Properties of PRE-ELEC® compounds and concentrates (typical values)

Polymer Base	Product name	Applications	Compound	Concentrate	Extrusion	Injection moulding	Volume resistivity (Ωcm)	Surface resistance (Ω)	Melt flow rate (g/10min)	Specific gravity (g/cm3)	Flexural modulus (MPa)	Hardness (Sh D)
ABS	PRE-ELEC® ABS 1410	Technical Parts	●			●	350	5E+3	220°C / 10.0 kg: 15	1.10	2,000	76
ABS	PRE-ELEC® ABS 1415	Technical Parts	●		●		300	out of range	220°C / 10.0 kg: 2.5	1.10	1,900	77
EVA	PRE-ELEC® CP 1515	Foams		●	●		250	5E+3	190°C / 5.0 kg: 1.2	1.06	110	47
PA-6	PRE-ELEC® PA 1406	Technical Parts (carbon fiber)	●			●	>5,000	4E+5	275°C / 10.0kg: 46	1.14	6,500	81
PA-6	PRE-ELEC® PA 1408	Technical Parts	●			●	700	2E+3	275°C / 10.0kg: 5.0	1.20	2,000	80
PA-6	PRE-ELEC® PA 1411	Technical Parts		●	○	●	35 (a)	9E+2 (a)	275°C / 10.0kg: 6.6	1.25	3,200 (a)	84 (a)
PA-6	PRE-ELEC® PA 17970	Technical Parts (glass fiber)	●			●	>5,000	2E+4	275°C / 10.0kg: 13	1.36	6,700	-
PBT	PRE-ELEC® PBT 1455	Technical Parts	●			●	100	3E+3	240°C / 10.0 kg: 14	1.32	2,000	84
PC	PRE-ELEC® PC 1431	Technical Parts	●			●	>5,000	4E+4	240°C / 2.16 kg: 10	1.24	2,500	85
PC/ABS	PRE-ELEC® PC/ABS 1420	Sheets	●		●		150	6E+3	240°C / 21.6 kg: 13	1.12	2,700	78
PE-HD	PRE-ELEC® PE 1250	Sheets, Pipes		●	●	○	2 (b)	4E+2 (b)	190°C / 21.6 kg: 1.6	1.02	1,100 (b)	65 (b)
PE-HD	PRE-ELEC® PE 1291	Sheets, Pipes, Cans & Bins	●		●		50	9E+2	190°C / 21.6 kg: 6.0	1.04	1,200	71
PE-HD	PRE-ELEC® PE 1292	Sheets, Pipes	●		●	○	70	2E+3	190°C / 21.6 kg: 35	1.03	1,100	66
PE-HD	PRE-ELEC® PE 1296	Sheets, Cans & Bins, Pipes		●	●	○	1 (c)	3E+2 (c)	190°C / 21.6 kg: 0.6	1.12	1,200 (c)	65 (c)
PE-HD	PRE-ELEC® PE 1312	Cans & Bins	●				100	4E+3	190°C / 21.6 kg: 10	1.03	1,200	67
PE-HD	PRE-ELEC® PE 14708GF	Fuel Systems	●			●	25	5E+2	190°C / 21.6 kg: 17	1.24	4,600	65
