



BASF
We create chemistry

Thermoplastic Polyurethane Elastomers (TPU)

Elastollan® – Product Range

Elastollan®

Elastollan® is the brand name for thermoplastic polyurethane (TPU) from BASF. It stands for maximum reliability, consistent product quality and cost efficiency. Elastollan® can be extruded into hoses, cable sheathing, belts, films and profiles, and can also be processed using blow molding and injection molding technologies. Over the last few decades, the numerous benefits of Elastollan® in all its forms – aromatic or aliphatic, very soft or glass fiber-reinforced, flame retardant or highly transparent – have been clearly demonstrated across every sector of industry.

This extensive product portfolio, which makes use of a variety of raw materials and formulations, is the starting point for successfully bringing innovative customer projects to fruition.

We thrive on creative ideas and complex challenges – come and talk to us!

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Nomenclature

Elastollan® 11 85 A 10 W 000						
Elastollan®	Series	Shore Hardness	Granule Shape	Lubricant	Additives	Additives
<p>The registered trade mark of BASF for thermoplastic polyurethane</p> <p>Elastollan® A and L stand for aliphatic thermoplastic polyurethanes</p> <p>Infinergy®</p> <p>Elastollan® N stands for bio-based thermoplastic polyurethanes</p> <p>Elastollan® BMB stands for bio-mass-balance based thermoplastic polyurethanes</p>	<p>The letter or number characterizes the polyol base</p> <p>B, BCF, C, 5, 6, 7, 8, 9 = polyester base</p> <p>11, 12, 13, 15 = polyether base</p> <p>R = glass fiber-reinforced</p> <p>SP = special product</p> <p>EXP = Experimental Grade*</p>	<p>Shore Hardness A (45-98)</p> <p>Shore Hardness D (47-83)</p>	<p>1 = cylindrical or lentil-shaped</p> <p>5 = diced granules</p>	<p>0, 1 = no added lubricants</p> <p>2, 3, 5, 9 = added lubricants</p>	<p>ESD = electronic sensitive devices</p> <p>FC = food contact</p> <p>FHF/HFFR/FR = flame retardant. halogen-free</p> <p>HPM = high performance material</p> <p>M = mat surface</p> <p>N = non- stabilized</p> <p>P/W = contains plasticizers</p> <p>Q = compounds</p> <p>T = approved for drinking water applications</p> <p>TSG = TPU for expansion</p> <p>U = UV-stabilized</p>	<p>000 = natural</p>

* see reverse

Portfolio

Product Range	Chemistry	Shore Hardness*	Range Properties
11	Ether	50 A - 75 D	excellent hydrolysis resistance, cold flexibility, resistance to microorganisms
12	Ether	86 A - 83 D	highly transparent, excellent hydrolysis resistance, cold flexibility, resistance to microorganisms
13	Ether	85 A - 90 A	water-vapor permeable, good tear propagation strength, very good mechanical properties
C	Ester	80 A - 73 D	excellent mechanical properties, very good damping behavior, good rebound, very good wear resistance
B	Ester	82 A - 64 D	very good mechanical properties, good cold flexibility, good wear resistance
BCF	Ester	45 A - 70 D	very good wear resistance and low-temperature flexibility, excellent processing behavior especially in injection molding, good compression set
500	Ester	60 A - 61 D	good mechanical properties, good abrasion resistance
600	Ester	85 A - 50 D	transparent, good damping behavior and rebound
700	Ester	85 A	excellent mechanical properties and chemical resistance, outstanding wear resistance, good damping characteristic and high resilience performance
800	Ester	80 A - 90 A	very good transparency, good abrasion resistance
A	Ether or ester aliphatic	65 A - 55 D	color-fast, non-yellowing, hydrolysis-resistant (ether)
L	Ether or ester aliphatic	75 A - 60 D	color-fast, long-term UV-stability
FHF, HFFR, FR	Ether flame retardant	75 A - 54 D	non-halogen-based flame retardant, outstanding mechanical properties, excellent hydrolysis resistance, resistance to microorganisms
Food Contact (FC)	Ester or ether	70 A - 75 D	general suitability for food contact applications in FDA and EU regulated markets (see Food Contact Information)
HPM	Ester	60 A - 55 D	very good damping behavior and rebound, high temperature resistance, improved setting behavior, good demolding properties, color-fast, soft touch
R	Ester-reinforced	E-Modul 1000 - 14000 MPa	glass fiber-reinforced, very high stiffness, low thermal expansion coefficient, low shrinkage, very good impact resistance
N	bio-based Ether	85 A - 95 A	biobased, excellent mechanical properties, durable, flame retardant possible, good media resistance
BMB	Ether	70 A - 95 A	based on biomass balance approach; saving of fossil raw materials, reduction of greenhouse gases, identical product quality and -properties
Infinergy®			expanded, predominantly closed-cell foam particles made of thermoplastic polyurethane (E-TPU)

