

# Technical properties

U-PVC C-PVC PPC PPH LDPE PE 300 PE 500

Physical properties	Test method	Unit							
Specific gravity	ISO 1183	g / cm <sup>3</sup>	1.45	1.55	0.91	0.91	0.92	0.96	0.96
Water absorption	ISO 62	%	<0.2	<0.2	0.01	0.01	0.01	0.01	0.01
Maximum service - Higher temp limit	-	°C	60	85	80	100	50	80	80
Maximum service - Lower temp limit	-	°C	0	-15	-20	0	-40	-50	-100

Mechanical properties	Test method	Unit							
Tensile strength at yield	ISO 527	MPa	55	57	26	33	11	22	28
Elongation at yield	ISO 527	%	3	3	7	8	-	9	8
Tensile strength at break	ISO 527	MPa	>45	80	-	-	11	-	-
Elongation at break	ISO 527	%	>25	15	300	80	605	300	>300
Impact strength	ISO 179	kJ/m <sup>2</sup>	no break	no break	no break	no break	no break	no break	no break
Notch impact strength	ISO 179	kJ/m <sup>2</sup>	3	8	45	9	44	19	18
Ball indentation / Rockwell hardness	ISO 2039-1	MPa	120	150	50	70	44	40	>45
Shore - D	DIN 53505	-	80	90	67	72	49	64	66
Flexural strength	ISO 178	MPa	90	90	-	-	-	-	-
Modulus of elasticity	ISO 527	MPa	>9500	2500	1200	1700	220	900	110

Thermal properties	Test method	Unit							
Vicat - softening point VST/B/50	ISO 306	°C	80	105	-	-	88	-	80
Heat deflection temperature HDT/B	ISO 75	°C	-	102	-	-	39	-	-
Heat deflection temperature HDT/A	-	°C	72	-	-	-	-	-	-
Coefficient / linear thermal expansion	DIN 53752	K <sup>-1</sup> ·10 <sup>-5</sup>	0.7	0.6	1.6	1.6	-	1.8	1.8
Thermal conductivity at 20 °C	DIN 52612	w/(m·K)	0.2	0.14	0.22	0.22	-	0.28	0.38

Electrical properties	Test method	Unit							
Volume resistivity	VDE 0303	Ω x m	-	>10 <sup>18</sup>	-	-	10 <sup>14</sup>	-	-
Surface resistivity	-	Ω	10 <sup>13</sup>	>10 <sup>13</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	>10 <sup>14</sup>
Dielectric constant at 1MHz	-	-	-	3	-	-	2.18	-	-
Dielectric loss factor at 1MHz	DIN 53483	-	-	0.01	-	-	0.0007	-	-
Dielectric strength	VDE 0303	kV/mm	31	20-40	58	52	19.7	47	44
Tracking resistance	IEC 60112	-	-	KB 600	-	-	-	>600	>600

Additional data	Test method	Unit							
Bondability	-	-	•	•	•	•	•	•	•
Food compliance	FDA	-	•	-	•	•	•	•	•
Flammability	UL 94	-	V-0	V-0	HB	HB	HB	HB	HB

Resistant ● Partly resistant ● Non resistant -

PE1000 6 ext\* 6 cast\* Nylon 66 Nylon 12 Acetal PET ABS PVDF PC PETG Acrylic

0.93	1.14	1.15	1.14	1.04	1.41	1.39	1.04	1.78	1.2	1.27	1.19
0.01	9	6.5	8	1.5	0.8	0.5	0.4	<0.04	0.35	0.2	0.2
80	85	105	95	95	105	115	70	150	120	65	70
-260	-40	-30	-30	-30	-40	-20	-50	-30	-100	-40	-

21	76	85	90	40	63	90	45	50	63	53	70
11	-	-	-	-	-	-	-	9	6	4	-
-	-	-	-	-	63	-	-	46	70	-	-
>300	>50	25	>40	>50	31	15	-	>50	110	40	4
no break	no break	no break	no break	no break	220	>50	333	252	no break	no break	17
>200	5.5	3.5	6	10	8	3	37	22	65	11.5	2
38	150/M85	165/M88	160/M88	-/M80	140/M84	170/M95	R 105	80	M70	R115	235
64	-	-	-	-	-	-	70	78	-	-	-
-	-	-	2800	-	2500	-	67	80	2300	2300	115
700	3250	3500	3100	1300	2600	3600	2260	2000	2300	2200	3300

82	-	-	-	-	150	-	103	140	148	80	105
-	-	-	-	-	-	-	100	145	132	68	-
-	70	80	85	50	96	75	88	104	142	72	90
1.8	0.9	0.8	0.8	1.2	1.1	0.6	-	1.2	0.7	0.51	0.7
0.38	0.28	0.29	0.28	0.23	0.31	0.27	0.2	0.13	0.21	0.19	0.18

-	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>11</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	>10 <sup>13</sup>	10 <sup>13</sup>	-	>10 <sup>13</sup>
>10 <sup>14</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>13</sup>	10 <sup>14</sup>	10 <sup>13</sup>	>10 <sup>14</sup>	10 <sup>13</sup>	10 <sup>14</sup>	>10 <sup>13</sup>
-	3.3	3.2	3.3	3.6	3.8	3.2	2.9	7.25	2.9	2.4	2.7
-	0.021	0.016	0.026	0.03	0.008	0.014	0.008	0.18	0.01	0.02	0.02
44	25	25	27	32	20	22	18	22	30	30	30
>600	600	600	600	600	600	600	600	300	-	-	-

-	●	-	●	●	-	●	●	●	●	●	●
●	●	-	●	●	●	●	●	●	-	●	-
HB	HB	HB	V-2	HB	HB	HB	HB	V-0	HB	HB	HB

\* Nylon material (Nylon 6 ext and Nylon 6 cast)