ENGAGE™ 8180

Polyolefin Elastomer

The Dow Chemical Company

Message:

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
Complies with:
EU, No 10/2011
U.S. FDA 177.1520(c)3.2c
U.S. FDA DMF
Consult the regulations for complete details.

General Information			
Agency Ratings	DMF Unspecified Rating EU No 10/2011 FDA 21 CFR 177.1520(c) 3.2c		
Forms	Pellets		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	0.863	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.50	g/10 min	ASTM D1238
Mooney Viscosity (ML 1+4, 121°C)	37	MU	ASTM D1646
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shore A, 1 sec, Compression Molded	63		
Shore D, 1 sec, Compression Molded	16		
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus - 100% Secant [1] (Compression Molded)	1.90	MPa	ASTM D638
Tensile Strength [2] (Break, Compression Molded)	6.30	MPa	ASTM D638

Tensile Elongation [3] (Break, Compression Molded)	910	%	ASTM D638
Flexural Modulus			ASTM D790
1% Secant : Compression Molded	8.50	MPa	
2% Secant : Compression Molded	7.70	MPa	
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tear Strength [4]	32.0	kN/m	ASTM D624
Thermal	**Nominal Value**	**Unit**	**Test Method**
Glass Transition Temperature	-55.0	°C	Internal Method
Vicat Softening Temperature	41.0	°C	ASTM D1525
Melting Temperature (DSC) [5]	47.0	°C	Internal Method
Peak Crystallization Temperature (DSC)	32.0	°C	Internal Method
NOTE			
1.	510 mm/min		
2.	510 mm/min		
3.	510 mm/min		
4.	Die C		
5.	10°C/min		

Recommended distributors for this material

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