*incl. plasticized products

Elastollan® 11 Series

Thermoplastic polyether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set 23 °C/72 hours	%	DIN EN ISO 815-1
Compression set 70 °C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80 °C for 42 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80 °C for 42 days	%	DIN 53504-S2
Notched impact resistance (Charpy) +23 °C	kJ/m ²	DIN EN ISO 179-1
Notched impact resistance (Charpy) -30 °C		
Burning behavior (depending on wall thickness)		UL 94

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set 23 °C/72 hours	%	DIN EN ISO 815-1
Compression set 70 °C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80 °C for 42 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80 °C for 42 days	%	DIN 53504-S2
Notched impact resistance (Charpy) +23 °C	kJ/m ²	DIN EN ISO 179-1
Notched impact resistance (Charpy) -30 °C		
Burning behavior (depending on wall thickness)		UL 94

For more detailed information, please refer to the product information and processing guidance.

- Excellent hydrolysis resistance
- Cold flexibility
- Resistance to microorganisms
- Other UV stabilized products are available

SP 1150 A 19 P	SP 1155 A 12 PU	1160 A 13 P	1160 A 10 P	1170 A 10	1175 A 13 U	1175 A 10 W	1180 A 10	1185 A 10 W	1185 A 10
50	54	60	63	71	74	75	80	83	87
									36
1.08	1.08	1.06	1.07	1.08	1.09	1.14	1.11	1.16	1.12
22	22	27	26	30	41	40	45	40	45
1000	800	850	950	850	700	700	650	700	600
0.6		1.0	1.0	1.5	1.5	2	2	2.5	2.5
1.3		2.5	2.5	3.5	4	4	4.5	6	6
3.4		4.5	4.5	6.3	7	8	8	8	10
30	30	40	40	45	40	40	55	50	70
50	45	70	45	45	50	45	30	55	35
48		25	25	20	20	20	25	20	25
75			40	39	35	40	45	35	45
				20		28	30	30	32
				900		750	700	700	600
				nb		nb	nb	nb	nb
				nb		nb	nb	nb	nb
						V0 / V2	HB	V2	HB

1185 A 12 WM	1185 A 55 U	1185 A 10 M	1190 A 10	1195 A 55 U	1195 A 10	1154 D 10	1160 D 50	1164 D 53 U	1174 D 11
87	87	88	92		96				
39		39	42	43	48	53	60	63	75
1.13	1.12	1.11	1.13	1.15	1.15	1.17	1.18	1.18	1.2
30	50	45	50	50	55	50	50	45	65
650	480	600	550	500	500	450	400	350	380
4	3	3.5	5	6	6	11	13	17	25
7	7	7	9	10	10	15	19	25	30
10	10	12	16	18	18	38	41	44	45
						150	200	260	560
55	65	60	85	100	100	150	170	185	220
65	35	60	35	25	35	30	29	30	22
25	20	35	25	30	30	40	40		50
43	40	45	45	45	45	50	50		55
30		30	35	37	37	35	35		35
600		650	600	500	500	450	450		400
nb		nb	nb	nb	nb	nb	nb		nb
nb		nb	nb	nb	nb	18	16		5
V2					HB	HB			

Elastollan® 12 Series

Thermoplastic polyether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 42 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 42 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C	kJ/m ²	

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 42 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 42 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C	kJ/m ²	
Burning behavior (depending on wall thickness)		UL 94

For more detailed information, please refer to the product information and processing guidance.

- Highly transparent
- Excellent hydrolysis resistance
- Cold flexibility
- Resistance to microorganisms

1285 A 10 U	1290 A 12	1295 A 13 U	1298 A 13 U	1250 D 13 U	1254 D 13 U	1260 D 13 U	1264 D 13 U
86	90	95					
		46	50	54	57	61	64
1.12	1.12	1.15	1.16	1.16	1.17	1.18	1.18
36	45	59	60	57	60	45	50
710	650	560	460	450	470	350	350
2.5	4	6	9	10	17	14	17
6	7	11	16	17	23	23	25
9	11	18	28	29	35	37	35
		60	90	120	160	225	310
60	70	116	130	153	165	165	170
43	45	32	25	30	30	40	40
25		25	28	26	42	45	43
40		45	45	45	54	52	53
			50		53	51	46
			550		520	500	450
		nb 160	nb 171	nb 17	nb 14	nb 13	nb 12

1278 D 11 U	1283 D 11 U
77	83
1.2	1.22
50	67
350	170
29	56
33	47
43	
808	2000
220	310
40	80
72	79
60	94
nb	8.7
10	8.4
	HB

Elastollan® C Series

Thermoplastic polyester polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 21 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 21 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C		
Burning behavior (depending on wall thickness)		UL 94

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 21 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 21 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C		
Burning behavior (depending on wall thickness)		UL 94

For more detailed information, please refer to the product information and processing guidance.

