



AMPLIFY™ TY 1053H Functional Polymer

Overview

AMPLIFY™ TY 1053H Functional Polymer is a maleic anhydride grafted (MAH) polymer concentrate designed as a blend component for unmodified polyethylene. In tie layers for flexible packaging, AMPLIFY TY 1053H Functional Polymer promotes adhesion of polyethylene to barrier polymers such as polyamide and ethylene vinyl alcohol (EVOH). The functionality of this polymer also promotes adhesion between metal, polyolefins, cellulose, polyester, polycarbonate, glass, and foil.

Typical blending levels in polyethylene let-down resin are 12-20% for EVOH and 6-12% for nylon.

Main Characteristics:

- Maleic anhydride modified HDPE
- Adhesive concentrate for use in blown, cast, and coating applications
- Tie layer for food packaging and pipe coating
- Adhesive layer in multi-layer flexible film applications
- Polymer compatibilizer

Complies with:

- U.S. FDA 21 CFR 177.1520(c)6
- 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	0.958 g/cm ³	0.958 g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	2.0 g/10 min	2.0 g/10 min	ASTM D1238 ISO 1133
MAH Graft Level ¹	Very High	Very High	Dow Method
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			
Break ²	2300 psi	15.9 MPa	ASTM D638
Break	2300 psi	15.9 MPa	ISO 527-2/51
Tensile Elongation			
Break ²	300 %	300 %	ASTM D638
Break	300 %	300 %	ISO 527-2/51
Flexural Modulus - 2% Secant	134000 psi	924 MPa	ASTM D790A ISO 178
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness			
Shore A	98	98	ASTM D2240 ISO 868
Shore D	67	67	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Vicat Softening Temperature	264 °F	129 °C	ASTM D1525 ISO 306
Melting Temperature (DSC)	266 °F	130 °C	Dow Method

Additional Information

Molded in accordance with ASTM D4976.

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%, Very High >1.0 wt%.

² 2.0 in/min (51 mm/min)

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