



DOW™ HDPE DGDC-2100 NT 7 High Density Polyethylene Resin

Overview

- High Density Polyethylene (HDPE)
- Complies with:
 - U.S. FDA 21 CFR 177.1520 (c) 3.2a
 - Canadian HPFB No Objection
 - EU, No 10/2011
 - Consult the regulations for complete details.

DOW DGDC-2100 NT 7 High Density Polyethylene Resin is a high-molecular weight, high-density film grade resin. This product was specifically designed to offer an optimal balance of physical properties and processability. DGDC-2100 NT7 HDPE resin is ideally suited for use in making grocery sacks, consumer and institutional liners, and merchandise bags.

Additive

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.948 g/cm ³	0.948 g/cm ³	ASTM D792
Base Density ¹	0.948 g/cm ³	0.948 g/cm ³	Dow Method
Melt Index			ASTM D1238
190°C/2.16 kg	0.070 g/10 min	0.070 g/10 min	
190°C/21.6 kg	9.0 g/10 min	9.0 g/10 min	
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	1 mil	13 µm	
Film Puncture Energy (0.50 mil (13 µm))	7.90 in·lb	0.893 J	Dow Method
Film Puncture Force (0.50 mil (13 µm))	6.70 lbf	29.8 N	Dow Method
Film Puncture Resistance (0.50 mil (13 µm))	128 ft·lb/in ³	10.6 J/cm ³	Dow Method
Secant Modulus			ASTM D882
2% Secant, MD : 0.50 mil (13 µm)	140000 psi	966 MPa	
2% Secant, TD : 0.50 mil (13 µm)	159000 psi	1100 MPa	
Tensile Strength			ASTM D882
MD : Yield, 0.50 mil (13 µm)	6140 psi	42.4 MPa	
TD : Yield, 0.50 mil (13 µm)	4610 psi	31.8 MPa	
MD : Break, 0.50 mil (13 µm)	13600 psi	93.4 MPa	
TD : Break, 0.50 mil (13 µm)	9990 psi	68.8 MPa	
Tensile Elongation			ASTM D882
MD : Break, 0.50 mil (13 µm)	330 %	330 %	
TD : Break, 0.50 mil (13 µm)	410 %	410 %	
Dart Drop Impact (0.50 mil (13 µm))	350 g	350 g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD : 0.50 mil (13 µm)	11 g	11 g	
TD : 0.50 mil (13 µm)	73 g	73 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Melting Temperature (DSC)	262 °F	128 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 0.500 mil (12.7 µm))	9	9	ASTM D2457
Haze (0.500 mil (12.7 µm))	69.0 %	69.0 %	ASTM D1003

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 1.97 in. (50mm); 24:1 L/D
- Melt Temperature: 410 °F (210 °C)
- Output: 8 lb/hr/in. of die circumference
- Die Diameter: 3.94 in. (100mm)
- Blow-Up Ratio: 4:1
- Neck Height: 32 in. (813 mm)

Notes

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

¹ 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.

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