



CONTINUUM DGDA-2490 BK

Bimodal Polyethylene Resin

Industrial Standards Compliance:

- ASTM D 3350: cell classification
 - § Black – PE445576C (MRS)
 - § Black – PE445574C (HDB)
- Plastics Pipe Institute (PPI): TR-4
 - § Black Pipe – CONTINUUM™ DGDA-2490 BK 100⁽²⁾
 - ISO PE100 pipe grade - MRS 10 @ 20°C; CRS 10 @ 20°C, 100 yr; CRS 8 @ 40°C, 90 yr; MRS 6.3 @ 60°C, 11 yr; MRS 11.2 @ 14°C, 50 yr
 - ASTM PE4710 pipe grade – 1600psi HDB @ 73°F and 1000psi HDB @ 140°F
- National Sanitation Foundation (NSF): Standard 14 and 61
 - § Black Pipe – DGDA-2490 Black 100⁽²⁾

Consult the regulations for complete details.

CONTINUUM™ DGDA-2490 BK 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 is desired. Suitable applications include natural gas distribution pipes, industrial piping, mining, sewage, and municipal water service lines.

Physical Properties	Test Method	Values ⁽³⁾ English (SI)
Resin Properties		
Melt Index (I ₂) @190°C/2.16 kg, g/10 min	ASTM D 1238	0.08
Flow Rate (I ₃₀) @190°C/21.60 kg, g/10 min	ASTM D 1238	7.0
Density (natural resin), g/cc	ASTM D 792	0.949
Density ⁽²⁾ , g/cc	ASTM D 792	0.959
Thermal Stability, °F (°C)	ASTM D 3350	>428 (>220)
Mechanical Properties⁽⁴⁾		
Tensile Strength at Yield, psi (MPa)	ASTM D 638	3600 (24.8)
Elongation at Break, %	ASTM D 638	740
Flexural Modulus, psi (MPa)	ASTM D 790, method 1, procedure B	150,000 (1034)
Notched Izod Impact @ 23°C, ft·lbf/in. (J/m)	ASTM D 256, method A	9.1 (488)
Brittleness Temperature, °F (°C)	ASTM D 746, procedure A	<-103 (<-75)
Slow Crack Growth PENT, hours	ASTM F 1473	>10,000
Pipe Properties⁽²⁾		
Hydrostatic Strength @ 20°C/ 1798 psi (12.4 Mpa), hr.	ASTM 1598	>100
Hydrostatic Strength @ 80°C/ 798 psi (5.5 Mpa), hr.	ASTM 1598	>1000
Resistance to Rapid Crack Propagation ⁽⁵⁾ , Pc, psi (bar)	SO 13477	>174 (>12)
Resistance to Rapid Crack Propagation ⁽⁵⁾ , Tc, °F (°C)	ISO 13477	<2 (<-17)

Fabrication Conditions:

- Screw Type: High quality HDPE (preferably barrier for complete melting)
- Melt Temperature Range: 380-440°F (193-225°C)

- (1) 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).
- (2) Natural resin extruded under proper conditions with carbon black masterbatch DFNF-0092 (6.5%).
- (3) Typical values, not to be construed as specifications. Users should confirm results by their own tests.
- (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) Pipe diameter of 10 inch IPS (25.4 cm) and Standard Diameter Ratio (SDR) 11.

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Published September 2005

