



# INFUSE™ Olefin Block Copolymers

## Product Selection Guide

INFUSE™ Olefin Block Copolymers (OBCs) are polyolefins with alternating blocks of hard (highly rigid) and soft (highly elastomeric) segments. The block structure of OBCs offers an advantaged performance balance of flexibility and heat resistance compared to random polyolefin copolymers. The INFUSE™ OBC product offering features resins for a variety of fabrication processes – creating exciting possibilities for polymer converters, processors and formulators – in everything from footwear and housewares to absorbent hygiene products (AHPs) and hot melt adhesives (HMAs).

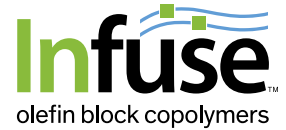
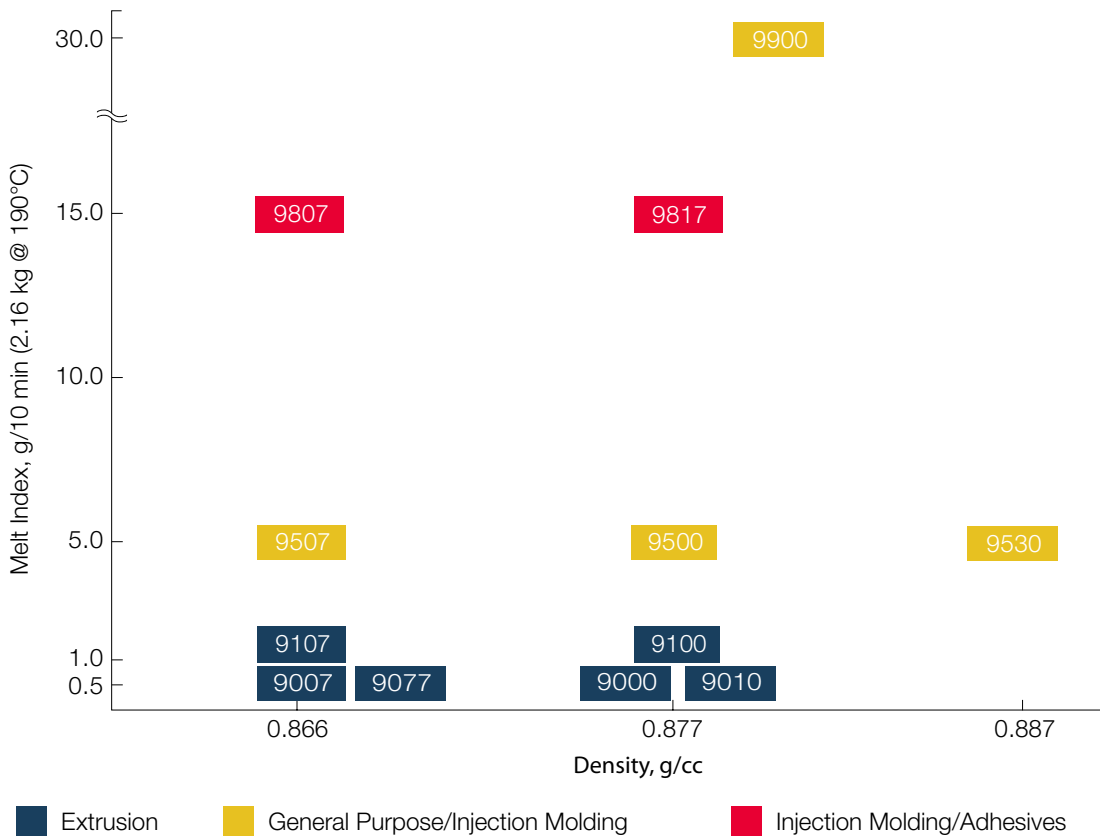


Figure 1: Melt Index vs. Density of INFUSE™ Olefin Block Copolymers Products<sup>(1,2)</sup>



<sup>(1)</sup> All grades are commercialized INFUSE™ OBC products.  
<sup>(2)</sup> These are typical properties, not to be construed as specifications.

