Technical Data Sheet

Polytrope STR 1050EP-01 NAT

Polyolefin, Enhanced TPO

Product Description

Polytrope STR 1050EP resin is a high melt strength thermoformable TPO that balances impact resistance and high stiffness, enabling processors and end users to reduce product weight and improve processing efficiency without sacrificing product performance. It can be extruded in smooth or textured surfaces, or co-extruded with a *Polytrope* STR enhanced polyolefin cap resin to further customize its durability, appearance, or feel for interior and exterior applications. The capability of *Polytrope* STR 1050EP to provide an exceptionally smooth surface in extrusion and thermoforming makes it well suited to lamination processes with decorative films. It is also easily colored and is paintable by standard TPO paint systems.

Processing Method	Coextrusion; Extrusion; Profile Extrusion; Sheet Extrusion
Attribute	Good Melt Strength; Good Toughness; Good Weather Resistance; Low Coefficient of Linear Thermal Expansion; Paintable; Recyclable Material
Forms	Pellets

Typical Properties	Nominal Value	English Units	Nominal Value	SI Units	Test Method
Physical					
Melt Flow Rate, (230 °C/2.16 kg)	0.50	g/10 min	0.50	g/10 min	ISO 1133
Density - Specific Gravity, (Method A)	1.14	g/cm³	1.14	g/cm³	ISO 1183
Mechanical					
Tensile Stress at Yield, (Type 1, 23 °C, 50 mm/min)			26.0	MPa	ISO 527-2
Tensile Strain at Break, (Type 1, 233 °C, 50 mm/min)	230	%	230	%	ISO 527-2
Flexural Modulus, (23 °C, 2.0 mm/min, Type 1A, Chord)			3280	MPa	ISO 178
Impact					
Instrumented Dart Impact, (-21 °C, Total Energy, Ductile Failure)			43.6	J	ASTM D3763
Notched Izod Impact					
(-30 °C, 3.18 mm, Injection Molded, Flow)			48	J/m	ASTM D256
(23 °C, 3.18 mm, Injection Molded, Flow)			750	J/m	ASTM D256
Thermal					
Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)			114	°C	ISO 75-2/B
Coefficent of Linear Thermal Expansion (CLTE), Flow (TMA), (-30 to 100 °C)			4.0E-5	cm/cm/°C	ASTM E831
Optical					
Gloss, (60°, 3180 µm, Smooth, Thermoformed)	20 to 40		20 to 40		ISO 2813
Additional Information					
Heat Sag, (148.889 °C, 3.2 mm) 8 inch span, two point support	0	in			ASTM D3769
UL Information					
Flame Rating, (3.2 mm)	HB		HB		UL 94