

# POLYTROPE® STR 1025EU-01 NATURAL

Enhanced TPO Polyolefin  
Engineering Plastics

## Product Description

POLYTROPE STR 1025EU resin is a high melt strength thermoformable TPO that provides high impact resistance and moderate stiffness. 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 1025EU 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          | <ul style="list-style-type: none"> <li>Durable</li> <li>Good Melt Strength</li> </ul> | <ul style="list-style-type: none"> <li>Low Temperature Impact Resistance</li> <li>Paintable</li> </ul> | <ul style="list-style-type: none"> <li>Recyclable Material</li> <li>Weather Resistant</li> </ul> |
| Forms             | <ul style="list-style-type: none"> <li>Pellets</li> </ul>                             |                                                                                                        |                                                                                                  |
| Processing Method | <ul style="list-style-type: none"> <li>Coextrusion</li> <li>Extrusion</li> </ul>      | <ul style="list-style-type: none"> <li>Profile Extrusion</li> <li>Sheet Extrusion</li> </ul>           | <ul style="list-style-type: none"> <li>Thermoforming</li> </ul>                                  |

| Physical                                                    | Nominal Value (English) | Nominal Value (SI)      | Test Method |
|-------------------------------------------------------------|-------------------------|-------------------------|-------------|
| Density / Specific Gravity <sup>1</sup>                     | 0.990                   | 0.988 g/cm <sup>3</sup> | ISO 1183    |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)                   | 1.0 g/10 min            | 1.0 g/10 min            | ISO 1133    |
| Molding Shrinkage<br>73°F (23°C), 24 hr, 0.125 in (3.18 mm) | 0.90 to 1.2 %           | 0.90 to 1.2 %           | ISO 294-4   |

| Mechanical                                          | Nominal Value (English) | Nominal Value (SI) | Test Method |
|-----------------------------------------------------|-------------------------|--------------------|-------------|
| Tensile Stress <sup>2</sup> (Yield, 73°F (23°C))    | 3290 psi                | 22.7 MPa           | ISO 527-2   |
| Tensile Strain <sup>2</sup> (Break, 451°F (233°C))  | 700 %                   | 700 %              | ISO 527-2   |
| Flexural Modulus - Chord <sup>3</sup> (73°F (23°C)) | 250000 psi              | 1720 MPa           | ISO 178     |

| Impact                                                                            | Nominal Value (English) | Nominal Value (SI) | Test Method |
|-----------------------------------------------------------------------------------|-------------------------|--------------------|-------------|
| Notched Izod Impact - Flow<br>-22°F (-30°C), 0.125 in (3.18 mm), Injection Molded | 4.9 ft·lb/in            | 260 J/m            | ASTM D256   |
| 73°F (23°C), 0.125 in (3.18 mm), Injection Molded                                 | No Break                | No Break           |             |
| Instrumented Dart Impact<br>-22°F (-30°C), Total Energy, Ductile Failure          | 420 in·lb               | 47.5 J             | ASTM D3763  |

| Thermal                                                      | Nominal Value (English) | Nominal Value (SI) | Test Method |
|--------------------------------------------------------------|-------------------------|--------------------|-------------|
| Heat Deflection Temperature<br>66 psi (0.45 MPa), Unannealed | 201 °F                  | 93.9 °C            | ISO 75-2/Bf |
| CLTE - Flow (-22 to 212°F (-30 to 100°C))                    | 5.5E-5 in/in/°F         | 9.9E-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<br>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<br>(300°F (149°C), 0.13 in (3.20 mm)) | 0.0 in                  | 0.00 mm            | ASTM D3769  |

## Notes

<sup>1</sup> Method A

<sup>2</sup> Type 1, 2.0 in/min (50 mm/min)

<sup>3</sup> Type 1A, 0.079 in/min (2.0 mm/min)