- Outstanding mechanical properties
- Very good damping behavior
- Good rebound
- Very good wear resistance

C 78 A 10	C 80 A 10	C 85 A 10	C 85 A 13	C 85 A 55	C 88 A 10	C 90 A 13	C 90 A 55
80	82	87	87	87	88	93	93
		36	36	36	37	40	41
1.18	1.19	1.19	1.19	1.19	1.19	1.2	1.2
50	50	50	50	50	50	47	55
650	650	650	650	650	600	640	550
2	3	3	3	3	3.5	5.5	7
4	5	6	6	6	6	8.1	9
8	9	10	10	10	13	11.4	15
60	65	70	70	70	75	102	95
30	30	30	30	30	30	39	25
25	25	25	25	25	25	21	25
35	35	35	35	35	40	37	40
35	35	38	38	38	38	40	40
650	650	650	650	650	650	550	550
nb	nb	nb	nb	nb	nb	nb	nb
nb	nb	nb	nb	nb	nb	nb	nb
HB		HB	HB	HB			

C 95 A 10	C 95 A 55	C 98 A 10	C 59 D 53	C 60 D 53	C 64 D 53	C 74 D 50
96	96					
47	47	52	57	60	62	73
1.21	1.21	1.22	1.23	1.23	1.23	1.25
55	55	50	50	50	50	45
550	550	550	500	450	400	350
8	8	11	12	16	17	28
11	11	14	17	20	24	30
22	22	26	30	35	35	35
		160	250	330	390	730
120	120	130	160	180	200	240
30	30	30	30	30	30	20
30	30	30	30	40	40	40
45	45	50	50	50	55	60
40	40	40	43	43	43	45
500	500	550	480	450	420	380
nb	nb	nb	nb	nb	nb	120
nb	nb	25	12	8	7	4
HB		HB	HB		HB	HB

Elastollan® B Series

Thermoplastic polyester polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 21 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 21 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C	kJ/m ²	

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 21 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 21 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C	kJ/m ²	

For more detailed information, please refer to the product information and processing guidance.

- Very good mechanical properties
- Good cold flexibility
- Good wear resistance

B 80 A 15	B 85 A 10	B 85 A 15	B 90 A 11	B 90 A 15	B 95 A 15	B 98 A 15
82	83	83	92	91	96	
				42	48	50
1.19	1.2	1.2	1.21	1.21	1.22	1.22
50	55	55	35	55	55	55
600	600	600	550	550	550	500
2	2			4	8	8
5	4			7	11	12
15	15			20	20	30
		20				140
85	75	75	93	90	100	130
35	35	35		30	30	25
20	25		26	25	30	35
30	35		38	40	40	45
40	40			40	40	40
600	600			550	500	500
nb		nb		nb	nb	nb
nb		nb		nb	200	18

B 60 D 11	B 60 D 15	B 64 D 11
60	60	64
1.23	1.23	1.24
55	55	55
500	500	450
13	13	17
16	16	19
30	30	35
240	240	320
150	150	180
25	25	25
35	35	35
45	45	50
40	40	40
450	450	400
nb	nb	nb
10	10	8

Elastollan® BCF Series

Thermoplastic polyester polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A

For more detailed information, please refer to the product information and processing guidance.

- Very good wear resistance and low-temperature flexibility
- Excellent processing behavior, especially in injection molding
- Good rebound

BCF 45 A 12 P	BCF 50 A 12	BCF 55 A 12 P TSG	BCF 55 A 12 PM ESD	BCF 65 A 12 P	BCF 65 A 12 P ESD	BCF 70 A 10 P
48	50	55	54	64	63	70
1.18	1.20	1.18	1.18	1.19	1.18	1.19
28	22	18	30	25	30	30
1210	1100	1250	1100	1000	1100	900
43		35	40	40	45	45
49		80	50	55	60	60

BCF 75 A 15 P	BCF 80 A 15	BCF 85 A 15	BCF 90 A 15	BCF 95 A 15	BCF 64 D 15	BCF 70 D 15
73	80	85	90			
				48	64	70
1.19	1.21	1.22	1.22	1.23	1.25	1.26
35	40	45	45	47	40	55
900	800	700	550	560	450	310
45	60	70	85	120	200	260
60	40	30	40	35	30	40

Elastollan® 500 Series

Thermoplastic polyester polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1

For more detailed information, please refer to the product information and processing guidance.

- Good mechanical properties
- Good abrasion resistance

560 A 13 P TSG	565 A 12 P	565 A 12 ESDM	575 A 12	580 A 10	585 A 11	590 A 13
60	66	63	75	80	85	92
1.22	1.22	1.22	1.25	1.24	1.25	1.25
24	30	30	35	45	40	45
850	850	850	660	750	600	580
1.0	1.1	1.0			3	
2.5	2.7	2.4			6	
6.0	6.5	5.2			10	
50	65	60	75	75	95	108
90	55	60	55	40	50	35
29	22				17	
45	37				35	

590 A 53	595 A 13	598 A 10	598 A 53	554 D 55 U	560 D 53
94					
41	48	54	53	54	61
1.25	1.27	1.26	1.26	1.25	1.28
50	55	50	50	60	45
600	500	500	500	500	450
5			9		15
8			12		18.5
13			16		23
100	120	130	150	140	180
35	35	40	30	30	30
24			26		24
36			40		46

Elastollan® A Series incl. HPM

Aliphatic thermoplastic polyester or -ether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Compression set at 100°C/24 hours	kJ/m ²	DIN EN ISO 179-1
Vicat softening temperature at 10N and 120°C/h (Proc. A120)	°C	DIN EN ISO 306

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Compression set at 100°C/24 hours	kJ/m ²	DIN EN ISO 179-1
Vicat softening temperature at 10N and 120°C/h (Proc. A120)	°C	DIN EN ISO 306

For more detailed information, please refer to the product information and processing guidance.

