DOW™ LDPE 722
Low Density Polyethylene Resin

Overview

Dow™ LDPE 722 is used in flexible packaging and paperboard coating applications such as liquid/juice, laminate tube, condiment pouches, dry foods packaging, snack foods packaging, moist foods packaging, sugar pouches, lidding stock and medical packaging. DOW LDPE extrusion coating resins provide optimal neck-in and draw-down performance with minimal taste/odor contribution.

DOW Polyethylene 722 is a broad molecular weight distribution homopolymer designed to offer good impact strength and crack resistance, with excellent flexibility. The resin has good processability over a wide range of molding conditions.

- Typical applications include caps/closures
- Good impact, ESCR with excellent flexibility

Complies with:

- CANADIAN HPFB NO OBJECTION (WITH LIMITATIONS)
- EU, No 10/2011
- U.S. FDA 21 CFR 177.1520 (c) 2.2
- U.S. FDA DMF

Consult the regulations for complete details.

Additive

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

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.918	g/cm³	0.918	g/cm³	ASTM D792
Base Density [1]	0.918	g/cm³	0.918	g/cm³	Dow Method
Melt Index (190°C/2.16 kg)	8.0	g/10 min	8.0	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR) [2]					ASTM D1693
122°F (50°C), 100% Igepal, F50	< 1.00	hr	< 1.00	hr	
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Strength [2]					ASTM D638
Yield	1200	psi	8.27	MPa	
Break	1400	psi	9.65	MPa	
Tensile Elongation [2]					ASTM D638
Yield	4.0	%	4.0	%	
Break	500	%	500	%	
Flexural Modulus - 2% Secant [2]	34000	psi	234	MPa	ASTM D790B
Coefficient of Friction	0.60		0.60		ASTM D1894
Films	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Seal Initiation Temperature [3]	221	°F	105	°C	Dow Method
Water Vapor Transmission Rate	1.7	g·mil/100in²/atm/24 hr	0.67	g·mm/m²/atm/24 hr	ASTM F1249
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Impact Strength [4, 2]	130	ft·lb/in²	273	kJ/m²	ASTM D1822
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Durometer Hardness [2] (Shore D)	43		43		ASTM D2240
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load [2]					ASTM D648
66 psi (0.45 MPa), Unannealed	99.0	°F	37.2	°C	
Brittleness Temperature [2]	-76.0	°F	-60.0	°C	ASTM D746
Vicat Softening Temperature	190	°F	87.8	°C	ASTM D1525
Melting Temperature (DSC)	224	°F	107	°C	Dow Method

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Thermal	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Peak Crystallization Temperature (DSC)	204	°F	95.6	°C	Dow Method

Additional Information	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Melt Temperature - Recommended	600 to 630	°F	316 to 332	°C	Dow Method

Fabrication Conditions For Extrusion Coating Film:

- Screw Size: 3.5 in. (89 mm); 30:1 L/D
- Screw Type: Single Flight with Maddock Mixer
- Die Gap: 20 mil (0.508 mm)
- Melt Temperature: 625°F (329°C)
- Output: 250 lb/hr
- Screw Speed: 90 rpm

Extrusion	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Maximum Line Speed	25.0	ft/sec	7.6	m/sec	Dow Method
Minimum Coating Thickness	0.30	mil	7.6	µm	Dow Method
Minimum Coating Weight	4.4	lb/ream	7.2	g/m²	Dow Method
Neck-in (610°F (321°C), 1.0 mil (25.4 µm))	2.0	in	50.8	mm	Dow Method

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] Molded and tested in accordance with ASTM D4976.

[3] Temperature at which 1 lb/in (4.4 N/25.4 mm) heat seal strength is achieved.
Heat Seal Strengths, Topware HT Tester 0.5 S dwell, 40 pis bar pressure, pull speed 250 mm/sec.

[4] Type S

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