DOW LDPE 722

Dow Plastics - Low Density Polyethylene

Thursday, 22 January 2009

General Information

Product Description

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.

Polyethylene 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.

- Low Density Polyethylene (LDPE)
- Typical applications include caps/closures
- Good impact, ESCR with excellent flexibility
- Complies with:
CANADIAN HPFB NO OBJECTION (WITH LIMITATIONS)
Europe EU-Directive 2002/72/EC (See NOTES)
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					
Availability	•	Asia Pacific	•	Latin America	•	North America	
Agency Ratings	•	DMF Unspecified Rating EU 2002/72/EC	•	FDA 21 CFR 177.1520(c) 2.1 [1] HPFB (Canada) No Objection [2]			
Forms	•	Pellets					
Processing Method	•	Extrusion Coating	•	Injection Molding			

ASTM and ISO Properties [3]

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.920		ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	8.0	g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance [4]			ASTM D1693
122°F, 100% Igepal, F50	< 1.00	hr	
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength [4] (Yield)	1200	psi	ASTM D638
Tensile Strength [4] (Break)	1400	psi	ASTM D638
Tensile Elongation [4] (Yield)	4.0	%	ASTM D638
Tensile Elongation [4] (Break)	500	%	ASTM D638
Flexural Modulus - 2% Secant [4]	34000	psi	ASTM D790B
Coefficient of Friction [5]			ASTM D1894
vs. Itself - Dynamic, Extrusion Coating	0.60		
Films	**Nominal Value**	**Unit**	**Test Method**
Seal Initiation Temperature [6]			Internal Method
1.00 mil, Extrusion Coating	221	°F	
Water Vapor Transmission Rate [7]			ASTM F1249
1.00 mil, Extrusion Coating	1.7	g·mil/100in²/atm/24 hr	
Impact	**Nominal Value**	**Unit**	**Test Method**
Tensile Impact Strength [8, 4]	130	ft·lb/in²	ASTM D1822

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Hardness	Nominal Value	Unit	Test Method
Durometer Hardness [4] (Shore D)	43		ASTM D2240

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load [4] (66 psi, Unannealed)	99.0	°F	ASTM D648
Brittleness Temperature [4]	-76.0	°F	ASTM D746
Vicat Softening Temperature	190	°F	ASTM D1525
Melting Temperature (DSC)	224	°F	Internal Method
Peak Crystallization Temperature (DSC)	204	°F	Internal Method

Processing Information

Extrusion	Nominal Value	Unit	Test Method
Melt Temperature	600 to 630	°F	
Maximum Line Speed	18000	in/min	Internal Method
Minimum Coating Thickness	0.30	mil	Internal Method
Minimum Coating Weight	4.4	lb/ream	Internal Method
Neck-in (610°F, 0.00100 in)	2000	mil	Internal Method

Extrusion Notes

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

Notes

[1] When used unmodified for the manufacture of food contact articles, DOW LDPE 722 will comply with Food Additive Regulations FDA 21 CFR 177.1520(c) 2.1 under the U.S. Food, Drug and Cosmetic Act. Such uses are subject to good manufacturing practices and any other limitations which are part of the statute or regulations. These should be consulted for complete details.

[2] With limitations

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

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

[5] 1.0 mil (25µm) coating onto 50 lb Kraft paper.

[6] Coating onto 50 lb Kraft paper.
Temperature at which 1 lb/in. (4.4 N/25.4 mm) heat seal strength is achieved.
Heat Seal Strengths, Topwave HT Tester 0.5 S dwell, 40 psi bar pressure, pull speed 250 mm/sec.

[7] Coating onto 50 lb Kraft paper.

[8] Type S