



ENGAGE™ HM 7280

Polyolefin Elastomer

Overview

- High elasticity with good elastic recovery
- High melt strength
- Good impact strength
- Good flow characteristics

ENGAGE™ HM 7280 Polyolefin Elastomer Resin is produced via gas phase polymerization from Dow. This is an ethylene-butene copolymer exhibiting high flexibility and elasticity. It can be utilized in monolayer and coextruded films and in blends with other polyolefins to enhance melt strength and toughness of the structure.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.884 g/cm ³	0.884 g/cm ³	ASTM D792
Melt Index (190°C/2.16 kg)	< 0.50 g/10 min	< 0.50 g/10 min	ASTM D1238
Mooney Viscosity (ML 1+4, 302°F (150°C))	42 MU	42 MU	ASTM D1646
Total Crystallinity - %	24.7	24.7	Dow Method
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus - 100% Secant ¹ (Compression Molded)	653 psi	4.50 MPa	ASTM D638
Tensile Strength ¹ (Break, Compression Molded)	740 psi	5.10 MPa	ASTM D638
Tensile Elongation ¹ Break, Compression Molded	310 %	310 %	ASTM D638
Flexural Modulus			ASTM D790
1% Secant : Compression Molded	4090 psi	28.2 MPa	
2% Secant : Compression Molded	3670 psi	25.3 MPa	
Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ^{2, 3} Break, 0.0394 in (1.00 mm)	3150 psi	21.7 MPa	ASTM D412
Tensile Elongation ^{2, 3} Break, 0.0394 in (1.00 mm)	640 %	640 %	ASTM D412
Tear Strength ² -- ⁴ 0.0394 in (1.00 mm) ³	268 lbf/in 314 lbf/in	46.9 kN/m 55.0 kN/m	ASTM D624
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness			ASTM D2240
0.0394 in (1.00 mm), Extruded ³	81	81	
Shore A, Compression Molded	84	84	
Shore D, Compression Molded	29	29	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Glass Transition Temperature	-45.4 °F	-43.0 °C	Dow Method
Vicat Softening Temperature	140 °F	60.0 °C	ASTM D1525
Melting Temperature (DSC) ⁵	241 °F	116 °C	Dow Method

Notes

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

¹ 20 in/min (510 mm/min)

² Die C

³ Extruded sheet at 40 mil (1.0 mm) thickness with no significant difference between machine and cross-directional properties.

⁴ Compression Molded

⁵ 10°C/min Dow Method, complete protocols and results available upon request.

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