Technical Data Sheet

CONTINUUM™ DGDA-2420 NT Bimodal Polyethylene Resin

Overview

CONTINUUM™ DGDA-2420 NT Bimodal Polyethylene Resin is produced using UNIPOL™ II process technology. This product is formulated with a UV stabilizer for outdoor storage. This product may be utilized for pipe applications where long-term hydrostatic strength combined with outstanding resistance to slow crack growth and rapid crack propagation is desired. Suitable applications include natural gas distribution pipes, irrigation and drip tube.

Industrial Standards Compliance:

- ASTM D 3350: cell classification PE277370D
- ISO PE 80 pipe grade
- ASTM PE 2708 pipe grade - 1250 psi HDB @ 73F, 800 psi HDS at 73°F, and 1000 psi HDB @140°F
- NSF International
  - NSF/ANSI Standard 14
  - NSF/ANS/CAN Standard 61

Sustainability Attribute:

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Advancing resource efficiency with DOW

Additive

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

Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Density (Natural Compound)	0.941	g/cm³	0.941	g/cm³	ASTM[1] D792
Base Density[2]	0.940	g/cm³	0.940	g/cm³	Dow Method
Melt Index					ASTM D1238
190°C/2.16 kg[3]	0.16	g/10 min	0.16	g/10 min	
190°C/21.6 kg[4]	9.5	g/10 min	9.5	g/10 min	

1. ASTM: American Society for Testing and Materials
2. Base density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm³. Base density is the estimated density of the polymer if it did not contain any antiblock.
3. Melt Index
4. Flow Index

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

Properties (Cont.)

Mechanical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Tensile Strength[5] (Yield)	> 2600	psi	> 17.9	MPa	ASTM D638
Tensile Elongation[5] (Break)	> 600	%	> 600	%	ASTM D638
Flexural Modulus — 2% Secant[5,6]	> 90000	psi	> 621	MPa	ASTM D790B
Resistance to Rapid Crack Propagation, Pc					
Full Scale: 32°F (0°C)[7]	> 560	psi	> 38.6	bar	ISO[9] 13478
S-4: 32°F (0°C)[8]	> 145	psi	> 10.0	bar	ISO 13477
Resistance to Rapid Crack Propagation, Tc					
- S-4 @ 5 bar[8]	< 28	°F	< -2	°C	ISO 13477
Slow Crack Growth Resistance[5]					
Notched Pipe Test	> 3000	hr	> 3000	hr	ISO 13479
PENT	15000	hr	15000	hr	ASTM F1473
Thermal					
Brittleness Temperature[5]	< -103	°F	< -75.0	°C	ASTM D746A
Thermal Stability	> 428	°F	> 220	°C	ASTM D3350

5. Compression molded parts prepared according to ASTM D 4703 Procedure C unless otherwise noted in the test method. Properties will vary with changes in molding conditions and aging time.
6. Method I (3 point load)
7. Calculated value, determined by the equation in ISO 4437 based on S-4 test data. Pipe diameter of 12 inch IPS (30.5 cm) and Standard Dimension Ratio (SDR) 11.5.
8. Pipe diameter of 12 inch IPS (30.5 cm) and Standard Dimension Ratio (SDR) 11.5.
9. ISO: International Standardization Organization

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