL INFORMATION

Styropek® EPS resins are biologically and chemically inert. Styropek® EPS resins does not contain CFC's (Chlorofluorocarbons). Styropek® EPS resins are recyclable.



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/>

# Styropek

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

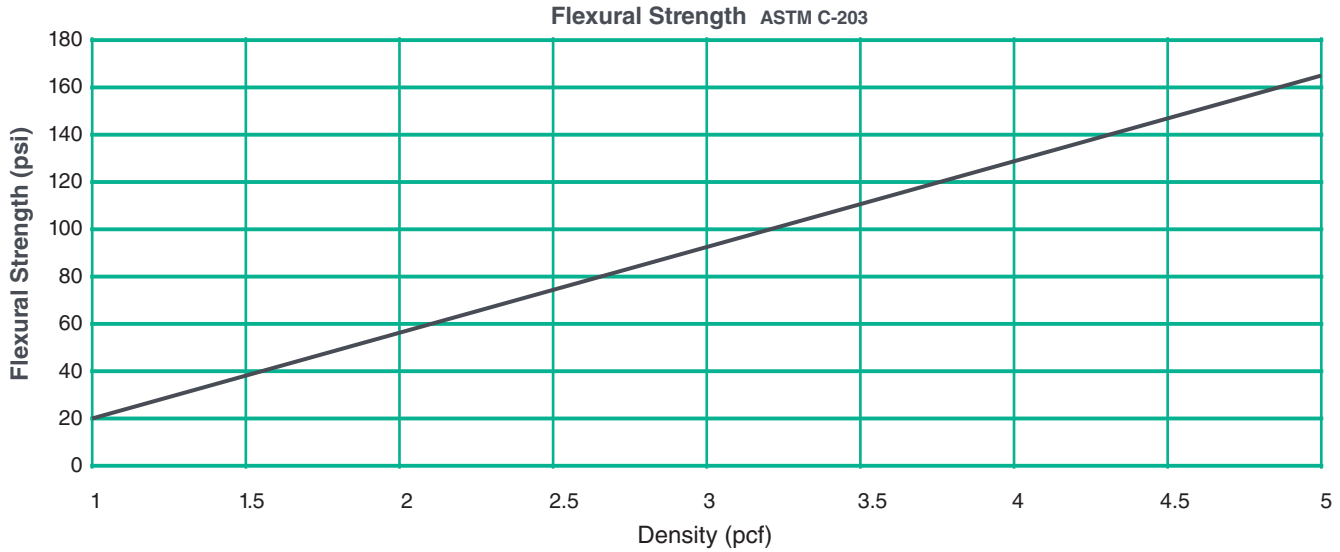
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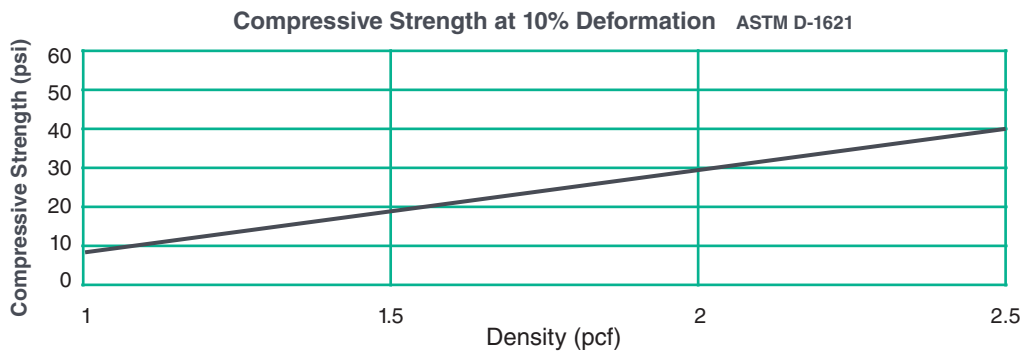
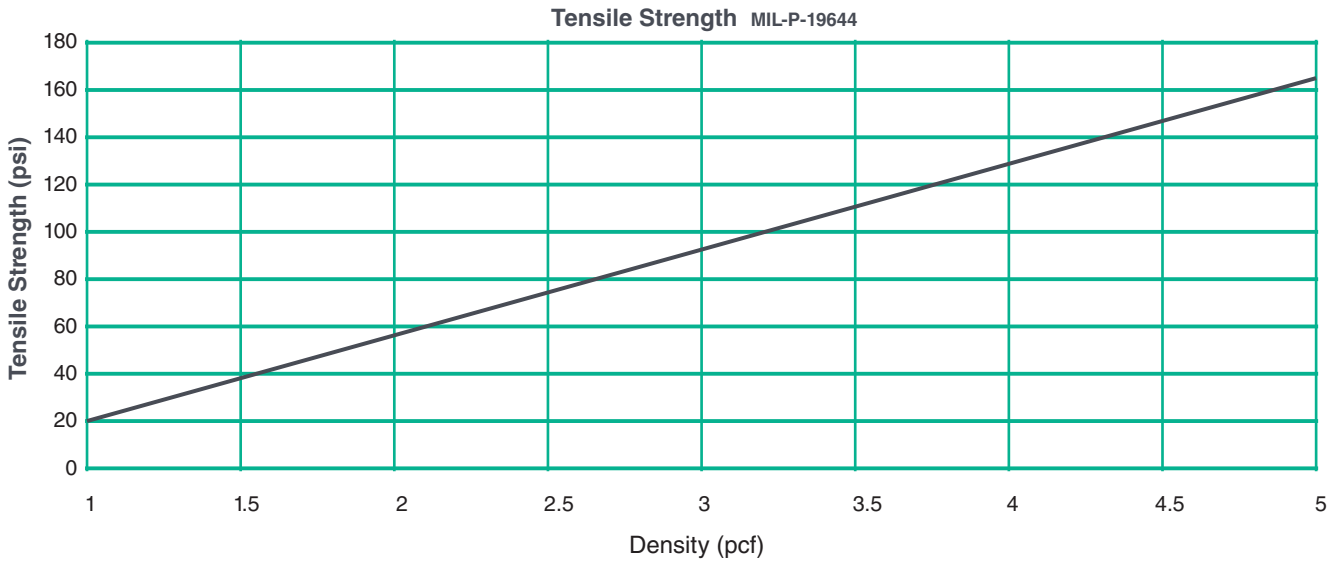
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## TYPICAL MECHANICAL PROPERTIES:



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



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## 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 <sup>3</sup>	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



## Water Vapor Permeability ASTM C-355

Nominal Density	Perm-In.	Perm-Cm.			
		Plagues	Blocks	Plagues	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

## 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-°F	.255	.244	.242	.239	.235

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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