Technical Data Sheet

ENGAGE™ PV 8658 Polyolefin Elastomer

Overview

ENGAGE™ PV 8658 Polyolefin Elastomer is an ethylene-octene copolymer that offers excellent performance in photovoltaic module encapsulant applications.

ENGAGE™ PV 8658 Polyolefin Elastomer provides high transmittance, excellent electrical properties, and exceptional anti-damp heat aging, anti-UV aging, and weather resistance properties.

Sustainability Attribute:

Resoursa™
Advancing resource efficiency with DOW

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

Consult the regulations for complete details.

Physical Properties

Physical	Nominal Value	Unit (English)	Nominal Value	Unit (SI)	Test Method[1]
Density	0.902	g/cm³	0.902	g/cm³	ASTM D792
Melt Index (190°C/2.16 kg)	30	g/10 min	30	g/10 min	ASTM D1238
Mooney Viscosity (ML 1+4, 250°F (121°C))	2	MU	2	MU	ASTM D1646
Mechanical					
Tensile Modulus — 100% Secant [2](Compression Molded)	972	psi	6.70	MPa	ASTM D638
Tensile Strength[2] (Break, Compression Molded)	1640	psi	11.3	MPa	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
Tensile Elongation[2]					ASTM D638
(Break, Compression Molded)	910	%	910	%	
Flexural Modulus					ASTM D790
1% Secant, Compression Molded	10500	psi	72.6	MPa	
2% Secant, Compression Molded	10400	psi	72.0	MPa	
Elastomers					
Tear Strength[3]	452	lbf/in	79.1	kN/m	ASTM D624 (Die C)
Hardness					
Durometer Hardness					ASTM D2240
Shore A, 1 sec, Compression Molded	88		88		
Shore D, 1 sec, Compression Molded	34		34		
Thermal					
Glass Transition Temperature	-32.8	°F	-36.0	°C	Dow Method
Vicat Softening Temperature	162	°F	72.2	°C	ASTM D1525
Melting Temperature (DSC)[4]	205	°F	96.0	°C	Dow Method
Peak Crystallization Temperature (DSC)	177	°F	80.4	°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