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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>Hotbond</p> <p>Bondura</p>	<p>The letter or number characterizes the polyol base</p> <p>B, C, Soft, 5, 7, 8, 9 = polyester base</p> <p>10, 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 (35 - 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>CS = compression set</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>

Portfolio

Product Range	Chemistry	Shore Hardness	Range Properties
11	Ether	70 A - 75 D	Excellent hydrolysis resistance, cold flexibility, resistance to microorganisms
11 FHF, HFFR, FR	Ether flame retardant	75 A - 54 D	Non-halogen-based flame retardant, outstanding mechanical properties, excellent hydrolysis resistance, resistance to microorganisms
12	Ether	85 A - 83 D	Highly transparent, excellent hydrolysis resistance, cold flexibility, resistance to microorganisms
12 FHF	Ether flame retardant	70 D - 80 D	Non-halogen-based flame retardant, outstanding mechanical properties, high rigidity, excellent hydrolysis resistance, resistance to microorganisms
13	Ether	85 A - 90 A	Water-vapor permeable, good tear propagation strength, very good mechanical properties
C	Ester	80 A - 75 D	Excellent mechanical properties, very good damping behavior, good rebound, very good wear resistance
B	Ester	80 A - 65 D	Very good mechanical properties, good cold flexibility, good wear resistance
500	Ester	85 A - 65 D	Good mechanical properties, good abrasion resistance
600	Ester	70 A - 50 D	Transparent, good damping behavior and rebound
700	Ester	70 A - 65 D	Very good hydrolysis resistance, high wear resistance, very low compression set, very good mechanical properties
800	Ester	75 A - 95 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 - 80 D	Transparent, long-term UV-stability
Soft	Ester or ether	35 A - 65 A	Very good wet grip, very flexible, very soft in part, highly transparent in part, ESD grades with very good volume resistivity
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
CS	Ester	70 A - 65 D	Very good compression set, extremely low creep behavior
R	Ester-reinforced	E-modulus 1000 - 17000 MPa	Glass fiber-reinforced, very high stiffness, low thermal expansion coefficient, low shrinkage, very good impact resistance
Food Contact (FC)	Ester or ether	70 A - 75 D	Basic suitability for food contact applications in FDA and EU-regulated markets (see Food Contact Information)
Hotbond	Ester	See tech. product information	Excellent adhesive properties, good solubility with a broad viscosity range
Bondura	Ester	See tech. product information	Excellent adhesive properties, low activation temperature, good solubility with a broad viscosity range

Elastollan® 11 Series

Thermoplastic polyether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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	kJ/m ²	
Burning behavior (depending on wall thickness)		UL 94

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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	kJ/m ²	
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

1170 A 10	1175 A 10 W	1175 A 13 U	1180 A 10	1185 A 10	1185 A 10 M	1185 A 10 W	1185 A 12 WM	1185 A 55 U
71	75	74	80	87	88	83	87	87
				36	39		39	
1.08	1.14	1.09	1.11	1.12	1.11	1.16	1.13	1.12
30	40	40	45	45	45	40	30	50
850	700	700	650	600	600	700	650	480
1.5	2	1.5	2	2.5	3.5	2.5	4	3
3.5	4	4	4.5	6	7	6	7	7
6.3	8	7	8	10	12	8	13	10
45	40	40	55	70	60	50	55	65
45	45	50	30	25	60	45	65	35
20	20	20	25	25	35	20	25	20
39	40	35	45	45	45	35	43	40
20	28		30	32	30	30	30	
900	750		700	600	650	700	600	
nb	nb		nb	nb	nb	nb	nb	
nb	nb		nb	nb	nb	nb	nb	
	V0 / V2		HB	HB		V2	V2	

1190 A 10	1195 A 10	1195 A 55 U	1154 D 10	1160 D 50	1164 D 53 U	1174 D 11
92	96					
42	48	43	53	60	63	75
1.13	1.15	1.15	1.17	1.18	1.18	1.2
50	55	50	50	50	45	65
550	500	500	450	400	350	380
5	6	6	11	13	17	25
9	10	10	17	19	25	30
16	18	18	38	41	44	450
			150	200	260	560
85	100	100	150	170	185	220
25	25	25	30	30	30	22
25	30	30	40	40		50
45	45	45	50	50		55
35	37	37	35	35		35
600	500	500	450	450		400
nb	nb	nb	nb	nb		nb
nb	nb	nb	18	16		5
	HB					

