DOW™ LDPE 722

The Dow Chemical Company - Low Density Polyethylene Resin

Thursday, October 10, 2019

General Information

Product Description

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.

General			
Material Status	• Commercial: Active		
Regional Availability	• Asia Pacific	• Latin America	• North America
Additive	• Antiblock: No	• Processing Aid: No	• Slip: No
Agency Ratings	• DMF Unspecified Rating • EU No 10/2011	• FDA 21 CFR 177.1520(c) 2.2 • HPFB (Canada) No Objection [1]	
Forms	• Pellets		
Processing Method	• Extrusion Coating	• Injection Molding	

ASTM & ISO Properties [2]

Physical	Typical Value (English)		Typical Value (SI)		Test Method
Density / Specific Gravity	0.920		0.920		ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	8.0	g/10 min	8.0	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR) [3]					ASTM D1693
122°F (50°C), 100% Igepal, F50	< 1.00	hr	< 1.00	hr	
Mechanical	**Typical Value (English)**		**Typical Value (SI)**		**Test Method**
Tensile Strength [3]					ASTM D638
Yield	1200	psi	8.27	MPa	
Break	1400	psi	9.65	MPa	
Tensile Elongation [3]					ASTM D638
Yield	4.0	%	4.0	%	
Break	500	%	500	%	
Flexural Modulus - 2% Secant [3]	34000	psi	234	MPa	ASTM D790B
Coefficient of Friction	0.60		0.60		ASTM D1894

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Films	Typical Value	(English)	Typical Value	(SI)	Test Method
Seal Initiation Temperature [4]	221	°F	105	°C	Internal Method
Water Vapor Transmission Rate	1.7	g·mil/100in²/atm /24 hr	0.67	g·mm/m²/atm/24 hr	ASTM F1249
Impact	**Typical Value**	**(English)**	**Typical Value**	**(SI)**	**Test Method**
Tensile Impact Strength [5, 3]	130	ft·lb/in²	273	kJ/m²	ASTM D1822
Hardness	**Typical Value**	**(English)**	**Typical Value**	**(SI)**	**Test Method**
Durometer Hardness [3] (Shore D)	43		43		ASTM D2240
Thermal	**Typical Value**	**(English)**	**Typical Value**	**(SI)**	**Test Method**
Deflection Temperature Under Load [3]					ASTM D648
66 psi (0.45 MPa), Unannealed	99.0	°F	37.2	°C	
Brittleness Temperature [3]	-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	Internal Method
Peak Crystallization Temperature (DSC)	204	°F	95.6	°C	Internal Method
Additional Information	**Typical Value**	**(English)**	**Typical Value**	**(SI)**	**Test Method**
Melt Temperature - Recommended	600 to 630	°F	316 to 332	°C	Internal 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

Processing Information

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

Notes

[1] With limitations

[2] Typical properties: these are not to be construed as specifications.

[3] Molded and tested in accordance with ASTM D4976.

[4] 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.

[5] Type S