Technical Data Sheet

ENGAGE™ 8150 REN Polyolefin Elastomer

Polyolefin Elastomer

Overview

ENGAGE™ 8150 REN Polyolefin Elastomer is an ethylene-octene copolymer that has excellent flow characteristics and provides superb impact properties in blends with polypropylene (PP) and polyethylene (PE) and is widely used in TPO applications where excellent low temperature impact properties are desired.

Sustainability Attribute:

Ecolibrium™ Bio-based materials by Dow

ENGAGE™ 8150 REN 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
- Impact modification
- Thermoplastic olefins (TPO)
- Wire and cable

Complies with:

- Europe Commission Regulation (EU) No 10/2011 (See NOTES)
- U.S. FDA 21 CFR 177.1520(c) 3.2c
- ISCC PLUS certification for renewable-based plastics

Consult the regulations for complete details.

Typical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method[1]
Density	0.868	g/cm^3	0.868	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))	33	MU	33	MU	ASTM D1646
Mechanical					
Tensile Modulus - 100% Secant[2]					ASTM D638
(Compression Molded)	377	psi	2.60	MPa	
Tensile Strength[2]					ASTM D638
(Break, Compression Molded)	1380	psi	9.50	MPa	
Tensile Elongation[2]					ASTM D638
Break, Compression Molded	810	%	810	%	
Flexural Modulus					ASTM D790
1% Secant : Compression Molded	2200	psi	15.2	MPa	
2% Secant : Compression Molded	2090	psi	14.4	MPa	
Elastomers					
Tear Strength[3]	213	lbf/in	37.3	kN/m	ASTM D624
Hardness					
Durometer Hardness					ASTM D2240
Shore A, 1 Sec, Compression Molded	70		70		
Shore D, 1 Sec, Compression Molded	20		20		
Thermal					
Glass Transition Temperature	-61.6	°F	-52.0	°C	Dow Method
Vicat Softening Temperature	115	°F	46.0	°C	ASTM D1525
Melting Temperature (DSC)[4]	131	°F	55.0	°C	Dow Method
Peak Crystallization Temperature (DSC)	108	°F	42.0	°C	Dow Method

1. ASTM**:** American Society for Testing and Materials
2. 20 in/min (510 mm/min)
3. Die C
4. 10°C/min

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

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