Technical Information

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/cm³	0.891	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, 302°F (150°C))	74	MU	74	MU	ASTM D1646
Total Crystallinity - %	27.5		27.5		Dow Method
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Modulus - 100% Secant [1] (Compression Molded)	406	psi	2.80	MPa	ASTM D638
Tensile Strength [1] (Break, Compression Molded)	537	psi	3.70	MPa	ASTM D638
Tensile Elongation [1]					ASTM D638
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 [2, 3]					ASTM D412
Across Flow : Break, 0.0394 in (1.00 mm)	2050	psi	14.1	MPa	
Flow : Break, 0.0394 in (1.00 mm)	2990	psi	20.6	MPa	
Tensile Elongation [2, 3]					ASTM D412
Across Flow : Break, 0.0394 in (1.00 mm)	650	%	650	%	
Flow : Break, 0.0394 in (1.00 mm)	670	%	670	%	
Tear Strength [2]					ASTM D624
-- [4]	323	lbf/in	56.6	kN/m	
Across Flow : 0.0394 in (1.00 mm) [3]	371	lbf/in	65.0	kN/m	
Flow : 0.0394 in (1.00 mm) [3]	388	lbf/in	68.0	kN/m	
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Durometer Hardness					ASTM D2240
0.0394 in (1.00 mm), Extruded [3]	88		88		
Shore A, Compression Molded	88		88		
Shore D, Compression Molded	31		31		
Thermal	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Glass Transition Temperature	-62.0	°F	-52.2	°C	Dow Method
Vicat Softening Temperature	127	°F	53.0	°C	ASTM D1525
Melting Temperature (DSC) [5]	210	°F	98.9	°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

[4] Compression Molded

[5] 10°C/min, Dow method, complete protocols available upon request.