

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, 2002/72/EC
 - 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.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.948 g/cm ³	0.948 g/cm ³	ASTM D792
Melt Index			ASTM D1238
190°C/21.6 kg	9.0 g/10 min	9.0 g/10 min	
190°C/2.16 kg	0.070 g/10 min	0.070 g/10 min	
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	0.500 mil	12.7 µm	
Film Puncture Energy (0.500 mil (12.7 µm))	7.90 in·lb	0.893 J	Dow Method
Film Puncture Force (0.500 mil (12.7 µm))	6.70 lbf	29.8 N	Dow Method
Film Puncture Resistance			Dow Method
0.500 mil (12.7 µm)	128 ft·lb/in ³	10.6 J/cm ³	
Secant Modulus			ASTM D882
2% Secant, MD: 0.500 mil (12.7 µm)	140000 psi	966 MPa	
2% Secant, TD: 0.500 mil (12.7 µm)	159000 psi	1100 MPa	
Tensile Strength			ASTM D882
MD: Yield, 0.500 mil (12.7 µm)	6140 psi	42.4 MPa	
TD: Yield, 0.500 mil (12.7 µm)	4610 psi	31.8 MPa	
MD: Break, 0.500 mil (12.7 µm)	13600 psi	93.4 MPa	
TD: Break, 0.500 mil (12.7 µm)	9990 psi	68.8 MPa	
Tensile Elongation			ASTM D882
MD: Break, 0.500 mil (12.7 µm)	330 %	330 %	
TD: Break, 0.500 mil (12.7 µm)	410 %	410 %	
Dart Drop Impact (0.500 mil (12.7 µm))	350 g	350 g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD: 0.500 mil (12.7 µm)	11 g	11 g	
TD: 0.500 mil (12.7 µm)	73 g	73 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Melting Temperature (DSC)	504 °F	262 °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 %	69 %	ASTM D1003
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	410 °F	210 °C	

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.

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Additional Information

North America		Europe/Middle East	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+32-3-450-2240
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
Latin America		South Africa	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	Asia Pacific	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

www.dowplastics.com

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