- Color-fast
- Non-yellowing
- Hydrolysis resistant (ether)
- Soft touch

Aliphatic Polyester	Aliphatic Polyester HPM				
A C 85 A 12	LP 9277 10	LP 9307 10	A C 65A 12 HPM	A C 70 A 10 HPM	A C 55 D 10 HPM
82	68	79	64	68	
					56
1.14	1.17	1.18	1.17	1.17	1.25
18	14	14	7	14	31
750	1300	1080	1640	1300	690
			1.2	1.6	17
			2.1	2.8	17
			3.3	4.5	17
50	40	45	33	40	130
	40		450	350	
36	25	22	30	25	30
39	35	30	40	35	45
	50	45		50	
	70	90			

**Aliphatic
Polyether HPM
A 1190 A 12 HPM**

90

1.11

16

850

50

120

Elastollan® L Series

Aliphatic thermoplastic polyester or -ether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)

For more detailed information, please refer to the product information and processing guidance.

- Superior transparency
- Long-term UV-stability
- Color-fast

Aliphatic Ethers		
L 1185 A 10	L 1160 D 12	L 1275 A 10
85		70
	56	
1.08	1.09	1.08
50	40	35
430	430	500
3	9	1
5	11	2.5
11	16	6
70	70	42

Aliphatic Esters				
L 785 A 10	L 787 A 10	L 790 A 10	L 795 A 10	L 760 D 10
86	87	90	95	
				60
1.13	1.13	1.13	1.13	1.14
50	45	45	50	45
500	500	450	450	400
2				
4	9	8	11	
10				
65				

Elastollan® FHF Series

Flame retardant polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 42 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 42 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C		
Burning behavior (depending on wall thickness)		UL 94

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 42 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 42 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C		
Burning behavior (depending on wall thickness)		UL 94

For more detailed information, please refer to the product information and processing guidance.

- Flame retardant halogenfree
- Outstanding mechanical properties
- Excellent hydrolysis resistance
- Resistance to microorganisms

1177 A 10 FHF	1185 A 10 FHF	1190 A 10 FHF	1191 A 10 FHF	1192 A 10/11 FHF	1198 A 10 FHF
77	89	90	91	91	
	37				53
1.2	1.23	1.25	1.27	1.25	1.26
22	35	25	25	17	27
800	600	550	600	550	490
1.9	3.5	5	5		9
4.6	8	8	10		11
5.7	13	11	12		15
53	60	60	65	55	85
75	35	30	40	80	37
	25	26	24		29
	45	43	43		50
9	20	15		9	
890	600	640		570	
	nb 120	nb 46		nb/nb 17/9	
	V0	V0		V0	

1147 D 10 FHF	1154 D 10 FHF	3095 A 10 FHF
94		96
48	58	
1.29	1.27	1.29
13	30	24
400	400	550
7	13	
9	19	
10	33	
	160	
60	110	96
54	30	60
29	30	23
50	45	35
7	20	21
270	400	580
nb 21	50 3	
	V0 / V2	

Elastollan® HFFR/FR Series

Flame retardant polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Tensile strength after storage in water at 80°C for 42 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 42 days	%	DIN 53504-S2

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A

For more detailed information, please refer to the product information and processing guidance.

- Flame retardant halogenfree
- Outstanding mechanical properties
- Excellent hydrolysis resistance
- Resistance to microorganisms

1185 A 10 HFFR	SP 3092 A 10 HFFR	SP 3093 A 10 HFFR
86	95	93
	52	
1.42	1.62	1.51
23	15	26
580	400	390
3.6	8	
6	7	
7.8	7	
		60
55	42	50
		220
12	11	17
750	430	570

1176 A 10 FR	1183 A 10 FR	1188 A 10 FR	1192 A 10 FR	1193 A 10 FR	3096 A 10 FR
76	83	88	92	93	96
1.16	1.17	1.18	1.2	1.25	1.26
34	21	36	32	11	23
710	700	510	500	490	550
40	41	55	60	53	98
70	118	65	75	170	64

