**Technical Data Sheet**

# *Polytrope* STR 1030EU-01 NATURAL

Enhanced TPO Polyolefin
LyondellBasell Industries
Engineering Plastics

## Product Description

POLYTROPE STR 1030EU resin is a high melt strength thermoformable TPO that provides high impact resistance & 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 1030EU 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<br>• Good Weather Resistance | • Low CLTE<br>• Low Temperature Impact Resistance | • Paintable<br>• Recyclable Material |
| Automotive Specifications | • GM GMP.E/P.148 | | |
| Forms | • Pellets | | |
| Processing Method | • Coextrusion<br>• Extrusion | • Profile Extrusion<br>• Sheet Extrusion | • Thermoforming |

| Physical | Nominal Value (English) | Nominal Value (SI) | Test Method |
|---|---|---|---|
| Density / Specific Gravity [1] | 1.08 | 1.08 g/cm³ | ISO 1183 |
| Melt Mass-Flow Rate (MFR) (230°c/2.16 Kg) | 0.45 g/10 min | 0.45 g/10 min | ISO 1133 |
| **Mechanical** | **Nominal Value (English)** | **Nominal Value (SI)** | **Test Method** |
| Tensile Stress [2] (Yield, 73°f (23°c)) | 3370 psi | 23.2 MPa | ISO 527-2 |
| Tensile Strain [2] (Break, 451°f (233°c)) | 360 % | 360 % | ISO 527-2 |
| Flexural Modulus - Chord [3] (73°f (23°c)) | 325000 psi | 2240 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 | 3.3 ft·lb/in | 180 J/m | |
| 73°f (23°c), 0.125 In (3.18 Mm), Injection Molded | No Break | No Break | |
| Instrumented Dart Impact | | | ASTM D3763 |
| -22°f (-30°c), Total Energy, Ductile Failure | 355 in·lb | 40.1 J | |
| **Thermal** | **Nominal Value (English)** | **Nominal Value (SI)** | **Test Method** |
| Deflection Temperature Under Load | | | ISO 75-2/Bf |
| 66 Psi (0.45 Mpa), Unannealed | 223 °F | 106 °C | |
| 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** |
| 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)