



ENGAGE™ PV 8688 Polyolefin Elastomer

Overview

ENGAGE™ PV 8688 Polyolefin Elastomer is an ethylene-butene copolymer that offers excellent performance in photovoltaic module encapsulant applications.

ENGAGE™ PV 8688 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 ¹ |
|--|---------------|-------------------|---------------|-------------------|--------------------------|
| Density | 0.873 | g/cm ³ | 0.873 | g/cm ³ | ASTM D792 |
| Melt Index (190°C/2.16 kg) | 14 | g/10 min | 14 | g/10 min | ASTM D1238 |
| Mechanical | | | | | |
| Tensile Modulus — 100% Secant ² (Compression Molded) | 235 | psi | 1.62 | MPa | ASTM D638 |
| Tensile Strength ² (Break, Compression Molded) | 627 | psi | 4.32 | MPa | ASTM D638 |
| Tensile Elongation ² Break, Compression Molded | 1300 | % | 1300 | % | ASTM D638 |



Physical Properties (Cont.)

| Mechanical | Nominal Value | Unit (English) | Nominal Value | Unit (SI) | Test Method |
|--|---------------|----------------|---------------|-----------|-------------|
| Flexural Modulus | | | | | ASTM D790 |
| 1% Secant, Compression Molded | 899 | psi | 6.20 | MPa | |
| 2% Secant, Compression Molded | 856 | psi | 5.90 | MPa | |
| Elastomers | | | | | |
| Tear Strength ³ | 158 | lbf/in | 27.6 | kN/m | ASTM D624 |
| Hardness | | | | | |
| Durometer Hardness | | | | | ASTM D2240 |
| Shore A, 1 sec, Compression Molded | 66 | | 66 | | |
| Shore D, 1 sec, Compression Molded | 17 | | 17 | | |
| Thermal | | | | | |
| Glass Transition Temperature | -45.4 | °F | -43.0 | °C | Dow Method |
| Vicat Softening Temperature | 98.2 | °F | 36.8 | °C | ASTM D1525 |
| Melting Temperature (DSC) ⁴ | 153 | °F | 67.0 | °C | Dow Method |
| Peak Crystallization Temperature (DSC) | 118 | °F | 48.0 | °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

