



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 – for new products, new applications, and new markets.

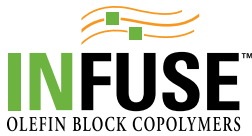
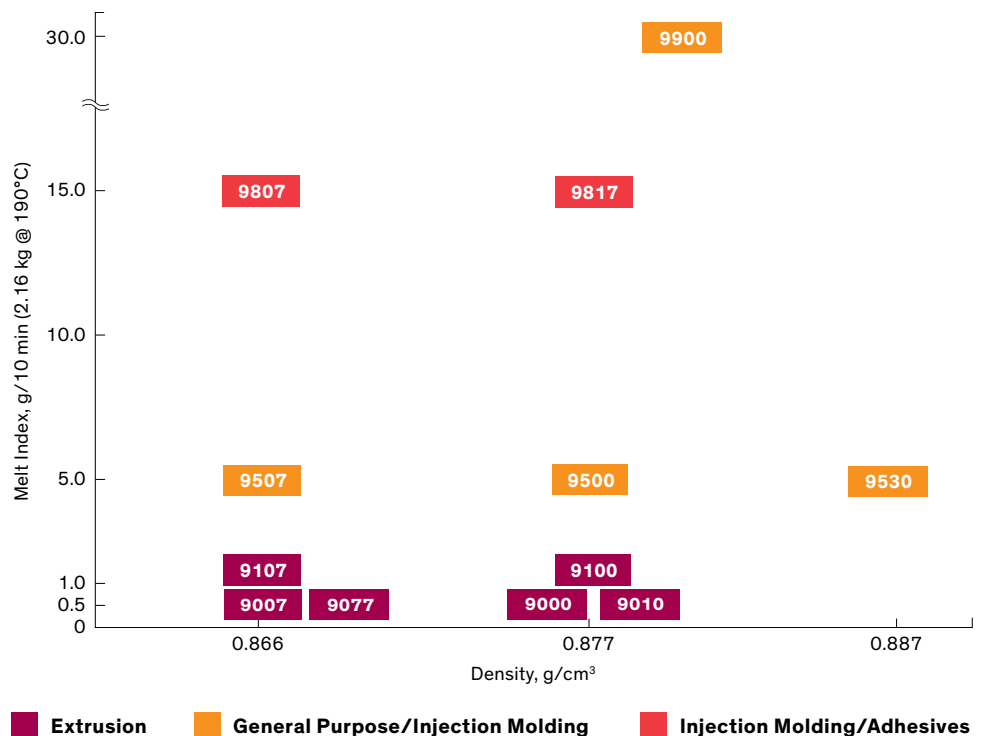


Figure 1: Melt Index vs. Density of INFUSE™ Olefin Block Copolymers Products^(1,2)



⁽¹⁾ All grades are commercialized INFUSE™ OBC products.

⁽²⁾ Typical properties; not to be construed as specifications. Users should confirm results by their own tests.

Table 1: Typical Properties of INFUSE™ Olefin Block Copolymers^(1,2)

	Test Method				
		9000	9010	9007	9077
Description / Key Attributes		Good elastic recovery	Low tack, high tensile strength	Highly flexible, excellent elastic recovery	Highly flexible, excellent softness
		Excellent compression set in blends and compounds	Excellent for blends and compounds	Excellent for blends and compounds	Excellent compatibilizer and blend component
				Dusted	Dusted
Typical Applications		Compounding, Profile Extrusion	Compounding, Profiles, Grips, Thermoplastic Elastomers (TPEs)	Compounding, TPEs	Crosslinked (XL) Foams, Compounding
Physical Properties					
Melt Index, g/10 min (2.16 kg @ 190°C)	ASTM D1238	0.5	0.5	0.5	0.5
Density, g/cm ³	ASTM D792	0.877	0.877	0.866	0.869
DSC Melting Point, °F (°C)	Dow Method ⁽³⁾	248 (120)	252 (122)	246 (119)	244 (118)
Glass Transition Temperature, °F (°C)	Dow Method ⁽³⁾	-80 (-62)	-65 (-54)	-80 (-62)	-85 (-65)
Mechanical Properties					
Hardness, Shore A	ASTM D2240	71	77	64	51
Tensile Modulus, 100% Secant, psi (MPa)	ASTM D638	477 (3.3)	493 (3.4)	258 (1.8)	175 (1.2)
Ultimate Tensile Strength, psi (MPa)	ASTM D638	911 (6.3)	1,910 (13.2)	590 (4.1)	435 (3.0)
Ultimate Tensile Elongation, %	ASTM D638	370	>750	400	>750
Ultimate Tensile Strength, psi (MPa)	ASTM D412	2,175 (15)	2,110 (14.5)	1,407 (10)	–
Ultimate Tensile Elongation, %	ASTM D412	1,150	770	1,300	–
Tear Strength, kN/m	ASTM D624	42	48	29	26
Thermal Properties					
TMA @ 1.0 mm, °F (°C)	1 N, 5°C/min ⁽³⁾	219 (104)	250 (121)	190 (88)	226 (108)
Compression Set @ 21°C, %	ASTM D395	23	24	18	20
Compression Set @ 70°C, %	ASTM D395	45	67	57	43

⁽¹⁾ Typical properties; not to be construed as specifications. Users should confirm results by their own tests.

⁽²⁾ All tests performed on compression molded samples.