Elastollan® 12 Series

Thermoplastic polyether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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	

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					
		45	50	54	57	61	64
1.13	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
		50	90	120	160	225	310
60	70	116	130	150	165	165	170
45	45	35	23	20	30	40	40
25		25	28	26	42	45	48
40		45	45	45	54	52	48
			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	200
220	310
40	80
72	10
60	96
nb 10	

Elastollan® FHF Series

Thermoplastic polyether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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 Notched impact strength (Charpy) -30 °C	kJ/m ² kJ/m ²	DIN EN ISO 179-1
Burning behavior (depending on wall thickness)		UL 94

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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 Notched impact strength (Charpy) -30 °C	kJ/m ² kJ/m ²	DIN EN ISO 179-1
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			29
	45	43			50
9	20	15		9	
890	600	640		570	
	nb	nb		nb / nb	
	120	46		17 / 9	
	V0	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
55	30	60
30	30	23
50	45	35
7	20	21
270	400	580
nb	50	
21	3	
	V0 / V2	

Elastollan® HFFR / FR Series

Thermoplastic polyether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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 7619-1 (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
4	8	
6	7	
8	7	
		60
55	42	50
		220
12	11	17
750	430	570

1188 A 10 FR	1192 A 10 FR
88	92
1.18	1.2
36	32
510	500
55	60
65	75

Elastollan® C Series

Thermoplastic polyester polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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 Notched impact strength (Charpy) -30 °C	kJ/m ² kJ/m ²	DIN EN ISO 179-1
Burning behavior (depending on wall thickness)		UL 94

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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 Notched impact strength (Charpy) -30 °C	kJ/m ² kJ/m ²	DIN EN ISO 179-1
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 15	C 85 A 55	C 88 A 10	C 90 A 13	C 90 A 55
80	82	87	87	82	87	88	93	93
		36	36		36	37	42	41
1.18	1.19	1.19	1.19	1.18	1.19	1.19	1.2	1.2
50	50	50	50	50	50	50	45	55
650	650	650	650	650	650	600	550	550
2	3	3	3	3	5	3.5	6	7
4	5	6	6	5	6	6	9	9
8	9	10	10	9	10	13	15	15
60	65	70	70	65	70	75	102	95
30	30	30	30	30	30	30	38	25
25	25	25	25	25	25	25	25	25
35	35	35	35	35	35	40	40	40
35	35	38	38	35	38	38	40	40
650	650	650	650	650	650	650	550	550
nb	nb	nb	nb	nb	nb	nb	nb	nb
nb	nb	nb	nb	nb	nb	nb	nb	nb
	HB	HB	HB	HB	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	45	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	HB

Elastollan® B Series

Thermoplastic polyester polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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	7	8
5	4			7	10	12
15	15			20	22	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	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® 500 Series

Thermoplastic polyester polyurethane elastomer

- Good mechanical properties
- Good abrasion resistance

Property	Unit of Measurement	Test Procedure	575 A 12	585 A 11	590 A 13	590 A 53	595 A 13
Hardness	Shore A	DIN ISO 7619-1 (3s)	75	85	92	94	
Hardness	Shore D	DIN ISO 7619-1 (3s)				41	48
Density	g/cm ³	DIN EN ISO 1183-1-A	1.25	1.25	1.25	1.25	1.27
Tensile strength	MPa	DIN 53504-S2	35	40	45	50	55
Elongation at break	%	DIN 53504-S2	660	600	580	600	500
Stress at 20 % elongation	MPa	DIN 53504-S2		3		5	
Stress at 100 % elongation	MPa	DIN 53504-S2		6		8	
Stress at 300 % elongation	MPa	DIN 53504-S2		10		13	
Tear strength	kN/m	DIN ISO 34-1.B(b)	75	95	108	100	120
Abrasion	mm ³	DIN ISO 4649-A	55	35	35	35	35
Compression set at 23 °C / 72 hours	%	DIN EN ISO 815-1		17		24	
Compression set at 70 °C / 24 hours	%	DIN EN ISO 815-1		35		36	

