



# ENGAGE™ 8100 Polyolefin Elastomer

## Overview

ENGAGE™ 8100 Polyolefin Elastomer is an ethylene-octene copolymer that has excellent flow characteristics and performs well in a wide range of general purpose thermoplastic elastomer applications.

ENGAGE 8100 provides superb impact properties in blends with polypropylene (PP) and polyethylene (PE). ENGAGE 8100 provides high filler loading capability and outstanding peroxide cure capability. When cross-linked by peroxide, silane, or irradiation, it gives exceptional heat aging, compression set, and weather resistance properties, and may be used to produce high performance electrical insulation.

### Main Characteristics:

- Pellet form
- Excellent flow characteristics
- Improved impact in polypropylene and polyethylene
- High filler loading
- Peroxide, silane, and radiation curable
- Exceptional heat aging, compression set, and weather resistance when cured

### Applications:

- General purpose thermoplastic elastomers
- Wire and cable
- Impact modification

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.870 g/cm <sup>3</sup>	0.870 g/cm <sup>3</sup>	ASTM D792
Melt Index (190°C/2.16 kg)	1.0 g/10 min	1.0 g/10 min	ASTM D1238
Mooney Viscosity (ML 1+4, 250°F (121°C))	24 MU	24 MU	ASTM D1646
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus - 100% Secant <sup>1</sup> (Compression Molded)	421 psi	2.90 MPa	ASTM D638
Tensile Strength <sup>1</sup> (Break, Compression Molded)	1420 psi	9.76 MPa	ASTM D638
Tensile Elongation <sup>1</sup> Break, Compression Molded	810 %	810 %	ASTM D638
Flexural Modulus			ASTM D790
1% Secant : Compression Molded	2070 psi	14.3 MPa	
2% Secant : Compression Molded	1900 psi	13.1 MPa	
Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tear Strength <sup>2</sup>	228 lbf/in	40.0 kN/m	ASTM D624
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec, Compression Molded	73	73	
Shore D, 1 sec, Compression Molded	22	22	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Glass Transition Temperature	-61.6 °F	-52.0 °C	Dow Method
Vicat Softening Temperature	113 °F	45.0 °C	ASTM D1525
Melting Temperature (DSC) <sup>3</sup>	140 °F	60.0 °C	Dow Method
Peak Crystallization Temperature (DSC)	113 °F	45.0 °C	Dow Method

**Notes**

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

---

<sup>1</sup> 20 in/min (510 mm/min)

---

<sup>2</sup> Die C

---

<sup>3</sup> 10°C/min



## 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:

- long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 72 continuous hours;
- 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.

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.

NOTICE: This data is based on information Dow believes to be reliable, as demonstrated in controlled laboratory testing. They are offered in good faith, but without guarantee, as conditions and method of use of Dow products are beyond Dow's control. Dow recommends that the prospective user determine the suitability of these materials and suggestions before adopting them on a commercial scale.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability for the accuracy and completeness of such information.

## Additional Information

<b>North America</b>		<b>Europe/Middle East</b>	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+31-11567-2626
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
<b>Latin America</b>		<b>South Africa</b>	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	<b>Asia Pacific</b>	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

[www.dowplastics.com](http://www.dowplastics.com)

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

Published: 2000-11-30

© 2017 The Dow Chemical Company

