DOW™ MDPE DNDA-1796 NT 7
Medium Density Polyethylene Resin

Overview

- High melt strength
- Excellent low temperature toughness
- Good environmental stress crack resistance
- Excellent flex life

Industrial Standards Compliance:

- ASTM D 3350: cell classification PE224340A
- Complies with U.S. FDA 21 CFR 177.1520 (c) 3.1a.
- Complies with Canadian HPFB No Objection (With Limitations)
- Consult the regulations for complete details.

DOW DNDA-1796 NT 7 Medium Density Polyethylene Resin is produced using UNIPOL™ process technology. It is intended for use in flexible hose and tube applications. It also has utility in certain sheet applications and blow molding applications such as small, squeezable bottles. It exhibits high melt strength, excellent low temperature toughness, good stress cracking resistance, and outstanding flex life. It has a high molecular weight and a relatively broad molecular weight distribution that provides an excellent balance of performance properties and processability.

Additive

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

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.939	g/cm³	0.939	g/cm³	ASTM D792
Base Density [1]	0.939	g/cm³	0.939	g/cm³	Dow Method
Melt Index					ASTM D1238
190°C/2.16 kg	0.60	g/10 min	0.60	g/10 min	
190°C/21.6 kg	40	g/10 min	40	g/10 min	
Environmental Stress-Cracking Resistance (ESCR)					
F0 [2]	> 2000	hr	> 2000	hr	ASTM D1693C
122°F (50°C), 100% Igepal, F50 [3]	> 1500	hr	> 1500	hr	ASTM D1693
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Strength					ASTM D638
Yield [2]	2750	psi	19.0	MPa	
Yield [3]	2900	psi	20.0	MPa	
Break [2]	3000	psi	20.7	MPa	
Break [3]	3100	psi	21.4	MPa	
Tensile Elongation					ASTM D638
Yield [3]	4.0	%	4.0	%	
Break [2]	> 800	%	> 800	%	
Break [3]	700	%	700	%	
Flexural Modulus					ASTM D790B
-- [4, 2]	95000	psi	655	MPa	
2% Secant [3]	87000	psi	600	MPa	
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Impact Strength [5, 3]	110	ft·lb/in²	231	kJ/m²	ASTM D1822
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Durometer Hardness					ASTM D2240
Shore D [2]	56		56		
Shore D [3]	61		61		

Form No. 400-00056909en
Rev: 2012-12-11

Thermal	Nominal Value (English)		Nominal Value (SI)		Test Method
Deflection Temperature Under Load [3]					ASTM D648
66 psi (0.45 MPa), Unannealed	131	°F	55.0	°C	
Brittleness Temperature					
-- [2]	< -139	°F	< -95.0	°C	ASTM D746A
-- [3]	< -105	°F	< -76.1	°C	ASTM D746
Vicat Softening Temperature	248	°F	120	°C	ASTM D1525
Melting Temperature (DSC)	259	°F	126	°C	Dow Method
Peak Crystallization Temperature (DSC)	239	°F	115	°C	Dow Method

Extrusion Notes

Fabrication Conditions for Hose and Tube:

- Screw Type: All standard commercial extrusion equipment.
- Melt Temperature Range: 400-440 °F (205-225 °C)

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.

[2] Compression molded parts prepared according to ASTM D 1928 Procedure C. Properties will vary with changes in molding conditions and aging time.

[3] Plaque molded and tested in accordance with ASTM D4976.

[4] Method I (3 point load)

[5] Type S

Form No. 400-00056909en
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