Property	Unit of Measurement	Test Procedure	598 A 10	598 A 53	560 D 53
Hardness	Shore A	DIN ISO 7619-1 (3s)			
Hardness	Shore D	DIN ISO 7619-1 (3s)	54	53	61
Density	g/cm ³	DIN EN ISO 1183-1-A	1.26	1.26	1.28
Tensile strength	MPa	DIN 53504-S2	50	50	45
Elongation at break	%	DIN 53504-S2	500	500	450
Stress at 20 % elongation	MPa	DIN 53504-S2		9	15
Stress at 100 % elongation	MPa	DIN 53504-S2		12	18.5
Stress at 300 % elongation	MPa	DIN 53504-S2		16	23
Tear strength	kN/m	DIN ISO 34-1.B(b)	130	150	180
Abrasion	mm ³	DIN ISO 4649-A	40	30	30
Compression set at 23 °C / 72 hours	%	DIN EN ISO 815-1		26	24
Compression set at 70 °C / 24 hours	%	DIN EN ISO 815-1		40	46

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

Elastollan® 800 Series

Thermoplastic polyester polyurethane elastomer

- Very good transparency
- Good abrasion resistance

Property	Unit of Measurement	Test Procedure	880 A 13 N	890 A 10
Hardness	Shore A	DIN ISO 7619-1 (3s)	77	93
Density	g/cm ³	DIN EN ISO 1183-1-A	1.2	1.22
Tensile strength	MPa	DIN 53504-S2	40	45
Elongation at break	%	DIN 53504-S2	700	480
Stress at 20 % elongation	MPa	DIN 53504-S2	1.8	6
Stress at 100 % elongation	MPa	DIN 53504-S2	4.2	10
Stress at 300 % elongation	MPa	DIN 53504-S2	7.6	23
Tear strength	kN/m	DIN ISO 34-1.B(b)	60	110
Abrasion	mm ³	DIN ISO 4649-A	35	45
Compression set at 23 °C / 72 hours	%	DIN EN ISO 815-1	32	32
Compression set at 70 °C / 24 hours	%	DIN EN ISO 815-1	54	43

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

Elastollan® A Series

Thermoplastic aliphatic polyether/-ester polyurethane elastomer

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

Property	Unit of Measurement	Test Procedure	Aliph. Ethers	Aliphatic Esters	
			A 1185 A 12	A C 85 A 12	A C 88 A 12
Hardness	Shore A	DIN ISO 7619-1 (3s)	86	82	88
Density	g/cm ³	DIN EN ISO 1183-1-A	1.05	1.14	1.14
Tensile strength	MPa	DIN 53504-S2	12	18	17
Elongation at break	%	DIN 53504-S2	600	750	640
Stress at 20 % elongation	MPa	DIN 53504-S2			3.1
Stress at 100 % elongation	MPa	DIN 53504-S2			7
Stress at 300 % elongation	MPa	DIN 53504-S2			10.6
Tear strength	kN/m	DIN ISO 34-1.B(b)	25	50	40
Abrasion	mm ³	DIN ISO 4649-A	150		110
Compression set at 23 °C / 72 hours	%	DIN EN ISO 815-1		36	42
Compression set at 70 °C / 24 hours	%	DIN EN ISO 815-1		39	44

