



Technical Data Sheet

ENGAGE™ 8003 REN Polyolefin Elastomer

Overview

ENGAGE™ 8003 REN 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 REN Polyolefin Elastomer 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.

Sustainability Attribute:



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

Applications:

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

Complies with:

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

Consult the regulations for complete details.



Physical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (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					
Tensile Modulus - 100% Secant ² (Compression Molded)	696	psi	4.80	MPa	ASTM D638
Tensile Strength ² (Break, Compression Molded)	2640	psi	18.2	MPa	ASTM D638
Tensile Elongation ² Break, Compression Molded	640	%	640	%	ASTM D638
Flexural Modulus					ASTM D790
1% Secant : Compression Molded	4890	psi	33.7	MPa	
2% Secant : Compression Molded	4730	psi	32.6	MPa	
Elastomers					
Tear Strength ³	348	lb/in	61.0	kN/m	ASTM D624
Hardness					
Durometer Hardness					ASTM D2240
Shore A, Compression Molded	84		84		
Shore D, Compression Molded	31		31		
Thermal					
Glass Transition Temperature	-50.8	°F	-46.0	°C	Dow Method
Vicat Softening Temperature	145	°F	63.0	°C	ASTM D1525
Melting Temperature (DSC) ⁴	171	°F	77.0	°C	Dow Method
Peak Crystallization Temperature (DSC)	140	°F	60.0	°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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