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/cm³	0.884 g/cm³	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 - %	24.7	24.7	Dow Method
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Modulus - 100% Secant (Compression Molded)	653 psi	4.50 MPa	ASTM D638 [1]
Tensile Strength (Break, Compression Molded)	740 psi	5.10 MPa	ASTM D638 [1]
Tensile Elongation			ASTM D638 [1]
Break, Compression Molded	310 %	310 %	
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			ASTM D412 [2, 3]
Break, 0.0394 in (1.00 mm)	3150 psi	21.7 MPa	
Tensile Elongation			ASTM D412 [2, 3]
Break, 0.0394 in (1.00 mm)	640 %	640 %	
Tear Strength			
--	268 lbf/in	46.9 kN/m	ASTM D624 [2, 4]
0.0394 in (1.00 mm)	314 lbf/in	55.0 kN/m	ASTM D624 [2, 3]
Hardness	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Durometer Hardness			
Shore A, Compression Molded	84	84	ASTM D2240
Shore D, Compression Molded	29	29	ASTM D2240
0.0394 in (1.00 mm), Extruded	81	81	ASTM D2240 [3]
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Glass Transition Temperature (DSC)	-45.4 °F	-43.0 °C	Dow Method
Vicat Softening Temperature	140 °F	60.0 °C	ASTM D1525
Melting Temperature (DSC)	241 °F	116 °C	Dow Method [5]
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.

[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

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Additional Information

North America		**Europe/Middle East**	+800-3694-6367
U.S. & Canada:	1-800-441-4369		+32-3-450-2240
	1-989-832-1426	Italy:	+800-783-825
Mexico:	+1-800-441-4369		
Latin America		**South Africa**	+800-99-5078
Argentina:	+54-11-4319-0100		
Brazil:	+55-11-5188-9000		
Colombia:	+57-1-219-6000	**Asia Pacific**	+800-7776-7776
Mexico:	+52-55-5201-4700		+603-7965-5392

www.dowplastics.com

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