

STYRON A-TECH™ 1175

Polystyrene Resin

Trinseo

Message:

STYRON A-TECH™ 1175 advanced technology polystyrene is a high impact, environmental stress crack resistant (ESCR) resin, designed for extrusion and thermoforming applications, especially for the refrigeration industry. Based on patented technology, this resin allows for potential downgauging and scrap reduction in the thermoforming process through its combination of properties like ESCR, rigidity and thermoforming.

Main characteristics:

- Allows for downgauging
- ESCR to food stuff and hydrocarbons
- Ease of processing in extrusion and thermoforming
- Excellent thermoforming behaviour
- Increased rigidity

Applications:

- Large Appliance / Refrigeration liners
- General extrusion / thermoforming applications requiring ESCR

Complies with:

- Europe REGULATION (EC) 10/2011
- FDA, 21 CFR 177.1640

Consult the regulations for complete details.

General Information		
UL YellowCard	E162447-238294	E73656-101587637
Features	Food Contact Acceptable	
	High ESCR (Stress Crack Resist.)	
	High Impact Resistance	
	High Rigidity	
Uses	Liners	
Agency Ratings	EU No 10/2011	
	FDA 21 CFR 177.1640	
Forms	Pellets	
Processing Method	Sheet Extrusion	
	Thermoforming	

Physical	Nominal Value	Unit	Test Method
Density	1.05	g/cm ³	ISO 1183
Apparent Density ¹	0.60	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	2.8	g/10 min	ISO 1133
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1650	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/5
Yield	16.0	MPa	
Break	24.0	MPa	

Tensile Strain (Break)	60	%	ISO 527-2/5
Flexural Modulus ²	1650	MPa	ISO 178
Flexural Stress ³	38.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	11	kJ/m ²	ISO 179/1A
Notched Izod Impact Strength			ISO 180/1A
-20°C	8.2	kJ/m ²	
23°C	11	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	80.0	°C	ISO 75-2/B
1.8 MPa, Unannealed	68.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	100	°C	ISO 306/A120
--	89.0	°C	ISO 306/B50
Flammability	Nominal Value		Test Method
Flame Rating ⁴ (1.50 mm)	HB		UL 94
NOTE			
1.	Granulation ⁷		
2.	2.0 mm/min		
3.	2.0 mm/min		
4.	This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.		

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