



# 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

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.872 g/cm <sup>3</sup>	0.872 g/cm <sup>3</sup>	ASTM D792
Melt Index (190°C/2.16 kg)	5.0 g/10 min	5.0 g/10 min	ASTM D1238
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus - 100% Secant <sup>1</sup> (Compression Molded)	239 psi	1.65 MPa	ASTM D638
Tensile Strength <sup>1</sup> (Break, Compression Molded)	772 psi	5.32 MPa	ASTM D638
Tensile Elongation <sup>1</sup> Break, Compression Molded	1300 %	1300 %	ASTM D638
Flexural Modulus			ASTM D790
1% Secant : Compression Molded	972 psi	6.70 MPa	
2% Secant : Compression Molded	943 psi	6.50 MPa	
Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tear Strength <sup>2</sup>	158 lbf/in	27.6 kN/m	ASTM D624
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec, Compression Molded	67	67	
Shore D, 1 sec, Compression Molded	17	17	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Glass Transition Temperature	-50.8 °F	-46.0 °C	Dow Method
Vicat Softening Temperature	102 °F	39.0 °C	ASTM D1525
Melting Temperature (DSC) <sup>3</sup>	149 °F	65.0 °C	Dow Method
Peak Crystallization Temperature (DSC)	117 °F	47.0 °C	Dow Method
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	> 1.0E+15 ohms-cm	> 1.0E+15 ohms-cm	Dow Method

**Notes**

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

<sup>1</sup> 20 in/min (510 mm/min)

<sup>2</sup> Die C

<sup>3</sup> 10°C/min

