

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)	2.2 g/10 min	2.2 g/10 min	ASTM D1238
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3 in/in	0.40 to 0.70 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			ASTM D638
Yield, Compression Molded	6000 psi	41.4 MPa	
Yield, Injection Molded	8000 psi	55.2 MPa	
Break, Compression Molded	6000 psi	41.4 MPa	
Break, Injection Molded	8000 psi	55.2 MPa	
Tensile Elongation			ASTM D638
Break, Compression Molded	1.0 %	1.0 %	
Break, Injection Molded	2.0 %	2.0 %	
Flexural Modulus			ASTM D790
Compression Molded	450000 psi	3100 MPa	
Injection Molded	470000 psi	3240 MPa	
Flexural Strength			ASTM D790
Compression Molded	10500 psi	72.4 MPa	
Injection Molded	15000 psi	103 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
73°F (23°C), Compression Molded	0.20 ft-lb/in	11 J/m	
73°F (23°C), Injection Molded	0.40 ft-lb/in	21 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	214 °F	101 °C	
Vicat Softening Temperature	226 °F	108 °C	ASTM D1525
CLTE - Flow	4.2E-5 in/in/°F	7.6E-5 cm/cm/°C	ASTM D696

Notes

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



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