Technical Data Sheet

CONTINUUM™ DGDC-2480 NT Bimodal Polyethylene Resin

Description

CONTINUUM™ DGDC-2480 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 and rapid crack propagation are desired. Suitable applications include natural gas distribution pipes, industrial piping, mining, sewage, and municipal water service lines.

Complies with

- U.S. FDA 21 CFR 177.1520(c)3.2a (with restrictions)

Industrial Standards Compliance:

- ASTM D 3350: cell classification
  - Natural - PE445574A
  - Black - PE445574C (See NOTES A)
- Plastics Pipe Institute (PPI): TR-4
  - Natural Pipe - CONTINUUM™ DGDC-2480 NT Bimodal Polyethylene Resin
  - Black Pipe - CONTINUUM™ DGDC-2480 BK (See NOTES A)
  - ASTM PE4710 pipe grade – 1600 psi HDB and 1000 psi HDS @ 73°F, and 1000 psi HDB @140°F NSF International: Standard 14 and 61
  - Natural Pipe - CONTINUUM™ DGDC-2480 NT Bimodal Polyethylene Resin
  - Black Pipe - CONTINUUM™ DGDC-2480 BK (See NOTES A)

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).

Additive

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

Properties[1]

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method[2]
Density					ASTM D792
Natural	0.949	g/cm^3	0.949	g/cm^3	
Black[3]	0.959	g/cm^3	0.959	g/cm^3	
Melt Index					ASTM D1238
190ºC/12.16 kg	0.080	g/10min	0.080	g/10min	
190ºC/21.6 kg	8.5	g/10min	8.5	g/10min	
Mechanical					
Tensile Strength[4] (Yield)	> 3500	psi	> 24.1	MPa	ASTM D638
Tensile Elongation[4] (Break)	> 500	%	> 500	%	ASTM D638
Flexural Modulus[4,5]	150000	psi	1030	MPa	ASTM D790B
Resistance to Rapid Crack Propagantion, Pc					
Calculated, Full Scale : 32°F (0°C)[6]	> 667	psi	> 46.0	bar	ISO 13478
S-4 : 32°F (0°C)[6]	> 174	psi	> 12.0	bar	ISO 13477
Resistance to Rapid Crack Propagantion, Tc					
S-4 @ 10 bar[7]	< 2	°F	< -17	°C	ISO 13477
Slow Crack Growth PENT[4]	5000	hr	5000	hr	ASTM F1473
Impact					
Notched Izod Impact[4] (73°F (23°C))	9.1	ft-lb/in	490	J/m	ASTM D256A
Thermal					
Brittleness Temperature[4]	< -103	°F	< -75.0	°C	ASTM D746A
Thermal Stability	> 428	°F	> 220	°C	ASTM D3350

1. Typical properties: these are not to be construed as specifications. Users should confirm results by their own tests.
2. ASTM: American Society for Testing and Materials
   ISO: International Standardization Organization
3. Natural resin extruded under proper conditions with carbon black masterbatch DFNF-0092 (6.5%).
4. 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.
5. Method I (3 point load).
6. 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.
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