PE-HD	PRE-ELEC® PE 16006	Cans & Bins				●		< 1E+7	190°C / 21.6 kg: 2.0	1.02	1,000	-
PE-HD	PRE-ELEC® PE 18594	Sheets, Boxes & Pallets, Cans & Bins		●	●	●	1 (d)	1,2E+6 (d)	190°C / 21.6 kg: 3.1	1.14	1,375 (d)	67 (d)
PE-HD	PRE-ELEC® PE 18664	Cables	●		●		20	9E+2	190°C / 5.0 kg: 1.8	1.06	1,000	61
PE-HD	PRE-ELEC® TP 11270	Fuel Systems	●		●	●	50	2E+3	190°C / 21.6 kg: 15.0	1.03	1,200	70
PE-LD	PRE-ELEC® PE 1271	Films, FIBC, Cables	●		●		70	5E+3	190°C / 5.0 kg: 1.7	1.02	-	56
PE-LD	PRE-ELEC® PE 17800	Foams		●	●		2	3E+2	190°C / 10.0 kg: 1.0	1.15	-	-
PE-LD	PRE-ELEC® PE 18381	Films, Cables	●		●		14	9E+2	190°C / 5.0 kg: 0.5	1.05	170	45
PE-LD	PRE-ELEC® PE 18500	Cables	●		●		20	1E+3	190°C / 5.0 kg: 4.7	1.04	200	52
PE-LLD	PRE-ELEC® PE 17840	Films, Filaments, FIBC, Sheets		●	●		0.7	out of range	230°C / 21.6 kg: 4.5	1.20	-	-
PE-LLD	PRE-ELEC® PE 18922	Flexible Tubes and Profiles, Cables	●		●		30	8E+02	190°C / 5.0 kg: 1.5	1.05	280	50
POE	PRE-ELEC® PE 17693	Flexible Tubes and Profiles		●	●		1.4	4E+2	190°C / 21.6 kg: 11.0	1.06	-	52
POE	PRE-ELEC® PE 18480	Flexible Tubes and Profiles	●		●		8	4E+2	190°C / 10.0 kg: 2.2	1.05	200	47
PP-C	PRE-ELEC® PP 1370	Boxes & Pallets	●			●	70	9E+2	230°C / 2.16 kg: 2.0	0.98	1,200	71
PP-C	PRE-ELEC® PP 1375	Boxes & Pallets	●			●	80	4E+3	230°C / 2.16 kg: 20.0	0.98	1,300	65
PP-C	PRE-ELEC® PP 1380	Technical parts, ECG & EEG electrodes	●			●	3	6E+2	230°C / 5.0 kg: 1.5	1.06	1,900	72
PP-C	PRE-ELEC® PP 1392	Boxes & Pallets	●			●	60	2E+3	230°C / 2.16 kg: 7.0	0.98	1,500	72
PP-C	PRE-ELEC® PP 1393	Sheets		●	●	○	4 (e)	6E+2 (e)	230°C / 5.0 kg: 0.5	1.06	1,500 (e)	71 (e)
PP-C	PRE-ELEC® PP 1397	Sheets, Cables	●		●	○	60	3E+3	230°C / 2.16 kg: 1.2	0.98	1,400	74
PP-C	PRE-ELEC® PP 18220	Cables	●		●		25	1E+3	230°C / 10.0 kg: 3.2	0.99	200	51
PP-C	PRE-ELEC® PP 18920	Cables	●		●		1.2	3.7E+2	230°C / 5.0 kg: 1.2	1.12	1,400	71