Elastollan® Food Contact Series

Thermoplastic polyether or -ester polyurethane elastomer

Property	Unit of Measurement	Test Procedure	1170 A 10 FC	1180 A 10 FC
Hardness	Shore A	DIN ISO 48-4 (3s)	71	80
Hardness	Shore D	DIN ISO 48-4 (3s)		
Density	g/cm ³	DIN EN ISO 1183-1-A	1.08	1.11
Tensile strength	MPa	DIN 53504-S2	30	45
Elongation at break	%	DIN 53504-S2	850	650
Stress at 20% elongation	MPa	DIN 53504-S2	1.5	2
Stress at 100% elongation	MPa	DIN 53504-S2	3.5	4.5
Stress at 300% elongation	MPa	DIN 53504-S2	6.3	8
Tear strength	kN/m	DIN ISO 34-1.B(b)	45	55
Abrasion	mm ³	DIN ISO 4649-A	45	30
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1	20	25
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1	39	45
Tensile strength after storage in water at 80°C for 42 days	MPa	DIN 53504-S2	20	30
Elongation at break after storage in water at 80°C for 42 days	%	DIN 53504-S2	900	700
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1	nb	nb
Notched impact strength (Charpy) -30°C	kJ/m ²		nb	nb

Property	Unit of Measurement	Test Procedure	C 80 A 10 FC	C 85 A 10 FC
Hardness	Shore A	DIN ISO 48-4 (3s)	82	85
Hardness	Shore D	DIN ISO 48-4 (3s)		
Density	g/cm ³	DIN EN ISO 1183-1-A	1.19	1.19
Tensile strength	MPa	DIN 53504-S2	50	40
Elongation at break	%	DIN 53504-S2	650	550
Stress at 20% elongation	MPa	DIN 53504-S2	3	
Stress at 100% elongation	MPa	DIN 53504-S2	5	
Stress at 300% elongation	MPa	DIN 53504-S2	9	
Tear strength	kN/m	DIN ISO 34-1.B(b)	65	65
Abrasion	mm ³	DIN ISO 4649-A	30	
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1	25	
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1	35	
Tensile strength after storage in water at 80°C for 42 days	MPa	DIN 53504-S2	35	
Elongation at break after storage in water at 80°C for 42 days	%	DIN 53504-S2	650	
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1	nb	
Notched impact strength (Charpy) -30°C	kJ/m ²		nb	

For more detailed information, please refer to the product information and processing guidance.

- Basic suitability for food contact applications
in FDA and EU-regulated markets (see food contact information)

1185 A 10 FC	1190 A 10 FC	1195 A 10 FC	1198 A 10 FC	1154 D 10 FC	1164 D 11 FC	1174 D 11 FC
87	92	96				
36	42	48	52	53	69	75
1.12	1.13	1.15	1.17	1.17	1.18	1.2
45	50	55	50	50	50	65
600	550	500	420	450	350	380
2.5	5	6	9	11	16	25
6	9	10	15	15	25	30
10	16	18	28	38	45	45
70	85	100	130	150	190	220
35	35	35	25	30	30	22
25	25	30	35	40	40	50
45	45	45	50	50	50	55
32	35	37	35	35	35	35
600	600	500	450	450	400	400
nb	nb	nb	nb	nb	nb	nb
nb	nb	nb	190	18	12	5

C 90 A 10 FC	C 95 A 10 FC	C 98 A 10 FC	B 95 A 11 FC	685 A 10 FC	695 A 10 FC	880 A 13 N	890 A 10 FC	991 A 10 FC
93	96			86		77	91	91
42	47	52	53		50			
1.2	1.21	1.22	1.21	1.21	1.22	1.2	1.22	1.22
45	55	50	55	55	45	40	45	45
550	550	550	550	600	550	700	540	560
			7	3	6	1.8	6	
9.5			10	5.5	10	4.2	10	
			22	10.8		7.6	23	
102	120	130	100	75	100	60	106	95
38	30	30	30	35	35	35	46	36
			30		25	32	32	
			40		40	54	43	
			nb				nb	
			nb				200	

Elastollan® HPM Series

Aromatic thermoplastic polyester or -ether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Compression set at 100°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 21 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 21 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C		
Vicat softening temperature at 10N and 120°C/h (Proc. A120)	°C	DIN EN ISO 306

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Compression set at 100°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 21 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 21 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C		
Vicat softening temperature at 10N and 120°C/h (Proc. A120)	°C	DIN EN ISO 306

For more detailed information, please refer to the product information and processing guidance.

- Very good damping behavior and rebound
- High temperature resistance
- Improved setting behavior
- Good demolding properties

C 60 A 15 HPM	C 65 A 15 HPM	C 70 A 15 HPM	C 75 A 15 HPM	C 85 A 15 HPM	C 90 A 15 HPM	C 95 A 15 HPM
63	67	71	75	85	91	95
1.17	1.18	1.18	1.18	1.2	1.21	1.23
20	37	40	42	45	45	50
1000	950	900	900	750	600	550
0.9	1.5	1.5	2	3.5	4	8.4
1.5	2	2.5	3.5	6	8	12
2	4	5	6	11	13	16
40	44	45	50	70	80	110
98	55	50	50	40	45	21
25	25	25	25	20	20	20
43	37	35	35	30	29	32
60	55	50	35	50	43	50
20	35	30	35	35	38	46
1100	900	850	800	800	740	650
nb	nb	nb	nb	nb	nb	nb
nb	nb	nb	nb	nb	nb	nb
70	80	90	100	120	152	170