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

Elastollan® L Series

Thermoplastic aliphatic polyether/-ester polyurethane elastomer

- Superior transparency
- Long-term UV-stability

Property	Unit of Measurement	Test Procedure	Aliphatic Ethers			Aliphatic Esters		
			L 1185 A 12	L 1160 D 12	L 1275 A 10	L 785 A 10	L 765 D 10	L 780 D 10
Hardness	Shore A	DIN ISO 7619-1 (3s)	85		70	86		
Hardness	Shore D	DIN ISO 7619-1 (3s)		56			63	80
Density	g/cm ³	DIN EN ISO 1183-1-A	1.08	1.1	1.08	1.12	1.13	1.13
Tensile strength	MPa	DIN 53504-S2	17	30	35	28	30	46
Elongation at break	%	DIN 53504-S2	550	400	550	500	350	320
Stress at 20 % elongation	MPa	DIN 53504-S2	3	9	1	2	11	
Stress at 100 % elongation	MPa	DIN 53504-S2	7	11	2.5	4	12	
Stress at 300 % elongation	MPa	DIN 53504-S2	11	16	6	10	18.6	
Tear strength	kN/m	DIN ISO 34-1.B(b)	70	70	42	65	130	

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

Elastollan® Soft Series

Thermoplastic polyether/-ester polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (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		
Volume resistivity	Ohm*cm	DIN EN 62631-3-1

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (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		
Volume resistivity	Ohm*cm	DIN EN 62631-3-1

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

- Very good wet grip
- Very flexible
- Highly transparent in part
- Very soft in part
- ESD grades with very good volume resistivity

SP 1150 A 19 P	SP 1155 A 12 PU	1160 A 10 P	1160 A 13 P	BCF 45 A 12 P	C 60 A 10 P
50	55	63	60	48	60
1.08	1.08	1.07	1.06	1.18	1.15
22	22	26	27	28	38
1000	860	950	850	1210	850
0.6		1.0	1.0		1.2
1.3		2.5	2.5		2.7
3.4		4.5	4.5		5.1
30	41	40		43	40
50	50	45		49	50
48		25	25		21
75		40			34

S 60 A 12 P	565 A 12 P	Soft 45 A 12 ESD	BCF 55 A 12 PTSG	560 A 13 P TSG	565 A 12 ESDM
63	66	47	55	60	63
1.19	1.22	1.18	1.18	1.22	1.22
35	30	30	18	24	30
750	850	900	1250	850	850
1.0	1.1	0.5		1.0	1.0
3.0	2.7	1.2		2.5	2.4
6.5	6.5	2.7		6.0	5.2
45	65	35	35	50	60
35	55	60	80	90	60
24	22	36		29	
42	37	49		45	
nb					
nb					
		5*10 ⁷			8*10 ⁷

Elastollan® HPM Series (aliphatic)

Thermoplastic polyester/-ether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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		
Vicat softening temperature at 10 N and 120 °C/h (Proc. A120)	°C	DIN EN ISO 306

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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		
Vicat softening temperature at 10 N 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
- Soft touch

Aliphatic HPM					
LP 9277 10	LP 9307 10	A C 65 A 12 HPM	A C 70 A 10 HPM	A C 85 A 10 HPM	A C 55 D 10 HPM
68	79	64	68	85	56
1.17	1.18	1.17	1.17	1.19	1.25
14	15	7	14	18	31
1300	1080	1640	1300	1100	690
		1.2	1.6		17
		2.1	2.8		17
		3.3	4.5		17
40	45	30	40	48	130
		450	350		
25	22	30	25	23	30
35	30	40	35	30	45
50	45			50	
70	90				

Aliphatic HPM		
A 1170 A 10 HPM	A 1180 A 10 HPM	A 1190 A 12 HPM
70	80	90
1.08	1.08	1.11
8	9	16
500	600	850
25	25	50
250	220	120

Elastollan® HPM Series (aromatic)

Thermoplastic polyester/-ether polyurethane elastomer

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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 10 N and 120 °C/h (Proc. A 120)	°C	DIN EN ISO 306

Property	Unit of Measurement	Test Procedure
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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 10 N and 120 °C/h (Proc. A 120)	°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

Aromatic HPM								
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	785 A 10 HPM	754 D 15 HPM
63	67	71	75	85	91	96	85	
								54
1.17	1.18	1.18	1.18	1.2	1.21	1.23	1.18	1.23
35	37	40	42	45	45	50	45	35
1000	950	900	900	750	600	550	700	440
0.9	1.5	1.5	2	3.5	4	8.4	3.5	13
1.5	2	2.5	3.5	6	8	12	6	17
2	4	5	6	11	13	16	11	19
40	44	45	50	70	80	110	70	150
55	55	50	50	40	45	21	40	25
25	25	25	25	20	20	25	20	25
43	37	35	35	35	30	35	30	36
60	55	50	35	50	45	50	50	42
20	35	30	35	35	38	46	40	55
1100	900	850	800	800	740	650	750	550
nb	nb	nb	nb	nb	nb	nb	nb	nb
nb	nb	nb	nb	nb	nb	nb	nb	nb
70	80	90	100	120	150	170	120	155

Aromatic HPM	
1175 A 15 HPM	3090 A 10 HPM
73	92
1.11	1.23
30	49
580	510
1.5	
3	
7	
38	97
35	48
15	
28	
55	
nb	
nb	

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 7619-1 (3s)
Density	g/cm ³	DIN EN ISO 1183-1-A
Tensile strength (sample grade 1A) test speed 50 mm/min	MPa	DIN EN ISO 527-2
Elongation at break (sample grade 1A) test speed 50 mm/min	%	DIN EN ISO 527-2
Glass fiber content	%	
Impact strength (Charpy) +23 °C Impact strength (Charpy) -30 °C	 kJ/m ² kJ/m ²	 DIN EN ISO 179-1
Notched impact strength (Charpy) +23 °C Notched impact strength (Charpy) -30 °C	 kJ/m ² kJ/m ²	 DIN EN ISO 179-1
HDT determination at 1.8 MPa	°C	DIN EN ISO 75-2/A
HDT determination at 0.45 MPa	°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		

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	350	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	130	210
40	65	25	20	10	25	5	3
20	10	20	20	20	15	26	
nb	nb	140	130	120	100	95	50
130	160	110	80	70	70	70	40
70	70	50	40	30	30	21	14
20	30	10	10	10	6	12	12
90	65	115		125	110	125	
120	125	138		160	155	170	
20	28	20	20	20	30		
natural	natural	natural	black	natural	black	natural	natural

Elastollan® Food Contact Series

Thermoplastic polyether/-ester polyurethane elastomer

Property	Unit of Measurement	Test Procedure	1170 A 10 FC	1180 A 10 FC
Hardness	Shore A	DIN ISO 7619-1 (3s)	71	80
Hardness	Shore D	DIN ISO 7619-1 (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 95 A 10 FC
Hardness	Shore A	DIN ISO 7619-1 (3s)	82	96
Hardness	Shore D	DIN ISO 7619-1 (3s)		47
Density	g/cm ³	DIN EN ISO 1183-1-A	1.19	1.21
Tensile strength	MPa	DIN 53504-S2	50	55
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	120
Abrasion	mm ³	DIN ISO 4649-A	30	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	450
70	85	100	130	150	190	220
25	25	25	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 98 A 10 FC	685 A 10 FC	890 A 10 FC	991 A 10 FC
	86	93	91
52			
1.22	1.21	1.22	1.22
50	55	45	45
550	600	480	560
	2.9	6	
	6.2	10	
	10.8	23	
130	75	110	95
30	35	45	36
		32	
		43	
		nb	
		200	

Elastollan® Special Products

Thermoplastic polyether/-ester polyurethane special product

Property	Unit of Measurement	Test Procedure
Applications		
Hardness	Shore A	DIN ISO 7619-1 (3s)
Hardness	Shore D	DIN ISO 7619-1 (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	DIN EN ISO 179-1

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

1385 A 12	1390 A 12	1598 A 10	SP 806 10	SP 883 10	SP B 85 A 10	SP B 92 A 19
ether base with extremely high water-vapor permeability	ether base with extremely high water-vapor permeability	ether base with excellent burst behavior	ether base for opaque films	ester base for opaque films	ester base i.a. for films	ester base i.a. for TPU blends
85	90		87	85	85	92
	43	56				
1.21	1.22	1.15	1.12	1.19	1.2	1.21
35	44	47	45	42	40	40
850	720	500	550	630	650	570
3	5		3	2	3	5
5	8	14.5	6	5	5	8
	12		12	105	10	15
45	65	125	60	72	85	100
70	70	35	30	40	40	45
26		25	26	22		
46		50	43	37		
nb			nb	nb		
nb			nb	nb		

Elastollan® Special Products Infinergy®

Property	Unit	Test Specification
Buld density (Beads)	kg/m ³	
Particle weight of 50 beads	g	
Color		
Molded density		
10 mm test plate	kg/m ³	DIN EN ISO 845
20 mm 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*. 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 U10 ¹	X 1125-130 U ²	230 Black ²	200 MP ³
110 ± 15	130 ± 10	130 ± 10	150 ± 10
1.6 ± 0.3	1.25 ± 0.15	1.25 ± 0.15	0.225 ± 0.025
white	white	black	white
220	270	260	340
230	250	240	300
0.9	1.1	1.2	1.1
134	195	220	125
43	24	15	30
112	59	73	94
261	246	225	329
> 57	> 67	> 67	> 67
< 8	< 14	< 16	< 5
< 2.5	< 3.5	< 2.5	< 2.0
< 1.0	< 0.5	< 0.5	< 0.5
< 4.5	< 6.0	< 4.5	< 4.0

Elastollan® Bondura Series

Thermoplastic polyurethane elastomer for solvent-based adhesives

Physical Property	Unit of Measurement	General Grades			
		AS-626SH	AS-626H	AS-626	AS-626L
Viscosity range SC%: 15 % in MEK	cps/25 °C	3600 ~ 4200	2600 ~ 3200	1600 ~ 2200	800 ~ 1200
Max. Toluol % in solvent	%	15 ~ 20	25 ~ 30	30 ~ 35	30 ~ 35
Crystallization rate		very fast	very fast	very fast	very fast
Activation temperature	°C	55 ~ 65	55 ~ 65	55 ~ 65	55 ~ 65
tack free time. PVC with PVC	min	5 ~ 10	5 ~ 10	5 ~ 10	5 ~ 10
Initial tack free time. PVC with PVC after 5 min.	kg/3 cm	10 ~ 16	10 ~ 16	10 ~ 16	10 ~ 16
Heat resistance at 70 °C	mm	≤ 10	≤ 15	≤ 20	≤ 25

Physical Property	Unit of Measurement	Hydrolysis-Resistant Grades			
		AS-632H	AS-632	AS-632L	AS-632A
Viscosity range SC%: 15 % in MEK	cps/25 °C	2600 ~ 3200	1600 ~ 2200	800 ~ 1200	1600 ~ 2200
Max. Toluol % in solvent	%	25 ~ 30	25 ~ 30	25 ~ 30	25 ~ 30
Crystallization rate		fast	fast	fast	fast
Activation temperature	°C	55 ~ 65	55 ~ 65	55 ~ 65	55 ~ 65
tack free time. PVC with PVC	min	25 ~ 50	25 ~ 50	25 ~ 50	25 ~ 50
Initial tack free time. PVC with PVC after 5 min.	kg/3 cm	12 ~ 18	12 ~ 18	12 ~ 18	12 ~ 18
Heat resistance at 70 °C	mm	≤ 15	≤ 20	≤ 25	≤ 20

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

- Excellent adhesion to TPU, PVC, PA, polyester fabrics and leather
- Activation temperature 55 - 65 °C
- High initial tack free time
- Good solubility across a broad viscosity range

AS-626SL	AS-690H	AS-690	AH-620
300 ~ 600	2600 ~ 3200	1600 ~ 2200	1600 ~ 2000 (25 % S.C.)
30 ~ 35	25 ~ 30	30 ~ 35	30 ~ 35
very fast	very fast	very fast	very fast
55 ~ 65	55 ~ 65	55 ~ 65	55 ~ 65
5 ~ 10	5 ~ 10	5 ~ 10	5 ~ 10
10 ~ 16	10 ~ 16	10 ~ 16	10 ~ 16
≤ 30	≤ 15	≤ 20	≤ 50

