PRIMACOR™ 1410
Copolymer

Overview

PRIMACOR™ 1410 Copolymer is an ethylene acrylic acid copolymer suitable for monolayer or coextrusion blown films.

PRIMACOR 1410 Copolymer has been specifically designed for use as a heat seal or adhesive layer in composite films.

PRIMACOR 1410 Copolymer exhibits:
- Excellent hot tack and sealability.
- Excellent toughness and strength.
- Excellent crack resistance.
- Insensitivity to moisture.
- Good optical properties.

Note:
PRIMACOR 1410 Copolymer should comply with FDA regulation 177.1310 and with most European food contact regulations when used unmodified and processed according to good manufacturing practices for food contact applications. Please contact your nearest office regarding food contact compliance statements. The purchaser remains responsible for determining whether the use complies with all relevant regulations.

Applications:
- Speciality and skin packaging.
- Composite films.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.938 g/cm³	0.938 g/cm³	ASTM D792 ISO 1183
Melt Index (190°C/2.16 kg)	1.5 g/10 min	1.5 g/10 min	ISO 1133 ASTM D1238 [1]
Comonomer Content	9.7 %	9.7 %	Dow Method [2]
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Strength			ISO 527-2/508
Yield, Compression Molded	1220 psi	8.39 MPa	ASTM D638 [3]
Break, Compression Molded	3260 psi	22.5 MPa	ASTM D638 [3]
Tensile Elongation			ISO 527-2/508
Break, Compression Molded	640 %	640 %	ASTM D638 [3]
Films	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Film Thickness - Tested	2.00 mil	50.8 µm	
Tensile Strength			
MD: Yield, 2.00 mil (50.8 µm)	1710 psi	11.8 MPa	ASTM D882
TD: Yield, 2.00 mil (50.8 µm)	1590 psi	10.9 MPa	ASTM D882
MD: Yield, 2.00 mil (50.8 µm)	1710 psi	11.8 MPa	ISO 527-3
TD: Yield, 2.00 mil (50.8 µm)	1590 psi	10.9 MPa	ISO 527-3
MD: Break, 2.00 mil (50.8 µm)	5500 psi	37.9 MPa	ASTM D882 ISO 527-3
TD: Break, 2.00 mil (50.8 µm)	5530 psi	38.1 MPa	ASTM D882 ISO 527-3
Tensile Elongation			ASTM D882 ISO 527-3
MD: Break, 2.00 mil (50.8 µm)	400 %	400 %	
TD: Break, 2.00 mil (50.8 µm)	470 %	470 %	
Dart Drop Impact (2.00 mil (50.8 µm))	580 g	580 g	ASTM D1709B ISO 7765-1/B

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Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Elmendorf Tear Strength			
MD: 2.00 mil (50.8 µm)	380 g	380 g	ASTM D1922 [4]
TD: 2.00 mil (50.8 µm)	510 g	510 g	ASTM D1922 [4]
MD: 2.00 mil (50.8 µm)	380 lbf	1700 N	ISO 6383-2 [4]
TD: 2.00 mil (50.8 µm)	510 lbf	2300 N	ISO 6383-2 [4]

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	178 °F	81.1 °C	ASTM D1525 ISO 306
Melting Temperature (DSC)	208 °F	97.8 °C	Dow Method

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 2.00 mil (50.8 µm))	65	65	ASTM D2457
Haze			
2.00 mil (50.8 µm)	5.8 %	5.8 %	ASTM D1003
2.00 mil (50.8 µm)	5.8 %	5.8 %	ISO 14782

Extrusion	Nominal Value (English)	Nominal Value (SI)
Melt Temperature	385 °F	196 °C

Extrusion Notes

Fabrication Conditions For Film:
Equipment used to process this resin should be constructed of corrosion resistant materials. Dies and adapters are recommended to be stainless steels and/or duplex chrome or nickel plated.

- Screw Size: 2.5 in. (63.5 mm); 30:1 L/D
- Screw Type: Single Flight with Maddock Mixer
- Die Gap: 40 mil (1.0 mm)
- Melt Temperature: 385°F (196°C)
- Output: 6 lb/hr/in. of die circumference
- Die Diameter: 6 in.
- Blow-Up Ratio: 2.5:1
- Frost Line Height: 29 in. (737 mm)

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

[1] As measured at the time of production.

[2] Comonomer content measured by a DOW proprietary method that has equivalent accuracy as compared to ASTM D 4094.

[3] 20 in/min (510 mm/min)

[4] Crosshead speed 20 in./min.

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