AMPLIFY™ TY 1053H

The Dow Chemical Company - Functional Polymer

Sunday, November 3, 2019

General Information

Product Description

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.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Additive	• Antiblock: No	• Processing Aid: No	• Slip: No
Agency Ratings	• EU No 10/2011	• FDA 21 CFR 177.1520(c) 6	
Forms	• Pellets		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	0.958	g/cm³	ASTM D792
Melt Mass-Flow Rate (190°C/2.16 kg)	2.0	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.0	g/10 min	ISO 1133
MAH Graft Level [2]	Very High		Internal Method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength [3] (Break)	2300	psi	ASTM D638
Tensile Stress (Break)	2300	psi	ISO 527-2/51
Tensile Elongation [3] (Break)	300	%	ASTM D638
Tensile Strain (Break)	300	%	ISO 527-2/51
Flexural Modulus - 2% Secant	134000	psi	ASTM D790A
Flexural Modulus - 2% Secant	134000	psi	ISO 178
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shore A	98		
Shore D	67		

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Hardness	Nominal Value	Unit	Test Method
Shore Hardness			ISO 868
Shore A	98		
Shore D	67		

Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	264	°F	ASTM D1525
Vicat Softening Temperature	264	°F	ISO 306
Melting Temperature (DSC)	266	°F	Internal Method

Additional Information

Molded in accordance with ASTM D4976.

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Low: <0.25 wt%, Medium 0.25-0.5, High >0.5 wt%, Very High >1.0 wt%.

[3] 2.0 in/min