

# PRODUCT SELECTION GUIDE

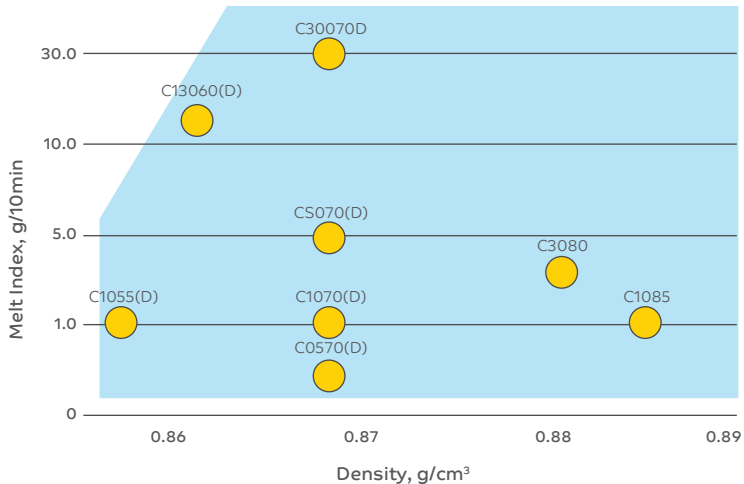
FORTIFY™ POLYOLEFIN ELASTOMER

FORTIFY™ Polyolefin Elastomers (POEs) are a family of ethylene octene copolymer produced using SABIC’s proprietary Nexlene™ metallocene technology. They can offer customers improved impact performance, melt strength, and process ability over a broad spectrum of markets and applications. Used neat or as polymer modifiers, FORTIFY™ POEs offer endless possibilities to bring value to you products. The product portfolio includes over a wide range of melt index and density to serve customers unique needs.

## FORTIFY™ POE Features

- Low crystallinity and low Tg which provides high impact strength at low temperature
- Low modulus/high flexibility – Comparable to traditional elastomers
- Excellent physical properties (toughness, puncture resistance)
- Good Processability in compounding / polymer modification processes
- Good compatibility with other polyolefin products

Figure1: FORTIFY™ Polyolefin Elastomer Products<sup>(a,b)</sup>



<sup>(a)</sup> Typical properties, all properties were measured from specimens cut from compression molding samples, not to be constructed as specification limits; customers should confirm the product performance by their own tests;

<sup>(b)</sup> All grades shown are commercialized as FORTIFY™ POE products;

Table1: Typical properties of FORTIFY™ POE grade<sup>(a)</sup>

Property	C1055D <sup>(b)</sup>	C13060(D) <sup>(b)</sup>	C0570(D) <sup>(b)</sup>	C1070(D) <sup>(b)</sup>	C5070(D) <sup>(b)</sup>	C30070D <sup>(b)</sup>	C3080	C1085
Melt Index (190 °C/2.16KG), g/10min, ASTM D1238	1.0	13.0	0.5	1.0	5.0	30.0	3.0	1.0
Melt Flow Rate (230 °C/2.16KG), g/10min, ASTM D1238	2.2	27.0	0.9	2.0	11.0	70.0	6.0	2.0
Density, g/cm <sup>3</sup> , ASTM D792	0.857	0.863	0.868	0.868	0.868	0.868	0.880	0.885
Mooney Viscosity, MU (ML 1+4 @ 121°C) ASTM D1646	24	3	36	22	8	2	11	21
Hardness, Share A, ASTM D2240	55	63	74	71	63	68	78	81
Hardness, Share D, ASTM D2240	12	16	23	21	16	17	24	29
Tensile Strength, MPa, ASTM D638	3.1	2.3	10.3	9.3	6	3.1	11.8	16.7
Elongation @ Break, %, ASTM D638	>1000	>1000	800	850	>1000	>1000	900	700
100% Modulus, MPa, ASTM D638	1.4	1.8	3.1	2.9	2.3	1.7	3.3	4.6
Flexural Modulus-1% Secant, MPa, ASTM D790	4.4	7.5	15.2	13.2	10.8	10.8	19.6	29.4
Tear Strength, kN/m, ASTM D624	27.5	25.5	45.1	39.2	35.3	29.4	41.2	58.8
Peak Melt Temperature, °C, SABIC Internal method <sup>(c)</sup>	37	42	59	62	62	62	68	74
Glass Transition Temperature, °C, SABIC Internal method <sup>(c)</sup>	-59	-56	-54	-52	-52	-52	-49	-47