785 A 10 HPM	754 D 15 HPM	1175 A 15 HPM	3090 A 10 HPM
85		73	92
	55		
1.18	1.24	1.11	1.23
46	35	30	49
690	440	580	510
3.5	13	1.5	
6	17	3	
11	19	7	
69	161	38	97
43	21	35	48
18	25	15	
27	36	28	
50	42	55	
40	55		
750	550		
nb	nb	nb	
nb	nb	nb	
118	151		

Elastollan® R Series

Glass fiber-reinforced thermoplastic polyurethane elastomer

Property	Unit of Measurement	Test Procedure
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength (sample grade 1A) test speed 50mm/min	MPa	DIN EN ISO 527-2
Elongation at break (sample grade 1A) test speed 50mm/min	%	DIN EN ISO 527-2
Glass fiber content	%	
Impact strength (Charpy) +23 °C	kJ/m ²	DIN EN ISO 179-1
Impact strength (Charpy) -30 °C	kJ/m ²	
Notched impact strength (Charpy) +23 °C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30 °C	kJ/m ²	
HDT determination at 1.8MPa	°C	DIN EN ISO 75-2/A
HDT determination at 0.45MPa	°C	DIN EN ISO 75-2/B
Average linear thermal expansion coefficient between 23 °C and 80 °C	10 ⁻⁶ ·K ⁻¹	ISO 11359-2
Color		
Burning behavior (depending on wall thickness)		UL 94

Property	Unit of Measurement	Test Procedure
E-modulus from tensile test	MPa	DIN EN ISO 527-2
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength (sample grade 1A) test speed 50mm/min	MPa	DIN 53504-S2
Elongation at break (sample grade 1A) test speed 50mm/min	%	DIN 53504-S2
Glass fiber content	%	DIN 53504-S2
Impact strength (Charpy) +23 °C	kJ/m ²	DIN EN ISO 179-1
Impact strength (Charpy) -30 °C	kJ/m ²	
Notched impact strength (Charpy) +23 °C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30 °C	kJ/m ²	
HDT determination at 1.8MPa	°C	DIN EN ISO 75-2/A
HDT determination at 0.45MPa	°C	DIN EN ISO 75-2/B
Average linear thermal expansion coefficient between 23 °C and 80 °C	10 ⁻⁶ ·K ⁻¹	ISO 11359-2
Color		
Burning behavior (depending on wall thickness)		UL 94

For more detailed information, please refer to the product information and processing guidance.

- Glass fiber-reinforced
- Very high rigidity
- Low thermal expansion coefficient
- Low shrinkage
- Very good impact strength

R 1000	R 1001	R 2000	R 2006	R 3000	R 3001	R 6000	R 14000
1000	300	2000	2000	2800	3000	6400	14000
60	50	67	64	73	75		
1.36	1.27	1.37	1.35	1.38	1.32	1.4	1.65
50	30	65	65	80	65	114	210
40	65	25	20	10	25	7	3
20	10	20	20	20	15	26	50
nb	nb	140	130	120	100	84	50
130	160	110	80	70	70	67	40
70	70	50	40	30	30	21	14
20	30	10	10	10	6	12	12
114	65	115	120	126	110	124	
145	125	138	150	162	155	166	
20	28	20	20	20	30		
natural	natural	natural	black	natural	black	natural	natural
		HB		HB		HB	

R 2600 FHF	R 4000 FR
2700	3900
67	76
1.39	1.24
35	42
6	8
15	
63	46
65	37
18	12
11	7
	129
139	
	natural
V0/V2	HB/V0/V2

Elastollan® Special Products

Thermoplastic polyether or -ester polyurethane special product

Property	Unit of Measurement	Test Procedure
Applications		
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20 % elongation	MPa	DIN 53504-S2
Stress at 100 % elongation	MPa	DIN 53504-S2
Stress at 300 % elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23 °C/72 hours	%	DIN EN ISO 815-1
Compression set at 70 °C/24 hours	%	DIN EN ISO 815-1
Notched impact strength (Charpy) +23 °C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30 °C	kJ/m ²	

Property	Unit of Measurement	Test Procedure
Applications		
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20 % elongation	MPa	DIN 53504-S2
Stress at 100 % elongation	MPa	DIN 53504-S2
Stress at 300 % elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23 °C/72 hours	%	DIN EN ISO 815-1
Compression set at 70 °C/24 hours	%	DIN EN ISO 815-1
Notched impact strength (Charpy) +23 °C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30 °C	kJ/m ²	

For more detailed information, please refer to the product information and processing guidance.

