



# AMPLIFY™ TY 1351 Functional Polymer

## Overview

AMPLIFY™ TY 1351 Functional Polymer is a maleic anhydride grafted (MAH) polymer. In tie layers for flexible packaging, AMPLIFY TY 1351 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
- EU-Directive 2002/72/EC

Consult the regulations for complete details.

## Additive

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.923 g/cm <sup>3</sup>	0.923 g/cm <sup>3</sup>	ASTM D792
Melt Index (190°C/2.16 kg)	2.1 g/10 min	2.1 g/10 min	ASTM D1238 ISO 1133
MAH Graft Level	Low	Low	Dow Method <sup>1</sup>
Films	Nominal Value (English)	Nominal Value (SI)	Test Method
Film Puncture Resistance (2.0 mil (51 µm))	140 ft-lb/in <sup>3</sup>	11.6 J/cm <sup>3</sup>	Dow Method
Secant Modulus			ASTM D882
2% Secant, MD: 2.0 mil (51 µm)	30300 psi	209 MPa	
2% Secant, TD: 2.0 mil (51 µm)	33200 psi	229 MPa	
Tensile Strength			ASTM D882
MD: Yield, 2.0 mil (51 µm)	1530 psi	10.5 MPa	
TD: Yield, 2.0 mil (51 µm)	1640 psi	11.3 MPa	
MD: Break, 2.0 mil (51 µm)	5240 psi	36.1 MPa	
TD: Break, 2.0 mil (51 µm)	4240 psi	29.2 MPa	
Tensile Elongation			ASTM D882
MD: Break, 2.0 mil (51 µm)	690 %	690 %	
TD: Break, 2.0 mil (51 µm)	690 %	690 %	
Dart Drop Impact (2.0 mil (51 µm))	260 g	260 g	ASTM D1709
Elmendorf Tear Strength			ASTM D1922 <sup>2</sup>
MD: 2.0 mil (51 µm)	750 g	750 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))	70	70	ASTM D2457

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**Extrusion Notes**

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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.

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

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<sup>2</sup> Method B

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<b>North America</b>		<b>Europe/Middle East</b>	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+31-11567-2626
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
<b>Latin America</b>		<b>South Africa</b>	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	<b>Asia Pacific</b>	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

[www.dowplastics.com](http://www.dowplastics.com)

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