<sup>(a)</sup> Typical properties, all properties were measured from specimens cut from compression molding samples, not to be construed as specification limits; customers should confirm the product performance by their own tests;

<sup>(b)</sup> Grades with D are PO powder dusted to improve product handling;

<sup>(c)</sup> SABIC internal method, full protocols and results available per request.

#### DATA IN TABLE ARE TYPICAL VALUES AND SHOULD NOT BE CONSTRUED AS SPECIFICATION LIMITS

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## CONTACT US

### Global Headquarters

PO Box 5101, Riyadh 11422  
Saudi Arabia  
T +966 (011) 225 8000  
F +966 (011) 225 9000  
E info@sabic.com

### Europe

PO Box 5151  
6130 PD Sittard,  
The Netherlands  
T +31 467 222 222  
F +31 467 220 000  
E info@sabic-europe.com

### Americas

2500 City West Boulevard  
Houston, TX 77042 USA  
T +1 713-430-2301

### Asia

One Temasek Avenue  
# 06-01 Millenia Tower  
Singapore 039192  
T +65 655 725 55  
F +65 653 181 01  
E sapppl@sabic.com

### China

2550, Xiupu Road  
Pudong Shanghai 201319, China  
T +86 21 2037 8188  
F +86 21 2037 8288  
E stdl-sha@sabic.com.cn

### India

10th Floor, Ambience Corporate Towers II  
Ambience Island,  
Gurgaon 122001  
Delhi, India  
T +91 124 4746191  
M +91 9599116053

### Japan

Tokyo Club Building, 7F  
Kasumigaseki 3-2-6, Chiyoda-ku  
Tokyo 100-0013, Japan  
T +81 3 3593 4700  
F +81 3 3593 4707  
E sjl@sabic.co.jp

### Korea

20th floor, Donghoon Tower  
702-19, Yeoksam-dong  
Kangnam-ku  
Seoul 135-513, South Korea  
T +82 2 510 6000  
F +82 2 510 6666  
E skl@sabic.co.kr

### Indonesia

Indonesia Stock Exchange Building  
Suite 1702, Tower 1, Level 17  
Jalan Jend  
Sudirman Kav. NO. 52-53  
Jakarta 12190, Indonesia  
T +62 215 140 0055  
F +62 215 140 0077  
E sapppl-iro@sabic.co.id

### Malaysia

Suite 3B-11-3, Level 11  
Block 3B, Plaza Sentral  
Jalan Stesen Sentral 5  
KL Sentral, 50470  
Kuala Lumpur, Malaysia  
T +60 322 746 198  
F +60 322 733 487  
E sapppl@sabic.com

### Philippines

T +63 917 529 8791  
E sapppl@sabic.com

### Thailand

36th Floor CRC Tower, All Season Place  
87/2 Wireless Road, Lumpini  
Rathumwan, Bangkok 10330, Thailand  
T +66 62 414 6955  
E sapppl@sabic.com

### Vietnam

Unit 3, Level 40  
Bitexco Financial Tower,  
02 Hai Trieu Street  
Ben Nghe Ward, District 1  
Ho Chi Minh City, Vietnam  
T +84 839 141 010  
F +84 839 142 088  
E sapppl-vro@sabic.com.vn

### Australia and

### New Zealand

T +61 417 852 914  
E sapppl@sabic.com