Technical Data Sheet

Polytrope STR 2031REU-01 NATURAL

Enhanced TPO Polyolefin
LyondellBasell Industries
Engineering Plastics

Product Description

POLYTROPE STR 2031REU is a flame retardant TPO resin which is UL 94 V-1 compliant, RoHS compliant, and specifically designed to provide high melt strength for extrusion, and thermoforming processes. It is non-blooming, and provides balanced impact resistance with stiffness, making it especially suitable for structural panel and closure applications requiring flame retarding properties. 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 2031REU 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	• Flame Retardant • Good Melt Strength	• Good Weather Resistance • Low CLTE	• Paintable • Recyclable Material
Forms	• Pellets		
Processing Method	• Coextrusion • Film Extrusion	• Profile Extrusion • Sheet Extrusion	• Thermoforming

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity [1]	1.18	1.18 g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°c/2.16 Kg)	0.80 g/10 min	0.80 g/10 min	ISO 1133
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Stress [2] (Yield, 73°f (23°c))	3100 psi	21.4 MPa	ISO 527-2
Tensile Strain [2] (Break, 451°f (233°c))	550 %	550 %	ISO 527-2
Flexural Modulus - Chord [3] (73°f (23°c))	260000 psi	1790 MPa	ISO 178
Impact	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Notched Izod Impact - Flow			ASTM D256
-22°f (-30°c), 0.125 In (3.18 Mm), Injection Molded	1.0 ft·lb/in	53 J/m	
73°f (23°c), 0.125 In (3.18 Mm), Injection Molded	13 ft·lb/in	680 J/m	
Instrumented Dart Impact			ASTM D3763
-4°f (-20°c), Total Energy, Ductile Failure	407 in·lb	46.0 J	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			ISO 75-2/Bf
66 Psi (0.45 Mpa), Unannealed	190 °F	87.8 °C	
CLTE - Flow (-22 To 212°f (-30 To 100°c))	3.1E-5 in/in/°F	5.6E-5 cm/cm/°C	ASTM E831
Flammability	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Flame Rating			UL 94
0.13 In (3.2 Mm), All Colors	HB	HB	
0.06 In (1.6 Mm), All Colors	V-1	V-1	
Optical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Gloss			ISO 2813
60°, 125 Mil (3180 µm), Thermoformed, Smooth	20 to 40	20 to 40	

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

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)