



# INTREPID™ 2499 NT

## Bimodal Polyethylene Resin

### Overview

INTREPID™ 2499 NT Bimodal Polyethylene Resin is a Polyethylene resin produced using UNIPOL II process technology. This product is intended for use in industrial piping systems where extreme conditions such as high temperatures, aggressive chemicals, hydrocarbons, or highly oxidative conditions exist. Suitable uses include oil and gas field pipelines, gas distribution pipelines, and other industrial applications.

Industrial Standards Compliance:  
 ASTM D 3350: cell classification PE445574A  
 Plastics Pipe Institute (PPI): TR-4

- Natural Pipe INTREPID™ 2499 NT Bimodal Polyethylene Resin
  - ASTM PE4710 pipe grade - 1600psi HDB @ 73 °F (23°C)
  - ASTM PE4710 pipe grade - 800psi HDB @ 180 °F (82.2°C)

### Additive

- Antiblock: No
- Slip: No
- Processing Aid: Yes

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density (Natural)	0.950 g/cm <sup>3</sup>	0.950 g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate			ASTM D1238
190°C/2.16 kg	0.10 g/10 min	0.10 g/10 min	
190°C/21.6 kg	7.0 g/10 min	7.0 g/10 min	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength (Yield)	> 3500 psi	> 24.1 MPa	ASTM D638 <sup>1</sup>
Tensile Elongation (Break)	> 500 %	> 500 %	ASTM D638 <sup>1</sup>
Flexural Modulus	152000 psi	1050 MPa	ASTM D790B <sup>2, 1</sup>
Resistance to Rapid Crack Propagation, Pc - S-4			ISO 13477 <sup>3</sup>
32°F (0°C)	> 174 psi	> 12.0 bar	
Resistance to Rapid Crack Propagation, Tc - S-4 @ 145 psi (10 bar)	< 2 °F	< -17 °C	ISO 13477 <sup>3</sup>
Slow Crack Growth PENT - @ 2.4 MPa			ASTM F1473 <sup>1</sup>
176°F (80°C)	> 10000 hr	> 10000 hr	
194°F (90°C)	> 10000 hr	> 10000 hr	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	9.1 ft·lb/in	490 J/m	ASTM D256A <sup>1</sup>
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Brittleness Temperature	< -103 °F	< -75.0 °C	ASTM D746A <sup>1</sup>
Melting Temperature (DSC)	269 °F	132 °C	Dow Method
Thermal Stability	> 428 °F	> 220 °C	ASTM D3350

### Extrusion Notes

- Fabrication Conditions:
- Screw Type: High quality HDPE barrier with mixing
  - Melt Temperature Range: 380-450°F (193-232°C)

### Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

<sup>1</sup> Compression molded parts prepared according to ASTM D 1928 Procedure C. Properties will vary with changes in molding conditions and aging time.

<sup>2</sup> Method I (3 point load)

<sup>3</sup> Pipe diameter of 10 inch IPS (25.4 cm) and Standard Diameter Ratio (SDR) 11.

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