1385 A 12	1390 A 12	SP 806 10	SP 883 10	1598 A 10 FC
ether base with extremely high water-vapor permeability	ether base with extremely high water-vapor permeability	ether base for opaque films	ester base for opaque films	ether base with excellent burst behavior
85	90	87	85	
	43			56
1.21	1.22	1.12	1.19	1.15
35	44	45	42	47
850	720	550	630	500
2.5	5	2.5	2	
4.6	8	6	5	14.5
	12	12	105	
45	65	60	72	125
70	70	30	40	35
26		26	22	25
46		43	37	50
nb		nb	nb	
nb		nb	nb	

785 A 10	A C 70 D 10 QAFHF	1160 D 10 QA1
ester base with excellent wear resistance and hydrolysis resistance, as well as good damping and rebound behavior	special aliphatic flame retardant thermoplastic polyester polyurethane elastomer compound	special thermoplastic polyether polyurethane elastomer compound
89		
42	71	59
1.17	1.12	1.14
50	34	52
620	280	380
85	187	149
35		
25		
35		

Elastollan® Series N and BMB

Bio- or biomass balance (BMB-) based thermoplastic polyether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 42 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 21 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C		
Biobased carbon content (% total organic carbon)	%	ASTM D 6866

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 48-4 (3s)
Hardness	Shore D	DIN ISO 48-4 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength	MPa	DIN 53504-S2
Elongation at break	%	DIN 53504-S2
Stress at 20% elongation	MPa	DIN 53504-S2
Stress at 100% elongation	MPa	DIN 53504-S2
Stress at 300% elongation	MPa	DIN 53504-S2
Tear strength	kN/m	DIN ISO 34-1.B(b)
Abrasion	mm ³	DIN ISO 4649-A
Compression set at 23°C/72 hours	%	DIN EN ISO 815-1
Compression set at 70°C/24 hours	%	DIN EN ISO 815-1
Tensile strength after storage in water at 80°C for 42 days	MPa	DIN 53504-S2
Elongation at break after storage in water at 80°C for 21 days	%	DIN 53504-S2
Notched impact strength (Charpy) +23°C	kJ/m ²	DIN EN ISO 179-1
Notched impact strength (Charpy) -30°C		
Biobased carbon content (% total organic carbon)	%	ASTM D 6866

For more detailed information, please refer to the product information and processing guidance.

* see reverse

- Based on renewable resources
- Identical material properties to those of equivalent fossil-based products

Biomass balance based Polyether		
BMB 1170 A 10	BMB 1185 A 10	BMB 1195 A 10
71	87	96
	36	48
1.08	1.12	1.15
30	45	55
850	600	500
1.5	2.5	6
3.5	6	10
6.3	10	18
45	70	100
45	35	35
20	25	30
39	45	45
20	32	37
900	600	500
nb	nb	nb
nb	nb	nb

Bio-based Polyether	
EXP N 1185 A 10 001*	EXP N 1190 A 10 FHF*
87	90
1.12	1.25
45	28
600	550
70	60
35	30
57	50

Infinergy®

Expanded thermoplastic Polyurethane (E-TPU)

Property	Unit	Test Specification
Buld density (Beads)	kg/m ³	
Particle weight of 50 beads	g	
Color		
Molded density		
10mm test plate	kg/m ³	DIN EN ISO 845
20mm test plate	kg/m ³	DIN EN ISO 845
Tensile strength*	MPa	According to DIN EN ISO 1798 [°]
Elongation at break*	%	According to DIN EN ISO 1798 [°]
Compressive stress**	kPa	
at 10 % strain		According to DIN EN ISO 844 ^{°°}
at 25 % strain		According to DIN EN ISO 844 ^{°°}
at 50 % strain		According to DIN EN ISO 844 ^{°°}
Rebound**	%	DIN 53512
Compression set (50%/22h/23°C/24h Relaxation)**	%	DIN EN ISO 1856 (Method C)
Dimensional stability under heat ¹ . after annealing (4h 70°C)	%	According to DIN ISO 2796
Linear change in size after 4 days additional storage at 60°C		
Linear change in size after 4 days additional storage at 110°C		

For more detailed information, please refer to the product information and processing guidance.

* Measured form 10 mm test plate

** Measured form 20 mm test plate

[°] Deviating specimen (150 * 25.4 * 10 mm)

^{°°} Deviating test speed (20 mm/s)

¹ Molded without crack steam (max. Pressure 1.95 bar, max. cycle time 4.5 min)

² Molded with crack steam (max. Pressure 1.3 bar, max. cycle time 3.5 min)

³ Molded with crack steam (max. Pressure 1.3 bar, max. cycle time 3 min)

32-100 U10¹	100 HD¹	X1125-130 U²	230 BLACK²	200 MP³
110 ± 15	140 ± 15	130 ± 10	130 ± 10	150 ± 10
5.6 ± 9.4	5.4 ± 8.6	5.7 ± 7.1	5.7 ± 7.1	2.4 ± 3.6
white	white	white	black	white
220	300	270	260	340
230	290	250	240	300
0.9	0.9	1.1	1.2	1.1
134	118	195	220	125
43	55	24	25	29
112	167	76	77	94
261	433	246	241	329
> 57	> 57	> 67	> 67	> 67
< 8	< 6	< 14	< 16	< 5
< 2.5	< 5.0	< 3.5	< 2.5	< 2.0
< 1.0	< 0.5	< 0.5	< 0.5	< 0.5
< 4.5	< 5.5	< 6.0	< 4.5	< 4.0

Masterbatches / Additives

BASF also offers a selected range of Elastollan® TPU-based additives (masterbatches). The range is generally divided into processing agents, e.g. mold release agents, functional additives such as crosslinkers or stabilizers, and color masterbatches for coloring the base polymer.

