



ENGAGE™ 8003 Polyolefin Elastomer

Overview ENGAGE™ 8003 Polyolefin Elastomer is an ethylene-octene copolymer that has excellent flow characteristics and performs well in a wide variety of general purpose thermoplastic elastomer applications.

ENGAGE 8003 provides superb impact properties in blends with polypropylene (PP) and polyethylene (PE). It also 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 and jacketing.

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
- Complies with U.S. FDA 21 CFR 177.1520(c)3.2c
- Complies with Europe EU-Directive 2002/72/EC (See NOTES)
- Complies with Japan Hygienic Olefin and Styrene Plastics Association
- Complies with NSF/ANSI Standard 51-Food Equipment Materials

Applications:

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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.885 g/cm ³	0.885 g/cm ³	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))	22 MU	22 MU	ASTM D1646
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus - 100% Secant (Compression Molded)	696 psi	4.80 MPa	ASTM D638 ¹
Tensile Strength (Break, Compression Molded)	2640 psi	18.2 MPa	ASTM D638 ¹
Tensile Elongation			ASTM D638 ¹
Break, Compression Molded	640 %	640 %	
Flexural Modulus			ASTM D790
1% Secant: Compression Molded	4890 psi	33.7 MPa	
2% Secant: Compression Molded	4730 psi	32.6 MPa	
Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tear Strength	348 lbf/in	61.0 kN/m	ASTM D624 ²
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness			ASTM D2240
Shore A, Compression Molded	84	84	
Shore D, Compression Molded	31	31	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Glass Transition Temperature (DSC)	-50.8 °F	-46.0 °C	Dow Method
Vicat Softening Temperature	145 °F	63.0 °C	ASTM D1525
Melting Temperature (DSC)	171 °F	77.0 °C	Dow Method ³
Peak Crystallization Temperature (DSC)	140 °F	60.0 °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.

¹ 20 in/min (510 mm/min)

² Die C

³ 10°C/min

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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

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