

Technical Information



STYRON™ 685F

General Purpose Polystyrene Resin

Overview

STYRON™ 685F is a general purpose polystyrene resin with high heat resistance, high stiffness and strength. It is recommended for both extrusion and injection molding applications.

Main Characteristics:

- High heat

Applications:

- Foam sheet
- Household ware

Complies with

- U.S. FDA 21 CFR 177.1640
- Consult Regulations for details.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.04 g/cm ³	1.04 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	3.0 g/10 min	3.0 g/10 min	ASTM D1238
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ¹ (Yield, Injection Molded)	7980 psi	55.0 MPa	ASTM D638
Tensile Elongation ¹ (Break, Injection Molded)	2.0 %	2.0 %	ASTM D638
Flexural Modulus (Injection Molded)	470000 psi	3240 MPa	ASTM D790
Flexural Strength (Injection Molded)	15000 psi	103 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
73°F (23°C), Injection Molded	0.30 ft·lb/in	16 J/m	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
264 psi (1.8 MPa), Unannealed	178 °F	81.0 °C	
264 psi (1.8 MPa), Annealed	203 °F	95.0 °C	
Vicat Softening Temperature	225 °F	107 °C	ASTM D1525 ²

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ 0.20 in/min (5.0 mm/min)

² Rate B (120°C/h), Loading 1 (10 N)

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