



Technical Data Sheet

ENGAGE™ PV 8680 Polyolefin Elastomer

Overview

ENGAGE™ PV 8680 Polyolefin Elastomer is an ethylene-butene copolymer that offers excellent performance in photovoltaic module encapsulant applications.

ENGAGE™ PV 8680 Polyolefin Elastomer provides high transmittance, excellent electrical properties, and exceptional anti-damp heat aging, anti-UV aging, and weather resistance properties.

Main Characteristics:

- Pellet form
- High volume resistivity
- High transmittance
- Low water vapor transmission rate
- Exceptional anti-damp heat aging, anti-UV aging, and weather resistance when cured

Applications:

- Photovoltaic module encapsulant

Sustainability Attribute:



Physical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Density	0.872	g/cm ³	0.872	g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	5.0	g/10 min	5.0	g/10 min	ASTM D1238
Mechanical					
Tensile Modulus - 100% Secant ² (Compression Molded)	239	psi	1.65	MPa	ASTM D638
Tensile Strength ² (Break, Compression Molded)	772	psi	5.32	MPa	ASTM D638
Tensile Elongation ² Break, Compression Molded	1300	%	1300	%	ASTM D638

1. ASTM: American Society for Testing and Materials
2. 20 in/min (510 mm/min)

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



Physical Properties (Cont.)

Mechanical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method
Flexural Modulus					ASTM D790
1% Secant : Compression Molded	972	psi	6.70	MPa	
2% Secant : Compression Molded	943	psi	6.50	MPa	
Elastomers					
Tear Strength ³	158	lb/fin	27.6	kN/m	ASTM D624
Hardness					
Durometer Hardness					ASTM D2240
Shore A, Compression Molded	67		67		
Shore D, Compression Molded	17		17		
Thermal					
Glass Transition Temperature	-50.8	°F	-46.0	°C	Dow Method
Vicat Softening Temperature	102	°F	39.0	°C	ASTM D1525
Melting Temperature (DSC) ⁴	149	°F	65.0	°C	Dow Method
Peak Crystallization Temperature (DSC)	117	°F	47.0	°C	Dow Method
Electrical					
Volume Resistivity	> 1.0E+15	ohms-cm	> 1.0E+15	ohms-cm	Dow Method

3. Die C

4. 10°C/min

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