



AMPLIFY™ TY 1354 Functional Polymer

Overview

AMPLIFY™ TY 1354 Functional Polymer is a maleic anhydride grafted (MAH) polymer. In tie layers for flexible packaging, AMPLIFY TY 1354 Functional Polymer promotes adhesion of Polyethylene to barrier polymers such as polyamide and other polar substrates.

Main Characteristics:

- Excellent adhesion to polyamide
- Excellent physical properties
- Wide range of process and service temperature
- For blown and cast film

Complies with:

- US FDA 21 CFR 175.105 (c)(5)
- EU, No 10/2011

Consult the regulations for complete details.

Additive

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.920 g/cm ³	0.920 g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	3.0 g/10 min	3.0 g/10 min	ASTM D1238 ISO 1133
MAH Graft Level ¹	Low	Low	Dow Method
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Puncture Resistance (2.0 mil (51 µm))	115 ft-lb/in ³	9.51 J/cm ³	Dow Method
Secant Modulus			ASTM D882
2% Secant, MD : 2.0 mil (51 µm)	31100 psi	214 MPa	
2% Secant, TD : 2.0 mil (51 µm)	34800 psi	240 MPa	
Tensile Strength			ASTM D882
MD : Yield, 2.0 mil (51 µm)	1620 psi	11.2 MPa	
TD : Yield, 2.0 mil (51 µm)	1670 psi	11.5 MPa	
MD : Break, 2.0 mil (51 µm)	5100 psi	35.2 MPa	
TD : Break, 2.0 mil (51 µm)	4520 psi	31.2 MPa	
Tensile Elongation			ASTM D882
MD : Break, 2.0 mil (51 µm)	730 %	730 %	
TD : Break, 2.0 mil (51 µm)	750 %	750 %	
Dart Drop Impact (2.0 mil (51 µm))	210 g	210 g	ASTM D1709
Elmendorf Tear Strength ²			ASTM D1922
MD : 2.0 mil (51 µm)	890 g	890 g	
TD : 2.0 mil (51 µm)	1100 g	1100 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	210 °F	98.9 °C	ASTM D1525
Melting Temperature (DSC)	253 °F	123 °C	Dow Method
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 2.00 mil (50.8 µm))	66	66	ASTM D2457

Extrusion Notes

Recommended Melt Temperature - 400-446°F

Fabrication Conditions for Blown Film

- Screw Size: 2.5 in. (63.5 mm); 24:1 L/D
- Screw Type: Barrier screw
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 430°F (221°C)
- Output: 6 lb/hr/in of die circumference
- Die diameter: 6 in
- Blow-Up Ratio: 2.5:1
- Screw Speed: 70 rpm

Notes

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

¹ Low: <0.25 wt%, Medium 0.25-0.5, High >0.5 wt%

² Method B

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