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
- EU, No 10/2011
- Japan Hygienic Olefin and Styrene Plastics Association
- U.S. FDA DMF

Consult the regulations for complete details.

Applications:

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

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	0.885	g/cm³	0.885	g/cm³	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 [1] (Compression Molded)	696	psi	4.80	MPa	ASTM D638
Tensile Strength [1] (Break, Compression Molded)	2640	psi	18.2	MPa	ASTM D638
Tensile Elongation [1]					ASTM D638
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 [2]	348	lbf/in	61.0	kN/m	ASTM D624
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	-50.8	°F	-46.0	°C	Dow Method
Vicat Softening Temperature	145	°F	63.0	°C	ASTM D1525

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Thermal	Nominal Value (English)		Nominal Value (SI)		Test Method
Melting Temperature (DSC) [3]	171	°F	77.0	°C	Dow Method
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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