⁽³⁾ Dow Method. Additional information available upon request.

⁽⁴⁾ Injection molded

⁽⁵⁾ 20 in/min (510 mm/min)

⁽⁶⁾ Die C

INFUSE™ OBC Grades

9100	9107	9500	9507	9530	9807	9817	9900
High service temperature performance	High service temperature performance	General purpose elastomer	General purpose elastomer	General purpose elastomer	Excellent flow and processability	Excellent flow and processability	General purpose elastomer
General purpose elastomer	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	Dusted	
Compounding, Profile Extrusion, Blown Films	TPEs, Elastic Films, Blown Films	Injection Molding, XL Foams, Overmolding on PP and PE, Cast Films	Injection Molding, Elastic Films	Injection Molding, XL Foams	Injection Molding for TPEs, Adhesives	Injection Molding for TPEs, Adhesives	Injection Molding for TPEs, Adhesives
1	1	5	5	5	15	15	30
0.877	0.866	0.877	0.866	0.887	0.866	0.877	0.880
248 (120)	250 (121)	251 (122)	246 (119)	246 (119)	244 (118)	248 (120)	252 (122)
-80 (-62)	-80 (-62)	-80 (-62)	-80 (-62)	-80 (-62)	-80 (-62)	-80 (-62)	-58 (-50)
75	60	69	60	83	55	71	78 ⁽⁴⁾
404 (2.8)	234 (1.6)	331 (2.3)	216 (1.5)	554 (3.8)	189 (1.3)	335 (2.3)	580 (4.0) ^(4,5)
950 (6.6)	739 (5.1)	723 (5.0)	419 (2.9)	1,069 (7.4)	176 (1.2)	355 (2.4)	640 (4.4) ^(4,5)
480	600	1,150	1,210	1,000	1,200	1,540	780 ^(4,5)
1,885 (13)	1,595 (11)	1,378 (10)	1,015 (7)	2,465 (17)	435 (3)	1,015 (7)	735 (5.07) ⁽⁶⁾
1,250	1,550	1,600	1,900	1,300	2,200	1,700	870 ⁽⁶⁾
40	27	35	22	52	17	31	47.5
237 (114)	151 (66)	207 (97)	171 (77)	232 (111)	140 (60)	203 (95)	154 (68)
19	16	22	22	20	16	15	38
47	49	55	70	45	76	58	98

North America		Europe/Middle East	00 800 3694 6367	dow.com
U.S. & Canada	1 800 441 4369		00 31 115 672626	dowelastomers.com
	1 989 832 1426	Italy	800 783 825	
Mexico	+ 1 800 441 4369	South Africa	00 800 99 5078	
Latin America		Asia Pacific	+ 800 7776 7776	
Argentina	+ 54 11 4319 0100		+ 603 7965 5392	
Brazil	+ 55 11 5188 9000		+ 86 21 3851 4988	
Colombia	+ 57 1 219 6000	China	+ 400 889 0789	
Mexico	+ 52 55 5201 4700			

The principles of Responsible Care® and Sustainable Development influence the production of printed literature for The Dow Chemical Company ("Dow"). As a contribution towards the protection of our environment, Dow's printed literature is produced in small quantities and on paper containing recovered/post-consumer fiber and using 100 percent soy-based ink whenever possible.

NOTICE: Any photographs of end-use applications in this document represent potential end-use applications but do not necessarily represent current commercial applications, nor do they represent an endorsement by Dow of the actual products. Further, these photographs are for illustration purposes only and do not reflect either an endorsement or sponsorship of any other manufacturer for a specific potential end-use product or application, or for Dow, or for specific products manufactured by Dow.

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, the Customer is responsible for determining whether products and the information in this document are appropriate for the Customer's use and for ensuring that the Customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Dow assumes no obligation or liability for the information in this document. **NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.**

NOTICE: If products are described as "experimental" or "developmental": (1) product specifications may not be fully determined; (2) analysis of hazards and caution in handling and use are required; (3) there is greater potential for Dow to change specifications and/or discontinue production; and (4) although Dow may from time to time provide samples of such products, Dow is not obligated to supply or otherwise commercialize such products for any use or application whatsoever.

NOTICE REGARDING MEDICAL APPLICATION RESTRICTIONS: Dow will not knowingly sell or sample any product or service ("Product") into any commercial or developmental application that is intended for:

- long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 72 continuous hours;
- use in cardiac prosthetic devices regardless of the length of time involved ("cardiac prosthetic devices" include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems, and ventricular bypass-assisted devices);
- use as a critical component in medical devices that support or sustain human life; or
- use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Dow requests that customers considering use of Dow products in medical applications notify Dow so that appropriate assessments may be conducted.

Dow does not endorse or claim suitability of its products for specific medical applications. It is the responsibility of the medical device or pharmaceutical manufacturer to determine that the Dow product is safe, lawful, and technically suitable for the intended use. **DOW MAKES NO WARRANTIES, EXPRESS OR IMPLIED, CONCERNING THE SUITABILITY OF ANY DOW PRODUCT FOR USE IN MEDICAL APPLICATIONS.**

This document is intended for use in North America.

Published December, 2016.

© 2016 The Dow Chemical Company

®™ Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

® Responsible Care is a service mark of the American Chemistry Council. Dow is a partner in the American Chemistry Council Responsible Care initiative.