



# ENGAGE™ HM 7289 Polyolefin Elastomer

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

ENGAGE™ HM 7289 Polyolefin Elastomer Resin is a unique olefinic composition for improved processability and material handling. This product is produced via gas phase polymerization from Dow. This is an ethylene-butene copolymer exhibiting high flexibility, elasticity, and high melt strength for film and extruded sheet applications.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.891 g/cm <sup>3</sup>	0.891 g/cm <sup>3</sup>	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, 250°F (121°C))	> 200 MU	> 200 MU	ASTM D1646
Total Crystallinity - %	27.5	27.5	Dow Method

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus - 100% Secant (Compression Molded)	406 psi	2.80 MPa	ASTM D638 <sup>1</sup>
Tensile Strength (Break, Compression Molded)	537 psi	3.70 MPa	ASTM D638 <sup>1</sup>
Tensile Elongation			ASTM D638 <sup>1</sup>
Break, Compression Molded	200 %	200 %	
Flexural Modulus			ASTM D790
1% Secant: Compression Molded	7120 psi	49.1 MPa	
2% Secant: Compression Molded	6310 psi	43.5 MPa	

Elastomers	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			ASTM D412 <sup>2, 3</sup>
Flow: Break, 0.0394 in (1.00 mm)	2990 psi	20.6 MPa	
Across Flow: Break, 0.0394 in (1.00 mm)	2050 psi	14.1 MPa	
Tensile Elongation			ASTM D412 <sup>2, 3</sup>
Flow: Break, 0.0394 in (1.00 mm)	670 %	670 %	
Across Flow: Break, 0.0394 in (1.00 mm)	650 %	650 %	
Tear Strength			
--	323 lbf/in	56.6 kN/m	ASTM D624 <sup>2, 4</sup>
Flow: 0.0394 in (1.00 mm)	388 lbf/in	68.0 kN/m	ASTM D624 <sup>2, 3</sup>
Across Flow: 0.0394 in (1.00 mm)	371 lbf/in	65.0 kN/m	ASTM D624 <sup>2, 3</sup>

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Durometer Hardness			
Shore A, Compression Molded	88	88	ASTM D2240
Shore D, Compression Molded	31	31	ASTM D2240
0.0394 in (1.00 mm), Extruded	88	88	ASTM D2240 <sup>3</sup>

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Glass Transition Temperature (DSC)	-54.4 °F	-48.0 °C	Dow Method
Vicat Softening Temperature	127 °F	53.0 °C	ASTM D1525
Melting Temperature (DSC)	329 °F	165 °C	Dow Method <sup>5</sup>
Peak Crystallization Temperature (DSC)	210 °F	99.0 °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.

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

<sup>2</sup> Die C

<sup>3</sup> Extruded sheet

<sup>4</sup> Compression Molded

<sup>5</sup> 10°C/min

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