Technical Data Sheet

DOW™ LLDPE DFDE-7087 NT 7 Linear Low Density Polyethylene Resin

Description

DOW™ DFDE-7087 NT 7 Linear Low Density Polyethylene Resin is an ethylene-butene copolymer designed for blown film applications. This resin is formulated with an additive package that does not contain any intentionally added TNPP (TrisnonylphenylPhosphite).

Main Characteristics

- Butene linear low density polyethylene
- Blown film extrusion
- Pellet form

Complies with

- U.S. FDA 21 CFR 177.1520(c)3.2a (with Restrictions)
- EU, No 10/2011
- Canadian HPFB No Objection

Consult the regulations for complete details.

Additive

- Antiblock: 6300 ppm
- Slip: 1500 ppm
- Processing aid: No

Properties[1]

Physical	Nominal Value	Unit	Test Method[2]
Density	0.923	g/cm³	ASTM D792
Base Density[3]	0.919	g/cm³	Internal Method
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	1.0	g/10 min	ASTM D1238
Films	**Nominal Value**	**Unit**	**Test Method**
Film Thickness - Tested	25	µm	
Film Puncture Energy	1.47	J	Internal Method
Film Puncture Force	26.7	N	Internal Method
Film Puncture Resistance	8.11	J/cm³	Internal Method
Film Toughness			ASTM D882
MD	109	J/cm³	
TD	107	J/cm³	

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. 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.

Properties (Cont.)

Films	Nominal Value	Unit	Test Method
Secant Modulus			ASTM D882
1% Secant, MD	216	MPa	
2% Secant, MD	190	MPa	
1% Secant, TD	246	MPa	
2% Secant, TD	206	MPa	
Tensile Strength			ASTM D882
MD: Yield	11.7	MPa	
TD: Yield	11.6	MPa	
MD: Break	40.5	MPa	
TD: Break	29.3	MPa	
Tensile Elongation			ASTM D882
MD: Break	580	%	
TD: Break	680	%	
Dart Drop Impact	95	g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922
MD	160	g	
TD	400	g	
Thermal			
Vicat Softening Temperature	102	°C	ASTM D1525
Melting Temperature (DSC)	122	°C	ISO 3146
Optical			
Gloss (45°)	17		ASTM D2457
Haze	38.0	%	ASTM D1003
Extrusion Notes			

Fabrication Conditions for Blown Film:

- Screw Size: 3.5 in.; 30:1 ratio L/D
- Screw Type: DSB II
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 417°F
- Output: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 39 rpm
- Frost Line Height: 52 in.