POLYTROPE® STR 1042EU-01 NATURAL

Enhanced TPO Polyolefin

A. Schulman Inc.

Message:

POLYTROPE STR 1042EU 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 1042EU 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 1042EU 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 Information	
Features	Low CLTE
	Recyclable materials
	Sprayable
	Good melt strength
	Low temperature impact resistance
	Good weather resistance
Forms	Particle
Processing Method	Co-extrusion molding
	Extrusion
	Sheet extrusion molding
	Thermoforming
	Profile extrusion molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity [1]	1.16	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	0.50	g/10 min	ISO 1133
Molding Shrinkage (23°C, 24 hr, 3.18 mm)	0.70 - 0.90	%	ISO 294-4
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength			
Yield	22.9	MPa	ASTM D638
Yield, 23°C [2]	23.6	MPa	ISO 527-2
Tensile Strain [3] (Break, 233°C)	> 200	%	ISO 527-2
Flexural Modulus - Chord [4] (23°C)	2510	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179
-30°C	4.1	kJ/m²	ISO 179
23°C	62	kJ/m²	ISO 179
Notched Izod Impact			

-30°C	53	J/m	ASTM D256
23°C	860	J/m	ASTM D256
-30°C	4.7	kJ/m²	ISO 180
23°C	54	kJ/m²	ISO 180
Instrumented Dart Impact (-30°C, Total Energy, Ductile Failure)	48.6	J	ASTM D3763
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, not annealed	114	°C	ISO 75-2/Bf
1.8 MPa, not annealed	60.2	°C	ISO 75-2/A
Linear thermal expansion coefficient			ASTM E831
Flow: -30 to 100°C	4.5E-5	cm/cm/°C	ASTM E831
Lateral	1.3E-4	cm/cm/°C	ASTM E831
Flammability	**Nominal Value**		**Test Method**
Flame Rating (3.2 mm, All Colors)	HB		UL 94
Optical	**Nominal Value**		**Test Method**
Gardner Gloss (60°, 3180 µm, Thermoformed, Smooth)	20 - 40		ISO 2813
NOTE			
1.	Method A		
2.	Type 1, 50mm/min		
3.	Type 1, 50mm/min		
4.	Type 1A, 2.0 mm/min		

Recommended distributors for this material

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