

INNATE™ ST50 Precision Packaging Resin

Precision Packaging Resin

Overview

INNATE™ ST50 Precision Packaging Resin is designed for exceptional abuse performance. It offers a unique combination of high stiffness with excellent toughness which enables excellent performance on automated packaging equipment. This product also delivers robust processability.

Complies with:

- Europe Commission Regulation (EU) No 10/2011
- U.S. FDA FCN 424

Consult the regulations for complete details

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.918 g/cm ³	0.918 g/cm ³	ASTM D792
Base Density ¹	0.918 g/cm ³	0.918 g/cm ³	Dow Method
Melt Mass-Flow Rate (190°C/2.16 kg)	0.85 g/10 min	0.85 g/10 min	ASTM D1238
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	2.0 mil	51 µm	
Film Puncture Energy	81.0 in·lb	9.15 J	
Film Puncture Force	23.5 lbf	105 N	
Film Puncture Resistance	272 ft·lb/in ³	22.5 J/cm ³	
Secant Modulus			ASTM D882
2% Secant, MD	28500 psi	196 MPa	
2% Secant, TD	33400 psi	230 MPa	
Tensile Strength			ASTM D882
MD : Yield	1470 psi	10.1 MPa	
TD : Yield	1570 psi	10.8 MPa	
MD : Break	7500 psi	51.7 MPa	
TD : Break	7350 psi	50.6 MPa	
Tensile Elongation			ASTM D882
MD : Break	570 %	570 %	
TD : Break	660 %	660 %	
Dart Drop Impact ²	1900 g	1900 g	ASTM D1709
Elmendorf Tear Strength			ASTM D1922
MD	570 g	570 g	
TD	940 g	940 g	
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°)	51	51	ASTM D2457
Haze	15 %	15 %	ASTM D1003

Additional Information

Fabrication Conditions for 2 mil monolayer blown film at 100%:

- Die Diameter: 8 in.
- Screw Type: DSB II
- Die Gap: 90 mil
- Melt Temperature: 432 °F
- Output: 10.34 lb/hr/in. of die circumference
- Screw Size: 3.5 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 36 rpm
- Frost Line Height: 40 in.



Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm³. Base density is the estimated density of the polymer if it did not contain any antiblock.

² Method A

