TRINSEO™

STYRON A-TECH™ 1173
Polystyrene Resin

Overview

STYRON A-TECH™ 1173 advanced technology polystyrene resin is a high impact, environmental stress crack resistant (ESCR) resin for extrusion thermoforming applications. The improved rigidity of this resin allows potential down-gauging and scrap reduction, as well as overall improvements in process efficiency.

Main Characteristics:
- Easy processing
- Outstanding thermoformability
- Good practical toughness
- ESCR performance

Complies with:
- U.S. FDA 21 CFR 177.1640
- Consult the regulation for complete details.

Applications:
- Large appliance/refrigerator liners
- Other deep draw extrusion thermoforming applications

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)	2.0	g/10 min	2.0	g/10 min	ASTM D1238
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Strength [1]					ASTM D638
Yield, Injection Molded	2470	psi	17.0	MPa	
Break, Injection Molded	4060	psi	28.0	MPa	
Tensile Elongation [1] (Break, Injection Molded)	55	%	55	%	ASTM D638
Flexural Modulus (Injection Molded)	219000	psi	1510	MPa	ASTM D790
Flexural Strength (Injection Molded)	5950	psi	41.0	MPa	ASTM D790
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Notched Izod Impact					ASTM D256
73°F (23°C), Injection Molded	1.7	ft·lb/in	90	J/m	
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load					ASTM D648
264 psi (1.8 MPa), Unannealed	160	°F	71.0	°C	
264 psi (1.8 MPa), Annealed	196	°F	91.0	°C	
Vicat Softening Temperature	219	°F	104	°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

Additional Information

Mass balance versions (bio-based (BIO) or chemically recycled (CR)) of this product are chemically and physically indistinguishable to the standard fossil grade. This technical data sheet applies to all versions. Letters of sameness are available upon request.