

# STYRON™ 680A

## General Purpose Polystyrene Resin

### Overview

STYRON™ 680A is a general purpose polystyrene resin with good balance of processability and high heat properties. It is designed for general injection molding applications.

Main Characteristics:

- Easy processing
- High heat

Applications:

- Cutlery
- Decorative lighting
- Blending with HIPS

Complies with:

- FDA, 21 CFR 177.1640
- Consult the regulation for complete details.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.04 g/cm <sup>3</sup>	1.04 g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	8.5 g/10 min	8.5 g/10 min	ASTM D1238
Molding Shrinkage - Flow	4.0E-3 to 7.0E-3 in/in	0.40 to 0.70 %	ASTM D955
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			ASTM D638
Yield, Compression Molded	5800 psi	40.0 MPa	
Yield, Injection Molded	6800 psi	46.9 MPa	
Ultimate, Compression Molded	5800 psi	40.0 MPa	
Ultimate, Injection Molded	6800 psi	46.9 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	462000 psi	3190 MPa	
Flexural Strength			ASTM D790
Compression Molded	8200 psi	56.5 MPa	
Injection Molded	13000 psi	89.6 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
Compression Molded	0.20 ft·lb/in	11 J/m	
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	181 °F	82.8 °C	
264 psi (1.8 MPa), Annealed	216 °F	102 °C	
Vicat Softening Temperature	221 °F	105 °C	ASTM D1525
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating <sup>1</sup> (0.06 in (1.5 mm))	HB	HB	UL 94