



ENGAGE™ 8180 Polyolefin Elastomer

Overview

ENGAGE™ 8180 Polyolefin Elastomer is a lower density, high performance ethylene-octene copolymer that has excellent flow characteristics and provides superb impact properties in blends with polypropylene (PP) and polyethylene (PE). It is widely used in TPO applications where excellent flow temperature impact properties are desired.

ENGAGE 8180 also provides high filler loading capability and excellent electrical properties. When cross-linked by peroxide, silane, or irradiation, it gives exceptional heat aging, compression set, and weather resistance properties.

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
- Impact modification
- Thermoplastic olefins (TPO)
- Wire and cable

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.863 g/cm ³	0.863 g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	0.50 g/10 min	0.50 g/10 min	ASTM D1238
Mooney Viscosity (ML 1+4, 250°F (121°C))	37 MU	37 MU	ASTM D1646
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus - 100% Secant (Compression Molded)	276 psi	1.90 MPa	ASTM D638 ¹
Tensile Strength (Break, Compression Molded)	914 psi	6.30 MPa	ASTM D638 ¹
Tensile Elongation Break, Compression Molded	910 %	910 %	ASTM D638 ¹
Flexural Modulus			ASTM D790
1% Secant: Compression Molded	1230 psi	8.50 MPa	
2% Secant: Compression Molded	1120 psi	7.70 MPa	
Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tear Strength	183 lbf/in	32.0 kN/m	ASTM D624 ²
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec, Compression Molded	63	63	
Shore D, 1 sec, Compression Molded	16	16	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Glass Transition Temperature (DSC)	-67.0 °F	-55.0 °C	Dow Method
Vicat Softening Temperature	106 °F	41.0 °C	ASTM D1525
Melting Temperature (DSC)	117 °F	47.0 °C	Dow Method ³
Peak Crystallization Temperature (DSC)	89.6 °F	32.0 °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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