

Technical Information



STYRON A-TECH™ 1180

Polystyrene Resin

Overview

STYRON A-TECH™ 1180 advanced technology polystyrene resin is a high-impact resin with a unique combination of high gloss, high heat, excellent stiffness and good practical toughness. It is designed for injection molding applications.

Main Characteristics:

- High gloss
- High heat
- High stiffness
- Good practical toughness

Applications:

- Air-conditioner
- Refrigerator accessories

Complies with:

- U.S. 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 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			ASTM D638
Yield, Injection Molded	4930 psi	34.0 MPa	
Break, Injection Molded	4500 psi	31.0 MPa	
Tensile Elongation ¹ (Break, Injection Molded)	55 %	55 %	ASTM D638
Flexural Modulus (Injection Molded)	300000 psi	2070 MPa	ASTM D790
Flexural Strength (Injection Molded)	8700 psi	60.0 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
73°F (23°C), Injection Molded	2.0 ft-lb/in	110 J/m	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
264 psi (1.8 MPa), Unannealed	169 °F	76.0 °C	
264 psi (1.8 MPa), Annealed	199 °F	93.0 °C	
Vicat Softening Temperature	223 °F	106 °C	ASTM D1525 ²
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ³ (0.06 in (1.5 mm))	HB	HB	UL 94
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (60°)	95	95	ASTM D523

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)

³ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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