AMPLIFY™ EA 103
Functional Polymer

Overview

- 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
- Complies with U.S. FDA 21 CFR 177.1320 (with Restrictions)
- Complies with Europe EU-Directive 2002/72/EC
- Consult the regulations for complete details.

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, polyvinylidiene chloride (PVDC), polyolefins, cellulose, polyester, polycarbonate, glass, foil, PVC, PET, and Polystyrene.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.930 g/cm³	0.930 g/cm³	ASTM D792 ISO 1183
Melt Index (190°C/2.16 kg)	21 g/10 min	21 g/10 min	ISO 1133 ASTM D1238 [1]
Comonomer Content	19.5 %	19.5 %	ASTM D3594 [2]
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Strength			ASTM D638 ISO 527-2
Yield	375 psi	2.59 MPa	
Break	1400 psi	9.65 MPa	
Tensile Elongation			ASTM D638 ISO 527-2
Yield	11 %	11 %	
Break	750 %	750 %	
Flexural Modulus - 2% Secant	6200 psi	42.7 MPa	ASTM D790B ISO 178
Impact	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Impact Strength	240 ft·lb/in²	504 kJ/m²	ASTM D1822 [3]
Hardness	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Durometer Hardness			ASTM D2240 ISO 868
Shore D	27	27	
Shore A	82	82	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	88.0 °F	31.1 °C	
Brittleness Temperature	-83.0 °F	-63.9 °C	ASTM D746
Vicat Softening Temperature	120 °F	48.9 °C	ASTM D1525 ISO 306
Melting Temperature (DSC)	203 °F	95.0 °C	Dow Method
Peak Crystallization Temperature (DSC)	172 °F	77.8 °C	Dow Method

Additional Information

Molded and tested in accordance with ASTM D4976.

Form No. 400-00058842en
Rev: 2009-02-24

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

[1] Smaller Die opening is used for products greater than 10 MI

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

[3] Type S

Form No. 400-00058842en
Rev: 2009-02-24

Product Stewardship

The Dow Chemical Company and its subsidiaries ("Dow") has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our Product Stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our Product Stewardship program rests with each and every individual involved with Dow products ─ from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

Medical Applications Policy

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS: Dow will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for:

a. long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 72 continuous hours;
b. use in cardiac prosthetic devices regardless of the length of time involved ("cardiac prosthetic devices" include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems, and ventricular bypass-assisted devices);
c. use as a critical component in medical devices that support or sustain human life; or
d. use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Dow requests that customers considering use of Dow products in medical applications notify Dow so that appropriate assessments may be conducted. Dow does not endorse or claim suitability of its products for specific medical applications. It is the responsibility of the medical device or pharmaceutical manufacturer to determine that the Dow product is safe, lawful, and technically suitable for the intended use. **DOW MAKES NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE SUITABILITY OF ANY DOW PRODUCT FOR USE IN MEDICAL APPLICATIONS.**

Disclaimer

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the Customer is responsible for determining whether products and the information in this document are appropriate for the Customer's use and for ensuring that the Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Dow assumes no obligation or liability for the information in this document. **NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.**

NOTICE: If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Dow to change specifications and/or discontinue production; and (4) although Dow may from time to time provide samples of such products, Dow is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.

Additional Information

North America		**Europe/Middle East**	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+32-3-450-2240
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
Latin America		**South Africa**	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	**Asia Pacific**	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

www.dowplastics.com

This document is intended for use within Asia Pacific, Europe, Latin America, North America

Published: 2003-10-10

Form No. 400-00058842en
Rev: 2009-02-24