**Table 1:** Typical Properties of INFUSE™ Olefin Block Copolymers<sup>(1,2)</sup>

	Test Method	INFUSE™ OBC Grades					
		9000	9010	9007	9077	9100	9107
Description / Key Attributes	–	Good elastic recovery	Low tack, high tensile strength	Highly flexible, excellent elastic recovery	Highly flexible, excellent softness	High service temperature performance	High service temperature performance
	–	Excellent compression set in blends and compounds	Excellent for blends and compounds	Excellent for blends and compounds	Excellent compatibilizer and blend component	General purpose elastomer	General purpose elastomer
	–	–	–	Dusted	Dusted	–	Dusted
Typical Applications	–	Compounding, Profile Extrusion	Compounding, Profiles, Grips, Thermoplastic Elastomers (TPEs)	Compounding, TPEs, Elastic Films/Laminates	Crosslinked (XL) Foams, Compounding	Compounding, Profile Extrusion, Blown Films	TPEs, Elastic Films/Laminates, Blown Films
<b>Physical Properties</b>							
Melt Index, g/10 min (2.16 kg @ 190°C)	ASTM D1238	0.5	0.5	0.5	0.5	1	1
Density, g/cc	ASTM D792	0.877	0.877	0.866	0.869	0.877	0.866
DSC Melting Point, °F (°C)	Dow Method <sup>(3)</sup>	248 (120)	252 (122)	246 (119)	244 (118)	248 (120)	250 (121)
Glass Transition Temperature, °F (°C)	Dow Method <sup>(3)</sup>	-80 (-62)	-65 (-54)	-80 (-62)	-85 (-65)	-80 (-62)	-80 (-62)
<b>Mechanical Properties</b>							
Hardness, Shore A	ASTM D2240	71	77	64	51	75	60
Tensile Modulus, 100% Secant, psi (MPa)	ASTM D638	477 (3.3)	493 (3.4)	258 (1.8)	175 (1.2)	404 (2.8)	234 (1.6)
Ultimate Tensile Strength, psi (MPa)	ASTM D638	911 (6.3)	1,910 (13.2)	590 (4.1)	435 (3.0)	950 (6.6)	739 (5.1)
Ultimate Tensile Elongation, %	ASTM D638	370	>750	400	>750	480	600
Ultimate Tensile Strength, psi (MPa)	ASTM D412	2,175 (15)	2,110 (14.5)	1,407 (10)	–	1,885 (13)	1,595 (11)
Ultimate Tensile Elongation, %	ASTM D412	1,150	770	1,300	–	1,250	1,550
Tear Strength, kN/m	ASTM D624	42	48	29	26	40	27
<b>Thermal Properties</b>							
TMA @ 1.0 mm, °F (°C)	1 N, 5°C/min <sup>(3)</sup>	219 (104)	250 (121)	190 (88)	226 (108)	237 (114)	151 (66)
Compression Set @ 21°C, %	ASTM D395	23	24	18	20	19	16
Compression Set @ 70°C, %	ASTM D395	45	67	57	43	47	49

<sup>(1)</sup> These are typical properties, not to be construed as specifications.

<sup>(2)</sup> All tests performed on compression molded samples.

<sup>(3)</sup> Dow Method. Test protocols and additional information available upon request.

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**Table 1:** Typical Properties of INFUSE™ Olefin Block Copolymers<sup>(1,2)</sup> –continued

	Test Method	INFUSE™ OBC Grades					
		9500	9507	9530	9807	9817	9900
Description / Key Attributes	–	General purpose elastomer	General purpose elastomer	General purpose elastomer	Excellent flow and processability	Excellent flow and processability	General purpose elastomer
	–	Excellent haptics	Excellent flow and processability	Excellent compression set at high temperatures	Higher set-up temperature	Reduced part weight	High flow
	–	–	Dusted	–	Dusted	Dusted	–
Typical Applications	–	Injection Molding, XL Foams, Overmolding on PP and PE, Cast Films	Injection Molding, Elastic Films/ Laminates	Injection Molding, XL Foams, Elastic Films/ Laminates	Injection Molding for TPEs, Adhesives	Injection Molding for TPEs, Adhesives, Elastic Nonwovens	Injection Molding for TPEs, Adhesives, Elastic Nonwovens
<b>Physical Properties</b>							
Melt Index, g/10 min (2.16 kg @ 190°C)	ASTM D1238	5	5	5	15	15	30
Density, g/cc	ASTM D792	0.877	0.866	0.887	0.866	0.887	0.880
DSC Melting Point, °F (°C)	Dow Method <sup>(3)</sup>	251 (122)	246 (119)	246 (119)	244 (118)	248 (120)	252 (122)
Glass Transition Temperature, °F (°C)	Dow Method <sup>(3)</sup>	-80 (-62)	-80 (-62)	-80 (-62)	-80 (-62)	-80 (-62)	-58 (-50)
<b>Mechanical Properties</b>							
Hardness, Shore A	ASTM D2240	69	60	83	55	71	78 <sup>(4)</sup>
Tensile Modulus, 100% Secant, psi (MPa)	ASTM D638	331 (2.3)	216 (1.5)	554 (3.8)	189 (1.3)	335 (2.3)	580 (4.0) <sup>(4,5)</sup>
Ultimate Tensile Strength, psi (MPa)	ASTM D638	723 (5.0)	419 (2.9)	1,069 (7.4)	176 (1.2)	355 (2.4)	640 (4.41) <sup>(4,5)</sup>
Ultimate Tensile Elongation, %	ASTM D638	1,150	1,210	1,000	1,200	1,540	780 <sup>(4,5)</sup>
Ultimate Tensile Strength, psi (MPa)	ASTM D412	1,378 (10)	1,015 (7)	2,465 (17)	435 (3)	1,015 (7)	735 (5.07) <sup>(6)</sup>
Ultimate Tensile Elongation, %	ASTM D412	1,600	1,900	1,300	2,200	1,700	870 <sup>(6)</sup>
Tear Strength, kN/m	ASTM D624	35	22	52	17	31	47.5
<b>Thermal Properties</b>							
TMA @ 1.0 mm, °F (°C)	1 N, 5°C/min <sup>(3)</sup>	207 (97)	171 (77)	232 (111)	140 (60)	203 (95)	154 (68)
Compression Set @ 21°C, %	ASTM D395	22	22	20	16	15	38
Compression Set @ 70°C, %	ASTM D395	55	70	45	76	58	98

<sup>(1)</sup> These are typical properties, not to be construed as specifications.

<sup>(2)</sup> All tests performed on compression molded samples.

<sup>(3)</sup> Dow Method. Test protocols and additional information available upon request.

<sup>(4)</sup> Injection molded

<sup>(5)</sup> 20 in/min (510 mm/min)

<sup>(6)</sup> Die C

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