



AMPLIFY™ TY 2551 Functional Polymer

Product Description AMPLIFY TY 2551 Functional Polymer is a maleic anhydride grafted (MAH) polymer. In tie layers for flexible packaging, AMPLIFY TY 2551 Functional Polymer promotes adhesion of polypropylene to barrier polymers such as polyamide and ethylene vinyl alcohol (EVOH) and other polar substrates.

Main Characteristics:

- Excellent adhesion to polyamide, EVOH, polypropylene homopolymers and copolymers
- Excellent physical properties
- Wide range of service temperature
- For blown film, cast film and blow-molded applications

Complies with:

- 21 CFR 175.105(c)(5)

Consult the regulations for complete details.

Additive • Antiblock: No • Slip: No • Processing Aid: No

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.896 g/cm ³	0.896 g/cm ³	ASTM D792
Melt Index (230°C/2.16 kg)	5.0 g/10 min	5.0 g/10 min	ASTM D1238
MAH Graft Level	Low	Low	Dow Method ¹
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			ASTM D638
Yield	3340 psi	23.0 MPa	
Break	2470 psi	17.0 MPa	
Tensile Elongation (Break)	60 %	60 %	ASTM D638
Flexural Modulus - 2% Secant	110000 psi	758 MPa	ASTM D790
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Thickness - Tested	2.0 mil	51 µm	
Film Puncture Resistance (2.0 mil (51 µm))	85.0 ft-lb/in ³	7.03 J/cm ³	Dow Method
Secant Modulus			ASTM D882
2% Secant, MD: 2.0 mil (51 µm)	110000 psi	758 MPa	
2% Secant, TD: 2.0 mil (51 µm)	102000 psi	703 MPa	
Tensile Strength			ASTM D882
MD: Yield, 2.0 mil (51 µm)	4020 psi	27.7 MPa	
TD: Yield, 2.0 mil (51 µm)	3620 psi	25.0 MPa	
MD: Break, 2.0 mil (51 µm)	5000 psi	34.5 MPa	
TD: Break, 2.0 mil (51 µm)	3300 psi	22.8 MPa	
Tensile Elongation			ASTM D882
MD: Break, 2.0 mil (51 µm)	630 %	630 %	
TD: Break, 2.0 mil (51 µm)	520 %	520 %	
Dart Drop Impact (2.0 mil (51 µm))	100 g	100 g	ASTM D1709A
Elmendorf Tear Strength			ASTM D1922 ²
MD: 2.0 mil (51 µm)	20 g	20 g	
TD: 2.0 mil (51 µm)	40 g	40 g	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	264 °F	129 °C	ASTM D1525
Melting Temperature (DSC)	298 °F	148 °C	ASTM D4591
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss (45°, 2.00 mil (50.8 µm))	35	35	ASTM D2457
Extrusion	Nominal Value (English)	Nominal Value (SI)	
Melt Temperature	430 to 460 °F	221 to 238 °C	

Extrusion Notes

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: 450 °F
- 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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Published: 2011-03-15

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