

POLYTROPE® STR 1040EU-01 NATURAL

Enhanced TPO Polyolefin
Engineering Plastics

Product Description

POLYTROPE STR 1040EU 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. The attractive performance features of POLYTROPE STR 1040EU resin uniquely positions it as a economically favorable option to traditional engineered resins. 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 1040EU 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.

General			
Features	• Good Melt Strength • Low CLTE	• Low Temperature Impact Resistance • Paintable	• Recyclable Material • Weather Resistant
Automotive Specifications	• GM GMP.E/P.165		
Forms	• Pellets		
Processing Method	• Coextrusion • Extrusion	• Profile Extrusion • Sheet Extrusion	• Thermoforming

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity ¹	1.09	1.09 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	0.50 g/10 min	0.50 g/10 min	ISO 1133
Molding Shrinkage 73°F (23°C), 24 hr, 0.125 in (3.18 mm)	0.70 to 0.90 %	0.70 to 0.90 %	ISO 294-4

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Stress ² (Yield, 73°F (23°C))	3730 psi	25.7 MPa	ISO 527-2
Tensile Strain ² (Break, 451°F (233°C))	320 %	320 %	ISO 527-2
Flexural Modulus - Chord ³ (73°F (23°C))	400000 psi	2760 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact - Flow -22°F (-30°C), 0.125 in (3.18 mm), Injection Molded	0.90 ft·lb/in	48 J/m	ASTM D256
73°F (23°C), 0.125 in (3.18 mm), Injection Molded	17 ft·lb/in	890 J/m	
Instrumented Dart Impact -22°F (-30°C), Total Energy, Ductile Failure	360 in·lb	40.7 J	ASTM D3763

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature 66 psi (0.45 MPa), Unannealed	237 °F	114 °C	ISO 75-2/Bf
CLTE - Flow (-22 to 212°F (-30 to 100°C))	2.3E-5 in/in/°F	4.1E-5 cm/cm/°C	ASTM E831

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating (0.13 in (3.2 mm), All Colors)	HB	HB	UL 94

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gardner Gloss 60°, 125 mil (3180 µm), Thermoformed, Smooth	20 to 40	20 to 40	ISO 2813

Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Sag - 8 inch span, two point support (300°F (149°C), 0.13 in (3.20 mm))	0.0 in	0.00 mm	ASTM D3769



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Notes

¹ Method A

² Type 1, 2.0 in/min (50 mm/min)

³ Type 1A, 0.079 in/min (2.0 mm/min)

Notes

These are typical property values not to be construed as specification limits.

