



Technical Data Sheet

INNATE™ ST100 Precision Packaging Resin

Description

INNATE™ ST100 Precision Packaging Resin is designed for exceptional abuse performance at a medium density. It offers a unique combination of high stiffness with excellent toughness which enables new performance levels for all polyethylene flexible packaging. This product also delivers potential for downgauging and it is easy to process at typical blown film lines.

Complies with

- U.S. FDA 21 CFR 177.1520(c) 3.2a
- EU, No 10/2011 (See NOTES)

Consult the regulations for complete details.

Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

Properties¹

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method ²
Density	0.928	g/cm ³	0.928	g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	0.85	g/10 min	0.85	g/10 min	ASTM D1238
Films					
Film Thickness - Tested	2.0	mil	51	µm	
Film Puncture Energy	45.5	in·lb	5.14	J	Internal Method
Film Puncture Force	18.6	lbf	82.7	N	Internal Method
Film Puncture Resistance	151	ft·lb/in ³	12.5	J/cm ³	Internal Method
Secant Modulus					ASTM D882
2% Secant, MD	50300	psi	346	MPa	
2% Secant, TD	56300	psi	388	MPa	
Tensile Strength					ASTM D882
MD: Yield	2170	psi	15.0	MPa	
TD: Yield	2180	psi	15.0	MPa	
MD: Break	4660	psi	32.1	MPa	
TD: Break	4940	psi	34.1	MPa	
Tensile Elongation					ASTM D882
MD: Break	470	%	470	%	
TD: Break	540	%	540	%	

1. Typical properties: these are not to be construed as specifications. Users should confirm the results by their own tests.
2. ASTM: American Society for Testing and Materials

Properties (Cont.)

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method ²
Dart Drop Impact ³	2100	g	2100	g	ASTM D1709
Elmendorf Tear Strength					ASTM D1922
MD	320	g	320	g	
TD	790	g	790	g	
Thermal					
Vicat Softening Temperature	235	°F	113	°C	ASTM D1525
Melting Temperature (DSC)	256	°F	124	°C	Internal Method
Optical					
Haze	61.0	%	61.0	%	ASTM D1003
Extrusion Notes					
Fabrication Conditions for Blown Film:					
<ul style="list-style-type: none"> Die Diameter: 8 in Screw Type: DSB II Die Gap: 70 mil (1.7 mm) Melt Temperature: 433°F Output: 6.2 lb/hr/in. of die circumference Screw Size: 3.5 in. Blow-up Ratio: 2.5 to 1 Screw Speed: 42 rpm Frost Line Height: 37 in 					

3. Method A

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