

STYRON A-TECH™ 1173

Polystyrene Resin

Trinseo

Message:

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

General Information			
UL YellowCard	E73656-249605		
Features	Good Processability		
	Good Toughness		
	High ESCR (Stress Crack Resist.)		
	High Impact Resistance		
	High Rigidity		
Uses	Liners		
Agency Ratings	FDA 21 CFR 177.1640		
Forms	Pellets		
Processing Method	Extrusion		
	Injection Molding		
	Thermoforming		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.04	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	2.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.40 to 0.70	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			ASTM D638
Yield, Compression Molded	13.1	MPa	
Yield, Injection Molded	17.2	MPa	
Break, Compression Molded	15.9	MPa	
Break, Injection Molded	27.6	MPa	

Tensile Elongation			ASTM D638
Break, Compression Molded	30	%	
Break, Injection Molded	55	%	
Flexural Modulus			ASTM D790
Compression Molded	1200	MPa	
Injection Molded	1510	MPa	
Flexural Strength			ASTM D790
Compression Molded	27.6	MPa	
Injection Molded	40.7	MPa	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
23°C, Compression Molded	80	J/m	
23°C, Injection Molded	90	J/m	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed	71.1	°C	
1.8 MPa, Annealed	97.8	°C	
Vicat Softening Temperature	104	°C	ASTM D1525
Flammability	Nominal Value		Test Method
Flame Rating ¹ (1.50 mm)	HB		UL 94
NOTE			

1.

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

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