



# 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/cm <sup>3</sup>	0.918 g/cm <sup>3</sup>	ASTM D792
Base Density <sup>1</sup>	0.918 g/cm <sup>3</sup>	0.918 g/cm <sup>3</sup>	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) <sup>2</sup>			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 <sup>2</sup>			ASTM D638
Yield	1200 psi	8.27 MPa	
Break	1400 psi	9.65 MPa	
Tensile Elongation <sup>2</sup>			ASTM D638
Yield	4.0 %	4.0 %	
Break	500 %	500 %	
Flexural Modulus - 2% Secant <sup>2</sup>	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 <sup>3</sup>	221 °F	105 °C	Dow Method
Water Vapor Transmission Rate	1.7 g·mil/100in <sup>2</sup> /a tm/24 hr	0.67 g·mm/m <sup>2</sup> /atm /24 hr	ASTM F1249
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Impact Strength <sup>4, 2</sup>	130 ft·lb/in <sup>2</sup>	273 kJ/m <sup>2</sup>	ASTM D1822
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness <sup>2</sup> (Shore D)	43	43	ASTM D2240
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load <sup>2</sup>			ASTM D648
66 psi (0.45 MPa), Unannealed	99.0 °F	37.2 °C	
Brittleness Temperature <sup>2</sup>	-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

<b>Thermal</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
Peak Crystallization Temperature (DSC)	204 °F	95.6 °C	Dow Method
<b>Additional Information</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
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

<b>Extrusion</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>	<b>Test Method</b>
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/m <sup>2</sup>	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.

<sup>1</sup> 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/cm<sup>3</sup>. Base density is the estimated density of the polymer if it did not contain any antiblock.

<sup>2</sup> Molded and tested in accordance with ASTM D4976.

<sup>3</sup> 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.

<sup>4</sup> Type S

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