



Technical Data Sheet

CONTINUUM™ DGDC-2502 NT Bimodal Polyethylene Resin

Overview

CONTINUUM™ DGDC-2502 NT Bimodal Polyethylene Resin is produced using UNIPOL™ II process technology. This product may be utilized for pipe applications where long-term hydrostatic strength combined with outstanding resistance to slow crack growth, rapid crack propagation, chlorinated water and high melt strength is desired. Suitable applications include natural gas distribution pipes, large diameter industrial piping, mining, sewage, and municipal water service lines. CONTINUUM™ DGDC-2502 NT Bimodal Polyethylene Resin has excellent processability for the full range of pipes sizes and wall thicknesses to include heavy wall pipe.

Industrial Standards Compliance:

- ASTM D 3350: cell classification
 - Natural - PE445574A CC3
 - Black - PE445574C CC3 (see Notes A and B)
 - Plastics Pipe Institute (PPI): TR-4Natural Pipe - CONTINUUM™ DGDC-2502 NT ASTM PE4710 pipe grade - 1600 psi HDB and 1000 psi HDS @ 73°F, and 1000 psi HDB @ 140°F
 - Black Pipe - CONTINUUM™ DGDC-2502 BK (see Note A & B) ASTM PE4710 pipe grade - 1600 psi HDB and 1000 psi HDS @ 73°F, and 1000 psi HDB @ 140°F
 - ISO PE100 pipe grade - MRS 10 @ 20° C
 - NSF International
 - NSF/ANSI Standard 14
 - NSF/ANS/CAN Standard 61
 - Natural Pipe - DGDC-2502 NT
 - Black Pipe - DGDC-2502 BK (see Note A & B)

Consult the regulations for complete details.

Notes:

- A. The first five numbers of the cell classification are based on natural resin. The last number and letter are based on black resin (natural resin plus 6.5% DFNF-0092 BK).
- B. Natural resin extruded under proper conditions with 6.5% carbon black masterbatch DFNF-0092 BK.



Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method ¹
Density					ASTM D792
Black ²	0.959	g/cm ³	0.959	g/cm ³	
Natural	0.949	g/cm ³	0.949	g/cm ³	
Melt Index					ASTM D1238
190°C/2.16 kg	0.040	g/10 min	0.040	g/10 min	
190°C/21.6 kg	13	g/10 min	13	g/10 min	
Mechanical					
Tensile Strength ³					ASTM D638
Yield	> 3500	psi	> 24.1	MPa	
Break	> 4660	psi	> 32.1	MPa	
Tensile Elongation ³					ASTM D638
Yield	> 16	%	> 16	%	
Break	> 500	%	> 500	%	
Flexural Modulus ^{3,4}	134000	psi	924	MPa	ASTM D790B
Resistance to Rapid Crack Propagation, Pc					
Calculated, Full Scale : 32°F (0°C) ⁵	> 650	psi	> 44.8	bar	ISO 13478
S-4 (32°F) ⁶	> 174	psi	> 12.0	bar	ISO 13477
Resistance to Rapid Crack Propagation, Tc					ISO 13477
S-4 (5 bar) ⁶	30	°F	-1	°C	
Slow Crack Growth PENT - 2.4 MPa (176°F) ³	10000	hr	10000	hr	ASTM F1473
Hardness					
Durometer Hardness (Shore D)	61		61		ASTM D2240
Thermal					
Deflection Temperature Under Load					ASTM D648
66 psi (0.45 MPa), Unannealed	163	°F	72.8	°C	
Brittleness Temperature ³	< -103	°F	< -75.0	°C	ASTM D746
Vicat Softening Temperature	261	°F	127	°C	ASTM D1525
Melting Temperature (DSC)	236	°F	113	°C	Dow Method
Thermal Stability	> 428	°F	> 220	°C	ASTM D3350

1. ASTM: American Society for Testing and Materials
ISO: International Standardization Organization
2. Natural resin extruded under proper conditions with carbon black masterbatch DFNF-0092 BK (6.5%)
3. 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.
4. Method I (3 point load)
5. Calculated value, determined by the equation in ISO 4437 based on S-4 test data. Pipe diameter of 10 inch IPS (25.4 cm) and Standard Diameter Ratio (SDR) 11.
6. Pipe diameter of 10 inch IPS (25.4 cm) and Standard Diameter Ratio (SDR) 11

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

