TRINSEO™

STYRON™ 5050

High Impact Polystyrene Resin

Overview

STYRON™ 5050 is a high-impact polystyrene resin offering a unique balance combining high flow with excellent appearance, good toughness, and high boss strength and stiffness. It is designed for gas-assist injection molding process and paint-free applications.

Main Characteristics

- High flow
- Uniform appearance
- Gas-assist molding

Applications

- TV cabinets

Complies with:

- U.S. FDA 21 CFR 177.1640
- Consult the regulations for complete details.

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.04	g/cm³	1.04	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	14	g/10 min	14	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	2000	psi	13.8	MPa	
Yield, Injection Molded	2900	psi	20.0	MPa	
Ultimate, Compression Molded	2320	psi	16.0	MPa	
Ultimate, Injection Molded	2610	psi	18.0	MPa	
Tensile Elongation					ASTM D638
Break, Compression Molded	35	%	35	%	
Break, Injection Molded	40	%	40	%	
Flexural Modulus					ASTM D790
Compression Molded	263000	psi	1810	MPa	
Injection Molded	291000	psi	2010	MPa	
Flexural Strength					ASTM D790
Compression Molded	4300	psi	29.6	MPa	
Injection Molded	5400	psi	37.2	MPa	
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Notched Izod Impact					ASTM D256
Compression Molded	1.8	ft·lb/in	96	J/m	
Injection Molded	2.3	ft·lb/in	120	J/m	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					ASTM D648
264 psi (1.8 MPa), Unannealed	158	°F	70.0	°C	
264 psi (1.8 MPa), Annealed	194	°F	90.0	°C	
Vicat Softening Temperature	210	°F	98.9	°C	ASTM D1525
Flammability	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Flame Rating [1] (0.06 in (1.5 mm))	HB		HB		UL 94