



AMPLIFY™ EA 103

The Dow Chemical Company - Functional Polymer

Sunday, November 3, 2019

General Information

Product Description

AMPLIFY™ EA 103 Functional Polymer is produced via a high-pressure reactor. This ethylene-ethyl acrylate (EEA) copolymer exhibits high flexibility and imparts low temperature toughness to a wide range of engineering resins. It can be utilized as in a hot melt adhesive formulation due to the high thermal stability it offers. It is an excellent base component for a film laminate and has marginal RF welding capability. This polymer demonstrates excellent blend compatibility with other polyolefins. It can be utilized as a tie layer between polyolefins and a variety of polar substrates, such as metal, polyvinylidene chloride (PVDC), polyolefins, cellulose, polyester, polycarbonate, glass, foil, PVC, PET, and Polystyrene.

- High performance packaging applications
- High flow concentrate carrier
- Adhesive blend component
- Tie layer to PVDC and Polyolefins
- Excellent thermal stability

Complies with

- U.S. FDA 21 CFR 175.105
- U.S. FDA 21 CFR 177.1320 (with Restrictions)
- 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 175.105	• FDA 21 CFR 177.1320
Forms	• Pellets		
Processing Method	• Blow Molding	• Extrusion Coating	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.932		ASTM D792
Density	0.930	g/cm ³	ISO 1183
Melt Mass-Flow Rate ² (190°C/2.16 kg)	21	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) ² (190°C/2.16 kg)	21	g/10 min	ISO 1133
Comonomer Content ³	19.5	%	ASTM D3594
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield)	375	psi	ASTM D638
Tensile Stress (Yield)	375	psi	ISO 527-2
Tensile Strength (Break)	1400	psi	ASTM D638
Tensile Stress (Break)	1400	psi	ISO 527-2
Tensile Elongation (Yield)	11	%	ASTM D638
Tensile Strain (Yield)	11	%	ISO 527-2
Tensile Elongation (Break)	750	%	ASTM D638
Tensile Strain (Break)	750	%	ISO 527-2
Flexural Modulus - 2% Secant	6200	psi	ASTM D790B
Flexural Modulus - 2% Secant	6200	psi	ISO 178

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Impact	Nominal Value	Unit	Test Method
Tensile Impact Strength ⁴	240	ft-lb/in ²	ASTM D1822
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A	82		
Shore D	27		
Shore Hardness			ISO 868
Shore A	82		
Shore D	27		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	88.0	°F	ASTM D648
Brittleness Temperature	-83.0	°F	ASTM D746
Vicat Softening Temperature	120	°F	ASTM D1525
Vicat Softening Temperature	120	°F	ISO 306
Melting Temperature (DSC)	203	°F	Internal Method
Peak Crystallization Temperature (DSC)	172	°F	Internal Method

Additional Information

Molded and tested in accordance with ASTM D4976.

Notes

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

² Smaller Die opening is used for products greater than 10 MI

³ Calibration Range is 15 - 20% EA; Pathlength is normalized; Plaque/Film Thickness is 15 mil; Press Temperature is 160°C

⁴ Type S