Technical Data Sheet

DOW™ HDPE DGDB-2480 NT High Density Polyethylene Resin

Overview

DOW™ DGDB-2480 NT High Density Polyethylene Resin is produced using UNIPOL™ process technology. It is intended for use in pipe applications where long term hydrostatic strength and resistance to slow crack growth are desired. Suitable applications include natural gas distribution pipes, large diameter industrial piping, mining, sewage, and municipal water service lines.

Industrial Standards Compliance:

- ASTM D 3350: cell classification
  - Natural - PE345464A
  - Black - PE345464C (See NOTES A)
- Plastics Pipe Institute (PPI): TR-4
  - Natural Pipe - DGDB-2480 NT 3408
    - ASTM PE3608 pipe grade - 1600 psi HDB @ 73°F
  - Black Pipe - DGDB-2480 BK 3408 (See NOTES B)
    - ASTM PE3608 pipe grade - 1600 psi HDB @ 73°F and 800 psi HDB @ 140°F
    - NSF International
    - NSF/ANSI Standard 14
    - NSF/ANS/CAN Standard 61
  - Natural Pipe - DGDB-2480 NT 3608
  - Black Pipe - DGDB-2480 BK 3608 (See NOTES 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).

B. Natural resin extruded under proper conditions with carbon black masterbatch DFNF-0092 (6.5%).

Additive

- Antiblock: No
- Slip: No
- Processing aid: No

Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method[1]
Density[2]					ASTM D792
	0.944	g/cm³	0.944	g/cm³	
	0.954	g/cm³	0.954	g/cm³	
Melt Index					ASTM D1238
190°C/2.16 kg	0.10	g/10 min	0.10	g/10 min	
190°C/21.6 kg	8.3	g/10 min	8.3	g/10 min	
Mechanical					
Tensile Strength[3] (Yield)	3200	psi	22.1	MPa	ASTM D638
Tensile Elongation[3] (Break)	850	%	850	%	ASTM D638
Flexural Modulus[3,4]	120000	psi	827	MPa	ASTM D790B
Slow Crack Growth PENT[5] (176°F (80°C))	200	hr	200	hr	ASTM F1473
Impact					
Notched Izod Impact[3] (73°F (23°C))	4.0	ft-lb/in	210	J/m	ASTM D256A
Thermal					
Brittleness Temperature[3]	< -148	°F	< -100	°C	ASTM D746A
Thermal Stability	> 482	°F	> 250	°C	ASTM D3350
Extrusion					
Melt Temperature	380 to 440	°F	193 to 227	°C	
Extrusion Notes					

Fabrication Conditions:

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

1. ASTM: American Society for Testing and Materials
2. Natural resin extruded under proper conditions with carbon black masterbatch DFNF-0092 (6.5%)
3. Compression molded parts prepared according to ASTM D 4703, Procedure C. Properties will vary with changes in molding conditions and aging time. Data generated based on ASTM F1473 at Dow facility. Pent data projected based on representative test samples and conditions.
4. Method I (3 point load)
5. 2.4 MPa

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