Color	Corresponds to RAL	Conc
Yellow	1021 / 1018	133 F
	1012	138
	1021	139
Orange	2004	201 F
	2003	202 F / 1
Red	3000	315 F
Dark blue	5015	530 / 1
	5015	530 / 4
Green	6028	602 / 1
	6001	618 / 1
Gray	7000	704
	7032	718
Black	9005	917 / 3
	9005	917 / 4
White	9010	955

Extract from the Elastollan® portfolio of color masterbatches and additives

Mold release agent:

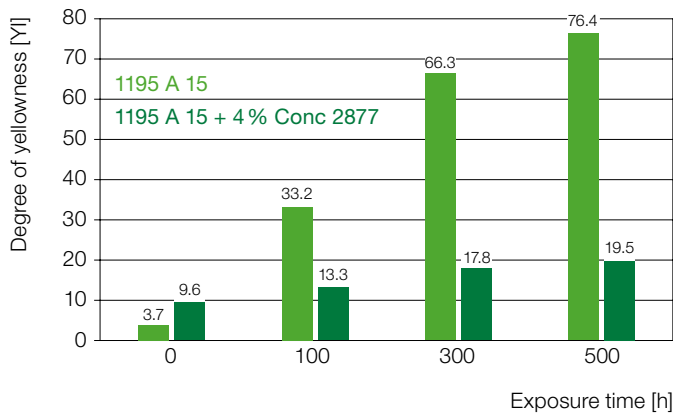
- Conc 950/1 – can be used for both polyether and as well as polyester-based Elastollan® grades
- Conc 978 – can be used for both polyether and as well as polyester-based Elastollan® grades especially for low viscosity grades
- Conc V 2871 – suitable for both polyether and polyester-based as well as polyester-based Elastollan® grades especially for low-viscosity grades
- Conc 2907 – can be used for both polyether- and polyester-based as well as polyester-based Elastollan® grades with improved sliding friction properties (extrusion)
- Conc 2913 – can be used for polyether-based Elastollan® grades with reduced efflorescence behavior

Crosslinker concentrates to improve the compression set and temperature resistance:

- X-Flex 2905 – bi-functional crosslinker
- X-Flex 2909 – bi- and tri-functional crosslinker

Abrasion improver:

- Conc V 2881/1 – especially for expanded Elastollan®
- Conc 2821/2 – for improved sliding friction and reduced abrasion



Influence of conc 2877 on the degree of yellowness as a function of exposure time



UV stabilizers:

- Conc 2876 – for polyester-based Elastollan® grades
- Conc 2877 – for polyether-based Elastollan® grades
- Conc 2926 – for polyether-based Elastollan® grades

Laser marking:

- Conc V 2804 B – antimony-free additive
- Conc 2918 – based on encapsulated antimony with improved contrast properties



Blowing agent:

- Conc V 2893 – Chemical blowing agent – can be used in combination with physical blowing agent
- Conc V 2894, Conc 2919 – Physical blowing agent

Other:

- Conc 926 – matting agent for extrusion
- Conc V 2464 – X-ray contrast agent
- Conc 2908, Conc 2925 – for antistatic equipment



Selected product literature:

- Thermoplastic Polyurethane Elastomers (TPU) – Think, create, Elastollan®
- Elastollan® – Material Properties
- Elastollan® – Processing Recommendations

Elastollan® Experimental Grade (EXP):

Elastollan® EXP grades are newly developed products or variations of existing commercial products that are in an experimental phase regarding the evaluation of applicability, workability or new properties. Modifications of the product to improve properties must be expected without prior information. After the evaluation phase, a decision is made as to whether the product will be commercialised under a new trade name.

3D Printing Applications and Hazards

3D printing is becoming a popular method for rapid prototyping. Please note that 3D printers use very different process mechanisms and that emission of hazardous vapors and gases during the printing process is possible depending on the process parameters used. Furthermore, it is possible that hazardous substances are used or generated during 3D printing with regard to skin contact. Against this background, we strongly advise against the use of our products for private 3D printing processes. However, as the printing processes are manifold and beyond our detailed knowledge, BASF Polyurethanes GmbH cannot give you any recommendations, detailed instructions or concrete measures for a safe handling of our products in the 3D printing process. This is the sole responsibility of the user who markets or uses our products in 3D printing applications.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. (September 2022)

Further information on Elastollan® can be found on the Internet:

www.elastollan.com

Please visit our websites:

www.plastics.basf.com

www.plastics.basf.de

If you have technical questions of the products, please contact the Elastollan®-Infopoint:

