

Guide values

for the application and processing
of selected thermoplastics

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Head Office

ALBIS Distribution GmbH & Co. KG
Mühlenhagen 35
20539 Hamburg
Germany
T +49 40 78105 0
info@albis.com
albis.com

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ALBIS 0325

Guide Data and Processing Information
for selected Thermoplastics

Thermoplastic
Product

Processing Properties						Mechanical Properties								Electrical Properties				Thermal Properties						
		Density DIN EN ISO 1183 g/cm³	Drying Temperature °C	Drying Time (dry air) h	Injection Molding Melt Temperature °C	Injection Molding Mold Temperature °C	Tensile Strength ISO 527 N/mm²	Tensile Elongation at Break ISO 527 *ISO 37 %	Tensile Modulus ISO 527 N/mm²	Ball-Pressure Hardness H (358/30) *H (961/30) EN ISO 2039/1 N/mm²	Impact Strength (Izod, 23 °C) ISO 180/1C kJ/m²	Impact Strength (Izod, -30 °C) ISO 180/1C kJ/m²	Notched Impact Strength (Izod, 23 °C) ISO 180/1A kJ/m²	Notched Impact Strength (Izod, -30 °C) ISO 180/1A kJ/m²	Volume Resistivity IEC 60093 Ω · cm	Surface Resistivity IEC 60093 Ω · cm	Dielectric Strength IEC 60243-2 kV/mm	CTI IEC 60112 -	Max. Temperature in practical use up to several hours (short term) According to ISO 60216-1 °C	Vicat Softening Temperature VST B/50 DIN EN ISO 306	Heat Deflection Temperature HDT/A DIN EN ISO 75 °C	CLTE Longitudinal (23 - 80 °C) 10 ⁻⁴ /K	Water Absorption (saturated, 23 °C) DIN EN ISO 62 %	
Polyethylene (low density)	PE - LD	0.914 - 0.939	70 - 80	1	170 - 240	15 - 60	8 - 20	700 - 100	150 - 450	12 - 25	o. Br.	o. Br.	o. Br.	-	10 ¹⁷	10 ¹³⁻¹⁴	22 - 150	600	90	45 - 80	35	2.0 - 2.4	-	
Polyethylene (high density)	PE - HD	0.933 - 0.966	80 - 90	1	200 - 280	20 - 60	25 - 35	400 - 800	700 - 1500	30 - 64	o. Br.	o. Br.	2.6 - o. Br.	1.7 - 72	10 ¹⁷	10 ¹³⁻¹⁵	22 - 150	600	110	45 - 80	40 - 50	1.2 - 1.8	0.01 - 0.04	
Polypropylene	PP	0.894 - 0.912	90 - 120	3	200 - 270	20 - 90	15 - 37	400 - 500	1100 - 1600	70 - 83	60 - 82	11 - 12	2.0 - 4.9	1.3 - 2.6	10 ¹⁷	10 ¹¹⁻¹⁴	70 - 140	600	140	60 - 100	50 - 70	1.1 - 1.6	0.1	
Polypropylene + 40 % talc	PP + T40	1.200 - 1.240	90 - 120	3	220 - 270	20 - 90	22 - 40	8 - 20	3600 - 4800	90 - 100	10 - 50	7 - 12	1.8 - 3.6	1.5 - 2.0	10 ¹⁴⁻¹⁶	10 ¹³⁻¹⁴	60 - 110	> 600	100	90 - 115	70 - 130	0.4 - 0.9	0.1	
Polypropylene + 30 % glass fiber	PP + GF30	1.110 - 1.140	90 - 120	3	220 - 270	20 - 90	60 - 100	2 - 4	4800 - 7000	100	10 - 28	10 - 27	4 - 50	4.0 - 7.3	10 ¹⁵⁻¹⁶	10 ¹³⁻¹⁵	30 - 63	600	155	100 - 145	110 - 155	0.2 - 0.4	-	
Polystyrene standard	PS	1.05	80	2 - 3	180 - 260	10 - 70	30 - 59	1.6 - 3	3000 - 3300	140 - 150	9 - 20	9 - 20	1.5 - 2.0	1.5 - 2	> 10 ¹⁶	> 10 ¹³⁻¹⁴	120 - 135	375 - 475	90	84 - 101	70 - 88	0.8	0.2 - 0.3	
Styrene-butadiene, impact resistant	SB	1.05	60 - 80	2 - 4	190 - 260	10 - 70	20 - 40	20 - 60	1600 - 2800	58 - 120	20 - 90	20 - 60	4 - 12	3 - 6	> 10 ¹⁶	> 10 ¹³⁻¹⁴	150 - 155	500	75	75 - 96	75 - 85	0.7	0 - 0.1	
Styrene-acrylonitrile polymer	SAN	1.08	80	2 - 4	200 - 260	40 - 80	70 - 84	35	3700 - 3900	165 - 175	-	-	2 - 3	-	10 ¹⁶	> 10 ¹³	95	400 - 500	85	95 - 105	98 - 104	0.7	0.2 - 0.3	
Acrylonitrile-butadiene-styrene graft copolymer	ABS	1.05 - 1.07	80 - 85	1 - 6	220 - 260	50 - 80	32 - 62	15 - 30	1300 - 3000	65 - 115	60 - o. Br.	30 - 135	8 - 35	3 - 17	10 ¹⁴⁻¹⁶	> 10 ¹³	85	450 - 600	100	90 - 106	90 - 100	0.8 - 1.1	0.7	
Acrylonitrile-styrene-acrylic ester copolymer	ASA	1.07	85	2 - 4	240 - 280	40 - 80	40 - 56	10 - 25	1100 - 2600	65 - 100	60 - o. Br.	30 - 120	10 - 45	3 - 10	10 ¹⁵	> 10 ¹³	90 - 105	600	90	87 - 101	95 - 104	0.8 - 1.1	0.45	
Polymethyl methacrylate	PMMA	1.15 - 1.19	60 - 100	2 - 6	220 - 270	50 - 90	49 - 78	3 - 20	1600 - 3400	170 - 200*	12 - 16	11 - 16	2.0 - 2.2	1.8 - 2.0	10 ¹⁵	> 10 ¹⁵	40 - 60	600	90	85 - 110	75 - 100	0.7 - 0.8	1.5 - 2.2	
Polyoxymethylene	POM	1.39 - 1.42	100 - 110	1 - 2	180 - 220	60 - 100	55 - 62	25 - 100	2600 - 3000	130 - 150	80 - o. Br.	50 - 160	4 - 7	4 - 7	10 ¹⁵	> 10 ¹³	70 - 100	> 600	150	160 - 170	100 - 110	1.1	0.7	
Polyoxymethylene + 25 % glass fiber	POM + GF25	1.58	100 - 110	1 - 2	190 - 230	60 - 110	110 - 135	2 - 3	8700 - 9100	185 - 190	10 - 32	30 - 37	5 - 6	6	10 ¹⁴⁻¹⁶	10 ¹³⁻¹³	50 - 90	600	150	158 - 165	155 - 163	0.2 - 0.4	0.9 - 1.0	
Cellulose acetate	CA	1.26 - 1.29	70 - 80	3 - 4	170 - 210	40 - 80	25 - 59	-	2200	39 - 80	o. Br.	250 - o. Br.	10 - 60	-	10 ¹³	10 ¹²	25 - 30	> 600	90	65 - 100	42 - 59	1.02 - 1.25	3.8 - 5.0	
Cellulose propionate	CP	1.17 - 1.21	60 - 90	2 - 4	180 - 220	40 - 80	20 - 48	-	1000 - 2200	35 - 78	o. Br.	o. Br.	-	-	10 ¹⁵⁻¹⁶	10 ¹⁵	32 - 36	> 600	90	69 - 108	62 - 94	1.20 - 1.45	2.0 - 2.5	
Cellulose acetobutyrate	CAB	1.17 - 1.21	60 - 90	2 - 4	180 - 220	40 - 80	17 - 42	-	1600	25 - 70	-	-	-	-	10 ¹⁶	10 ¹³⁻¹⁴	32 - 34	> 600	90	65 - 102	60 - 94	1.2	2.3 - 2.7	
polyamide 6	PA 6	1.13	75 - 100	2 - 4	250 - 290	50 - 120	70 - 85	20 - > 50	1000 - 1700	70	o. Br.	250 - o. Br.	10 - 60	5 - 10	10 ¹²	10 ¹⁰	30 - 80	600	160 - 180	180 - 210	50 - 95	0.70 - 1.0	8.0 - 10.0	
Polyamide 6 + 30 % glass fiber	PA 6 + GF30	1.36	75 - 100	2 - 4	270 - 290	80 - 120	95 - 170	4 - 12	6000 - 10000	150*	44 - 100	55 - 90	20 - 30	10 - 20	10 ¹²	10 ¹²	20 - 80	400 - 600	180	200 - 220	170 - 210	0.20 - 0.70	6.0 - 7.0	
Polyamide 6 + 30 % mineral	PA 6 + MR30	1.34 - 1.37	75 - 100	2 - 4	270 - 290	80 - 100	70 - 80	3 - 10	4500 - 8000	130*	o. Br.	65	14 - 18	4.0 - 4.5	10 ¹²	10 ¹⁴	20 - 60	500 - 575	180	200 - 208	150 - 180	0.50 - 0.90	6.0 - 7.0	
Polyamide 66	PA 66	1.13	75 - 100	2 - 4	270 - 300	50 - 120	75 - 90	20 - > 50	1400 - 2300	110	21 - o. Br.	30 - 300	8 - o. Br.	3 - 10	10 ¹²	10 ¹⁰	50 - 110	500 - 600	200	200 - 255	90 - 110	0.70 - 1.00	6.0 - 9.0	
Polyamide 66 + 30 % glass fiber	PA 66 + GF30	1.36	75 - 100	2 - 4	280 - 300	80 - 120	100 - 180	2.5 - 10	7000 - 10000	100 - 200*	32 - 75	40 - 60	15.5 - 50	10 - 11	10 ¹²⁻¹³	10 ¹⁰	40 - 80	425 - 600	240	200 - 257	220 - 255	0.15 - 0.70	5.0 - 6.0	
Polyamide 66 + 40 % mineral	PA 66 + MR40	1.42 - 1.50	75 - 100	2 - 4	280 - 300	80 - 100	55 - 97	5.0 - 15	2800 - 6500	130 - 160*	26 - o. Br.	65	5.2 - 9.0	1.5 - 4.0	10 ¹²⁻¹³	10 ¹⁰⁻¹⁴	40 - 80	525 - 550	240	200 - 260	120 - 190	0.50 - 0.80	4.9 - 5.3	
Polyamide 610	PA 610	1.06 - 1.09	75 - 100	2 - 4	220 - 260	40 - 120	50 - 70	-	1300 - 1500	80	o. Br.	o. Br.	5 - 37	3.5 - 5.0	10 ¹²	10 ¹⁰	40 - 60	600	180	193	90	0.80 - 1.00	3.0 - 3.6	
Polyamide 11	PA 11	1.02 - 1.06	75 - 100	2 - 4	200 - 270	40 - 80	49 - 60	30 - > 50	1100 - 1400	75	o. Br.	o. Br.	-	-	10 ¹³	10 ¹¹⁻¹²	18 - 26	600	140	180 - 190	50 - 65	1.30	1.8	
Polyamide 12	PA 12	1.01 - 1.05	75 - 100	2 - 4	200 - 270	30 - 100	52 - 65	30 - > 50	1000 - 2000	90 - 120	60 - o. Br.	45 - o. Br.	4 - 8	2 - 4	10 ¹³	10 ¹¹	28 - 34	575 - 600	140	140 - 160	42 - 80	0.90 - 1.20	1.5 - 1.9	
Polyamide 6/6T	PA 6/6T	1.18	80 - 100	2 - 6	310 - 340	60 - 100	90 - 100	10 - 20	3200 - 3500	190	-	-	12	5	10 ¹⁴⁻¹⁵	10 ¹³	100	600	250	280	100	0.60 - 0.80	6.5 - 7.5	
Polyphthalamide + 33 % glass fiber	PPA + GF33	1.46	120	4	320 - 345	135 - 165	180 - 220	2.1	13000 - 14500	-	38.5	-	7.8	-	2 x 10 ¹⁵	-	-	550	-	-	275 - 285	0.24	0.21	
Polyphthalamide + 45 % glass fiber	PPA + GF45	1.56	120	4	320 - 345	135 - 165	220 - 260	2.1 - 2.7	16000 - 17200	-	51.7	-	9.9	-	2 x 10 ¹⁵	-	-	550	-	-	280 - 300	0.15	0.12	
Polyphthalamide + 65 % glass fiber/mineral	PPA + GF/MRG5	1.78	120	4	320 - 345	135 - 165	140 - 200	1.0 - 1.5	20000 - 23700	-	35.4	-	7.2	-	4 x 10 ¹⁵	-	-	600	-	-	270 - 280	0.11	0.10	
PVDF	PVDF	1.77	-	-	190 - 230	60 - 90	50 - 60	5 - 10	1800 - 2500	100 - 120	o.Br.	-	6 - 12	-	10 ¹³	18 - 27	600	150	105	12 - 13	0.04	-	-	
Polycarbonate	PC	1.20	120	4	270 - 310	80 - 100	55 - 63	95 - 140	1800 - 2400	110	o. Br.	30 - o. Br.	70 - 95	-	> 10 ¹⁷	> 10 ¹⁵	10 - 30	250 - 300	130	140 - 148	125 - 135	0.70 - 0.80	0.35	
Polycarbonate + 30 % glass fiber	PC + GF30	1.44	120	4	310 - 330	80 - 130	47	2.0 - 3.5	4000 - 5800	150	30 - 70	25 - 35	2.0 - 7.5	-	10 ¹⁵⁻¹⁷	10 ¹⁴	20 - 45	150 - 175	140	147 - 165	138 - 150	0.28 - 0.30	0.28	
Polycarbonate, high heat deflection	PC - HT	1.148 - 1.18	130	4 - 8	300 - 360	100 - 140	65 - 100	-	2250	115	o. Br.	o. Br.	5 - 12	5 - 8	> 10 ¹⁶	> 10 ¹⁶	35	300 - 600	140 - 180	160 - 205	138 - 179	0.25 - 0.75	-	
Polyethyleneterephthalat modified	PET(g)	1.33	160	6	220 - 290	10 - 40	52 - 54	4	-	116 (R-scale)	-	-	5 - 6	-	-	-	-	-	-	62 - 63	-	-	-	-
Polyethyleneterephthalatocopolyester	PET-Copo biomodified	1.24 - 1.33	75 - 85	6	220 - 290	10 - 40	48 - 55	5 - 7	-	105 - 120 (R-scale)	-	-	65 - 95	-	-	-	-	-	-	65 - 95	-	-	-	-
Polybutylene terephthalate	PBT	1.30	100 - 120	3	250 - 270	60 - 100	40 - 60	15 - 60	2500 - 2800	70 - 130	30 - 130	20 - 80	4 - 20	3 - 6	10 ¹⁵⁻¹⁶	10 ¹³⁻¹⁴	100 - 140	500 - 600	165	165 - 180	60 - 70	0.60	0.50	
Polybutylene terephthalate + 30 % glass fiber	PBT + GF30	1.50 - 1.55	100 - 120	3	250 - 270	60 - 100	120 - 150	2 - 3	9000 - 12000	100 - 220	40 - 160	40 - 70	10 - 40	10 - 15	10 ¹⁵⁻¹⁶	10 ¹³⁻¹⁴	80 - 100	500 - 600	220	210 - 220	200 - 210	0.20 - 0.40	0.1 - 0.2	
Polyphenylene sulfide + 40 % glass fiber	PPS + GF40	1.65	130 - 140	3 - 4	320 - 340	140 - 170	150 - 190	1.4 - 1.8	14000 - 15000	300	30 - 45	30 - 50	8 - 10	8.0 - 9.5	10 ¹⁵⁻¹⁶	10 ¹⁴⁻¹⁶	15 - 25	125 - 175	240	246 - 260	250 - 265	0.12 - 0.21	< 0.05	
Polyphenylene sulfide + 60 % glass fiber	PPS + GF60	1.90	130 - 140	3 - 4	320 - 340	140 - 170	170	1.0 - 1.5	21000 - 25000	-	28	-	-	-	10 ¹⁵⁻¹⁶	10 ¹⁴⁻¹⁶	-	-	-	248 - 260	> 260	-	< 0.05	
Polyphenylene sulfide + 60 % mineral/glass fiber	PPS + MR/GF30	1.90	130 - 140	3 - 4	320 - 340	140 - 170	110 - 180	0.6 - 1.7	17000 - 20000	280 - 360	15 - 20	10 - 19	4.0 - 7.5	4 - 8	10 ¹⁵⁻¹⁶	10 ¹⁴⁻¹⁶	15 - 20	200 - 250	240	248 - 260	260 - 270	0.12 - 0.20	< 0.05	
Polysulfone	PSU	1.24	130 - 140	3 - 6	330 - 380	120 - 160	80	-	2600	147	o.Br.	o.Br.	5	6	> 10 ¹⁶	> 10 ¹⁴	100	125	170	179 - 183	162 - 169	0.55	0.6	
Polysulfone + 30 % glass fiber	PSU + GF30	1.50 - 1.60	130 - 150	3 - 4	350 - 390	130 - 180	125	1.7 - 1.9	9000 - 10000	202*	20	25	7	7	> 10 ¹⁶	> 10 ¹⁴	> 40	150	170	190	183	0.21	0.5 - 1.6	
Polyethersulfone	PES	1.37	140	4	340 - 390	140 - 180	90	-	2700	148	o.Br.	o.Br.	6 - 7	7 - 8	> 10 ¹⁶	> 10 ^{14</}								