



## Polytrope STR Thermoplastic Polyolefin (TPO) Resins

*Polytrope* STR TPO resins are advanced polyolefin compositions that have been specifically designed to meet property performance balance through a diverse offering of stiffness, impact and thermal expansion properties. High stiffness products are available, enabling processors and end users to reduce part weight and cost without sacrificing product performance. Like the rest of the *Polytrope* STR family of resins, *Polytrope* STR TPO provides high melt strength for sheet and profile extrusion and thermoforming applications.

A range of *Polytrope* STR TPO materials are available for use in monolayer sheet structures or as a substrate base for multilayer sheet structures, which may utilize a coextrusion of a *Polytrope* STR high- or low-gloss capstock resin, either clear or integrally colored.



## Reasons to Partner with Us.

### Key Advantage

- Breadth: Broad portfolio of custom and standard products
- Customization: Customized product formulations and flexible manufacturing
- Scale: Flexible supply capabilities from small lot to bulk handling
- Localized supply: Supported by regionalized warehouses
- Technology focus: Innovative technology and collaborative application development
- Quality: Analytical and quality control analysis for product consistency and reliability

No matter how you define success, LyondellBasell has the materials expertise, processing know-how, market knowledge and application experience to help you achieve it. We not only offer a rich, diverse portfolio of standard products, we work closely with our customers to understand their unique challenges and customize a unique solution that optimizes their processes.

### Supporting Your Development Needs

LyondellBasell works hand in hand with its customers and industry partners to develop fit-for-purpose solutions. From countless custom-made solutions to a broad range of standard products, the Company remains committed to solving tomorrow's challenges.

## Select the *Polytrope* STR TPO Grade That's Right for You

Property	Unit of Measure	Typical Value							
		Polytrope STR 1025 TPO	Polytrope STR 1030 TPO	Polytrope STR 1032 TPO	Polytrope STR 1040 TPO	Polytrope STR 1050 TPO	Polytrope STR 1060 TPO	Polytrope STR 2030 FR TPO	Polytrope STR 2031 FR TPO
		Film Grade IMD Lamination, Smooth, Low Gel	ABS Replacement, Ductile	Cost Efficient TPO, ABS Replacement	High Modulus & High Ductility Down Gauge	High Modulus & Toughness	Rigid TPO	RoHos Compliant FR, Excellent Property Balance	RoHos Compliant FR, Excellent Property Balance
Melt Flow Rate	230°C/2.16Kg gm/10 min.	1.0	0.45	0.7	0.5	0.5	0.7	0.8	0.8
Specific Gravity	gm/ml	0.99	1.080	1.130	1.090	1.14	1.16	1.310	1.170
Tensile at Yield	psi (Mpa)	3292 (22.7)	3370 (23.2)	3340 (23)	3730 (25.7)	3770 (26)	4470 (30.8)	2750 (19)	3100 (21.4)
Elongation at Break	%	700	360	430	320	230	175	430	550
Flexural Modulus Chord	psi (Mpa)	250,000 (1,724)	325,000 (2,241)	325,000 (2,241)	400,000 (2,758)	475,000 (3,275)	580,000 (4,000)	280,000 (1,930)	260,000 (1,790)
Instrumented Dart Impact, Total Energy @ 5 mph (2.2 m/s)	in-lbs (Joules) Failure Mode Failure Temp.	420 (47.4) Ductile Failure -22°F (-30°C)	355 (40.1) Ductile Failure -22°F (-30°C)	310 (35) Ductile Failure 32°F (0°C)	360 (40.7) Ductile Failure -22°F (-30°C)	386 (43.6) Ductile Failure 5°F (-15°C)	360 (40.7) Ductile Failure 40°F (5°C)	310 (35) Ductile Failure 15°F (-9°C)	407 (46) Ductile Failure -5°F (-20°C)
Notched Izod Impact Flow, 73°F (23°C)	ft-lb/in	No Break	No Break	No Break	17	14	7	8	13
Notched Izod Impact Flow, -22°F (-30°C)	ft-lb/in	4.9	3.3	1.5	0.9	0.9	0.6	0.6	0.7
Coefficient of Linear Thermal Expansion, -30°C to 100°C, Value Shown x 10 <sup>-5</sup>	in/in/°F (in/in/°C)	5.5 (9.9)	2.33 (4.2)	2.4 (4.3)	2.33 (4.2)	2.22 (4.0)	3.0 (5.4)	3.0 (5.4)	3.1 (5.6)
Heat Deflection Temp, 66 psi (0.45 Mpa) load	°F (°C)	201 (94)	223 (106)	212 (100)	237 (114)	237 (114)	242 (117)	195 (91)	190 (88)
Heat Sag, 8 Inch Span, Two Point, 300°F (149°C), Oven Temperature	Inch (mm)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Flame Rating All Colors	UL 94	HB @ 0.125 in	HB @ 0.125 in	HB @ 0.125 in	HB @ 0.125 in	HB @ 0.125 in	HB @ 0.125 in	HB @ 0.125 in V0 @ 0.0625 in 5VA @ 0.0625 in	HB @ 0.125 in V1 @ 0.0625 in
Shrinkage after Forming, 24 hrs, 0.125 In Thick, Tool Temp of 180°F (80°C)	%	0.9 - 1.2	0.7 - 0.9	0.8 - 1.2	0.7 - 0.9	0.7 - 0.9	0.7 - 0.9	0.8 - 1.2	0.9 - 1.3
Gardner Gloss, 60°, Smooth Sheet, After Forming	%	20 - 40	20 - 40	20 - 40	20 - 40	20 - 40	20 - 40	20 - 40	20 - 40

For more information, visit [lyondellbasell.com](http://lyondellbasell.com).

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