AS-632B	AS-420	Aliphatic Grades			Max. Toluol-Solubility. MC Soluble		
		AS-731	AS-733	AS-736	AS-120H	AS-120	AS-120L
1600 ~ 2200	1600 ~ 2200	1600 ~ 2000	1600 ~ 2000	1600 ~ 2000	1000 ~ 2000	70 ~ 130	70 ~ 130 (in MC)
25 ~ 30	25 ~ 30	25 ~ 30	30 ~ 35	30 ~ 35	40 ~ 60	50 ~ 70	50 ~ 70
fast	very slow	very fast	very fast	fast	fast	fast	fast
55 ~ 65	55 ~ 65	55 ~ 65	55 ~ 65	55 ~ 65	55 ~ 65	55 ~ 65	55 ~ 65
25 ~ 50	over 8 h	5 ~ 10	5 ~ 10	7 ~ 15	5 ~ 10	15 ~ 25	15 ~ 25
12 ~ 18	9 ~ 15	8 ~ 12	8 ~ 12	3 ~ 5	10 ~ 16	0.5 ~ 1.0	0.1 ~ 0.3
≤ 20	≤ 25	≤ 15	≤ 30	≤ 50	≤ 15	> 65	> 65

Elastollan® Hotbond Series

Thermoplastic polyurethane elastomer for hotmelt adhesives

Physical Property	Unit of Measurement	Soft TPU Melt Adhesive Grades					
		AH-530	AH-535	AH-560	AH-560T	AH-567	AH-571
Hardness	Shore A	72 ± 2	80 ± 2	75 ± 2	75 ± 2	69 ± 2	80 ± 2
Initial flowability temperature	°C	95 ± 10	85 ± 10	95 ± 10	90 ± 10	110 ± 10	110 ± 10
Melting index	2.16 kg. 150 °C. g/10 min	10 ± 5	20 ± 5	20 ± 5	20 ± 5	7 ± 2 (177 °C)	4 ± 2
Tack free time	min	3 ± 1	3 ± 1	15 ± 5	15 ± 5	12 ± 3	8 ± 3

Physical Property	Unit of Measurement	Hard TPU Melt Adhesive Grades				
		AH-620	AH-650	AH-652	AH-660	AH-670
Hardness	Shore A	95 ± 2	97 ± 2	97 ± 2	97 ± 2	97 ± 2
Initial flowability temperature	°C	80 ± 10	60 ± 10	60 ± 10	80 ± 10	85 ± 10
Melting index	2.16 kg. 150 °C. g/10 min	10 ± 5	10 ± 5	10 ± 3	10 ± 5	10 ± 5
Tack free time	min	25 ± 5	6 ± 2	4 ± 2	8 ± 3	8 ± 3

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

- Excellent adhesion to TPU, PVC, PA, polyester fabrics and leather
- Shore hardness range 70 A to 98 A
- Flow beginning at temperatures of 60 - 140 °C
- Tack free time of 2 - 25 min.
- Wide range of products
- Can be adapted quickly to suit the needs of customers

AH-571E	AH-576	AH-579	AH-580	AH-555	AH-588	AH-599
80 ± 2	79 ± 2	80 ± 2	75 ± 2	60 ± 2	85 ± 2	93 ± 2
110 ± 10	119 ± 10	110 ± 10	90 ± 10	95 ± 10	115 ± 10	120 ± 10
4 ± 2	7 ± 2 (177 °C)	5 ± 2	20 ± 5	5~10	3 ± 1 (190 °C)	6~15 (190 °C)
8 ± 3	8 ± 3	3 ± 1	15 ± 5	10 ± 2	2 ± 1	1 ± 1

Aliphatic TPU Melt Adhesive Grades

AH-780	AH-781	AH-810
90 ± 2	85 ± 2	98 ± 2
110 ± 10	110 ± 10	60 ± 10
20 ± 5	20 ± 5	10 ± 5
3 ± 1	3 ± 1	4 ± 1

Selected product literature:

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

Note

The data contained in this publication are based on our current knowledge and experience. In view of many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their 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. (August 2019)

**Further information on Elastollan®
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www.elastollan.de

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