



AMPLIFY™

FUNCTIONAL POLYMERS

AMPLIFY™ Functional Polymers are a family of functionalized polyolefin products designed to bring premium value to a wide variety of industries. Potential applications include flexible food and specialty packaging, polymer modification/compatibilization, adhesives/tie-layers, thermoplastic powder coating, protective metal pipe coating, and extrusion coating.

AMPLIFY™ EA Functional Polymers (100 Series)

These ethylene-ethyl acrylate (EEA) copolymers offer:

- Improved low temperature toughness and stress crack resistance in tie-layers
- High thermal stability, enabling use in high temperature processing conditions
- Exceptional adhesion, flexibility, and toughness across a broad service temperature range
- Excellent blend compatibility with other polyolefins
- Functional adhesion to polyolefins, metal, cellulose, polyester, polycarbonate, polyvinylidene chloride (PVDC), glass, foil, and other substrates
- Easy processing on a wide range of extrusion and injection molding equipment

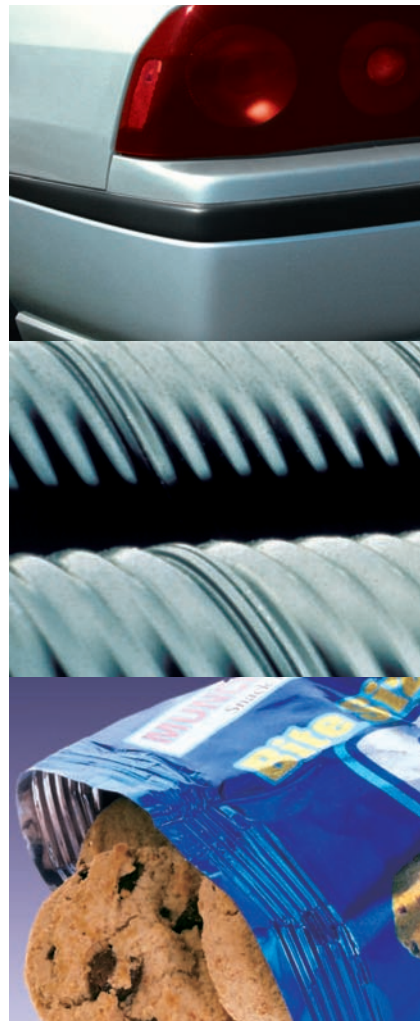
AMPLIFY™ GR Functional Polymers (200 Series)

The maleic anhydride (MAH) grafted polyolefins in the 200 Series provide:

- Reactive functionality for enhanced adhesion – primarily with nylon, ethylene vinyl alcohol (EVOH), and cellulose
- Adhesion to metal, polyethylene terephthalate (PET), polycarbonate, glass, foil, and polyolefins
- Melt indices well-suited for multi-layer structures
- Good heat resistance
- Impact resistance for nylon blends
- Inorganic filler compatibilization for thermoplastic olefins (TPOs)

To learn more about the value AMPLIFY™ Functional Polymers can bring to your applications, please contact your Dow representative, visit www.dowamplify.com or www.dowpolyolefins.com, or call a Dow customer service representative at 1-800-441-4369 in North America or +800-3694-6367 in Europe or +800-7776-7776 in Asia Pacific.

See back for more information.



Product Portfolio

AMPLIFY Functional Polymers

Plastics – Global

AMPLIFY™ Functional Polymers Product Portfolio ⁽¹⁾

| Resin Name | Potential Applications | Melt Index (I ₂) @190°C/2.16 kg, g/10 min | Comonomer Type, % or (Graft Level ⁽²⁾) | Density ⁽³⁾ , g/cm ³ (Base Resin) | Durometer Hardness, Shore A (Shore D) @ 1 sec |
|---|---|---|--|---|---|
| AMPLIFY EA 100 Functional Polymer | <ul style="list-style-type: none"> Polymer modification Tie-layer to polyolefins and polar substrates (e.g., PVDC, PVC, PET, PBT, and PS) Profile and tube extrusion | 1.3 | Ethyl Acrylate, 15.0% | 0.930 | 87 (37) |
| AMPLIFY EA 101 Functional Polymer | <ul style="list-style-type: none"> Polymer modification Tie-layer to polyolefins and polar substrates (e.g., PVDC, PVC, PET, PBT, and PS) Color carrier Profile extrusion Low gel film | 6.0 | Ethyl Acrylate, 18.5% | 0.931 | 86 (31) |
| AMPLIFY EA 102 Functional Polymer | <ul style="list-style-type: none"> Polymer modification Tie-layer to polyolefins and polar substrates (e.g., PVDC, PVC, PET, PBT, and PS) Color carrier | 6.0 | Ethyl Acrylate, 18.5% | 0.931 | 86 (30) |
| AMPLIFY EA 103 Functional Polymer | <ul style="list-style-type: none"> Tie-layer Color carrier Adhesive blend component Film laminate | 21.0 | Ethyl Acrylate, 19.5% | 0.930 | 82 (27) |
| AMPLIFY GR 202 Functional Polymer | <ul style="list-style-type: none"> Extrusion coating Injection molded parts Tie-layer to nylon, EVOH, cellulose, polyolefins, and other polar substrates (including metal and foil) in blown and cast film Thermoplastic powder coating Polymer modification/compatibilization | 8.0 | Maleic Anhydride Graft (Very High) | 0.930 (Low Density Polyethylene [LDPE]) | 95 (51) |
| AMPLIFY GR 204 Functional Polymer | <ul style="list-style-type: none"> Extrusion coating Protective metal pipe coating Tie-layer to nylon, EVOH, cellulose, polyolefins, and other polar substrates (including metal and foil) in blown and cast film Thermoplastic powder coating Polymer modification/compatibilization High speed coating | 12.0 | Maleic Anhydride Graft (Very High) | 0.953 (High Density Polyethylene [HDPE]) | 97 (64) |
| AMPLIFY GR 205 Functional Polymer | <ul style="list-style-type: none"> Extrusion coating Injection molded parts Tie-layer to nylon, EVOH, cellulose, polyolefins and other polar substrates (including metal and foil) in blown and cast film Thermoplastic powder coating Protective metal pipe coating Polymer modification/compatibilization | 2.0 | Maleic Anhydride Graft (Very High) | 0.962 (HDPE) | 96 (67) |
| AMPLIFY GR 207 Functional Polymer | <ul style="list-style-type: none"> Extrusion coating Tie-layer to nylon, EVOH, cellulose, polyolefins, and other polar substrates (including metal and foil) in cast film Thermoplastic powder coating Polymer modification/compatibilization | 2.1 | Maleic Anhydride Graft (Low) | 0.923 (Linear Low Density Polyethylene [LLDPE]) | — |
| AMPLIFY GR 208 Functional Polymer | <ul style="list-style-type: none"> Impact/modulus modification of nylon and other high modulus and/or engineering resins Tie-layer in coextruded films | 3.3 | Maleic Anhydride Graft (Medium) | 0.8985 (Very Low Density Polyethylene [VLDPE]) | 96 (36) |
| AMPLIFY GR 209 Functional Polymer | <ul style="list-style-type: none"> Impact/modulus modification of nylon and other high modulus and/or engineering resins Tie-layer in coextruded films | 2.0 | Maleic Anhydride Graft (High) | 0.8985 (VLDPE) | 96 (35) |
| AMPLIFY GR 216 Functional Polymer | <ul style="list-style-type: none"> Excellent impact strength in blends with polyamide Adhesion promoter Polymer compatibilization | 1.25 | Maleic Anhydride Graft (High) | 0.87 (Plastomer) | 77 (22) |

⁽¹⁾ Typical values, not to be construed as specifications. Users should confirm results by their own tests. Refer to individual technical data sheets for additional information.

⁽²⁾ Dow Method based upon Infrared spectroscopy using analytical standards, Low < 0.25 wt%, Medium 0.25-0.5 wt%, High 0.5-1.0 wt%, Very High > 1.0 wt% MAH.

⁽³⁾ ASTM D 792.

For more information on products, innovations, expertise, and other services available to you from Dow's Plastics business group, visit www.dowplastics.com and choose your region, or contact us as indicated below.

| | | | | |
|----------------------|------------------|---------------------------|--|-----------------|
| North America | | Europe/Middle East | | +800-3694-6367 |
| U.S. & Canada | 1-800-441-4369 | | | +32-3-450-2240 |
| | 1-989-832-1426 | | | |
| Mexico | +1-800-441-4369 | South Africa | | +800-99-5078 |
| Latin America | | Asia Pacific | | +800-7776-7776 |
| Argentina | +54-11-4319-0100 | | | +60-3-7958-3392 |
| Brazil | +55-11-5188-9000 | | | |
| Colombia | +57-1-219-6000 | | | |
| Mexico | +52-55-5201-4700 | | | |

The principles of Responsible Care® and Sustainable Development influence the production of Dow literature. As a contribution towards the protection of our environment, Dow's printed literature is produced in small quantities and on paper containing recovered/post-consumer fiber and using 100 percent soy-based ink whenever possible.

NOTE: Any photographs of end-use applications in this document represent potential end-use applications but do not necessarily represent current commercial applications, nor do they represent an endorsement by The Dow Chemical Company of the actual products. Further, these photographs are for illustration purposes only and do not reflect either an endorsement or sponsorship of any other manufacturer for a specific potential end-use product or application, or for The Dow Chemical Company, or specific products manufactured by The Dow Chemical Company.

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; and (3) there is greater potential for Dow to change specifications and/or discontinue production.

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

- permanent (Long term) contact with internal body fluids or internal body tissues. Long term is a use which exceeds 72 continuous hours (except 30 days for PELLETHANE™ Polyurethane Elastomers);
- 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);
- use as a critical component in medical devices that support or sustain human life; or
- use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Additionally, all Products intended for use in pharmaceutical applications, other than pharmaceutical packaging, must pass the current Pharmaceutical Liability Guidelines.

- For the Products sold by the Basic Plastics & Chemicals Portfolio and the Performance Plastics & Chemicals Portfolio, new business opportunities require a business assessment prior to sale or sampling of Dow Products.
- Authorized distributors and resellers will adhere to this medical policy.
- The Dow Chemical Company does not endorse or claim suitability of their 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.

Published March 2007

© 2007 The Dow Chemical Company