● Primary processing method ○ Secondary processing method

Polymer Base	Product name	Applications	Compound	Concentrate	Extrusion	Injection moulding	Volume resistivity (Ωcm)	Surface resistance (Ω)	Melt flow rate (g/10min)	Specific gravity (g/cm3)	Flexural modulus (MPa)	Hardness (Sh D)
PP-C	PRE-ELEC® PP 18999	Boxes & Pallets		●	○	●	15	6E+2	230°C / 10.0 kg: 2.7	1.03	200	51
PP-C	PRE-ELEC® PP 19136	Boxes, Crates, Technical parts	●			●	> 5,000	7E+6	230C / 5.0 kg: 34	1.00	1,054	65
PP-C	PRE-ELEC® PP 19161	Boxes, Crates, Technical parts	●			●	90	4E+3	230°C / 2.16 kg: 3.4	1.02	1,200	65
PP-C	PRE-ELEC® PP 19279	Sheets, Profiles		●	●	○	11(f)	5E+2 (f)	230°C / 10.0 kg: 1.6	1.15	1,400(f)	66(f)
PP-C	PRE-ELEC® PP 19285	Pipette tips	●			●	< 30	9E+2	230°C / 2.16 kg: 13	1.00	1,580	68
PP-C	PRE-ELEC® PP 19599	Boxes, Crates, Technical parts	●			●	< 200	2E+3	230°C / 5.0 kg: 52	1.01	1,500	-
PP-C	PRE-ELEC® PP 19625	Sheets		●	●		> 5000 (g)	1E+5 (g)	230°C / 5.0 kg: 7	1.09	-	-
PP-C	PRE-ELEC® PP 19764	Pipette tips, consumables	●			●	<20	1E+3	230°C / 2.16 kg: 19	1.00	1,600	68
PP-C	PRE-ELEC® PP 19997	Silicon wafer boxes, Technical parts	●			●	300	5E3	230°C / 2.16 kg: 4	1.01	1700	68
PP-C	PRE-ELEC® PP 24191	Boxes, Crates, Technical parts	●			●	250	4E3	230°C / 2.16 kg: 8	1.02	1300	62
PP-C	PRE-ELEC® TP 6735	Pipette tips, consumables	●			●	<20	1E+3	230°C / 2.16 kg: 16	1.00	1,600	68
PP-H	PRE-ELEC® PP 1353	Filaments, FIBC		●	●	○	180 (h)	1E+3 (h)	230C / 10.0 kg: 9.0	1.11	1,300 (h)	75 (h)
PP-H	PRE-ELEC® PP 15392	Sheets		●	●	○	150 (i)	8E+3 (i)	230°C / 10.0 kg: 8	1.11	1,265 (i)	70 (i)
PP-H	PRE-ELEC® PP 16156	Films	●		●		3	out of range	230°C / 5.0 kg: 15.0	1.03	-	-
PP-H	PRE-ELEC® PP 17147	EMI Shielding	●			●	0,25	6E+2	230°C / 10.0 kg: 5.7	1,14	10,000	75
PP-H	PRE-ELEC® PP 18873	Technical Parts (Flame retardant)	●			●	> 5,000	7E+8	230°C / 2.16 kg: 11	1.04	1,100	64
PP-H	PRE-ELEC® TP 14815	Profiles, Sheets (Flame retardant)	●		●		110	2E+3	230°C / 10.0 kg: 1.3	1.42	2,000	67
PS-HI	PRE-ELEC® PS 1328	Cans & Bins	●			●	60	1E+3	200°C / 5.0 kg: 3.0	1.10	2,200	79
PS-HI	PRE-ELEC® PS 18014	Technical Parts	●			●	90	4E+3	200°C / 5.0 kg: 6.0	1.00	1,500	73
SBC	PRE-ELEC® TP 15837	Sheets		●	●		100 (j)	8E+2 (j)	200°C / 21.6 kg: 2.3	1.17	1,650 (j)	72 (j)
TPE-S	PRE-ELEC® TPE 1502	Flexible Tubes and Profiles, Cables	●		●		15	9E+2	190°C / 10.0 kg: 4.0	1.08	-	65
TPE-S	PRE-ELEC® TPE 18416	Flexible Tubes and Profiles, Cables	●		●		3,5	4E+2	190°C / 21.6 kg: 9.8	1.20	-	87
TPU-Es	PRE-ELEC® TP 16159	Technical Parts	●			●	9	2E+4	190°C / 10.0 kg: 33.0	1.28	660	62
TPU-Es	PRE-ELEC® TPU 1512	Flexible Tubes and Profiles, Sheets, Technical Parts, Cables	●		●	○	10	8E+2	190°C / 10.0 kg: 11.0	1.27	-	87
TPU-Es	PRE-ELEC® TPU 18438	Flexible Tubes and Profiles	●		●		250	2E+3	190°C / 10.0 kg: 9.0	1.27	-	84
TPU-Es	PRE-ELEC® TPU 18600	Flexible Tubes and Profiles, Cables	●		●		41	6E+4	190°C / 10.0 kg: 1.0	1.28	-	87
TPU-Et	PRE-ELEC® TPU 16619	Flexible Tubes and Profiles	●		●	○	30	2E+3	190°C / 5.0 kg: 5.0	1.21	-	88
TPU-Et	PRE-ELEC® TPU 18025	Films, Sheets, Cables	●		●		< 10	< 5E+2	190°C / 10.0 kg: 2.0	1.22	-	86

● Primary processing method ○ Secondary processing method

More information in
Premix Data Center:
www.premixgroup.com/data-center

Contact our sales:
www.premixgroup.com/contact

Notes
(a) dilution 30% PA6
(b) dilution 50% HDPE MFI 0.25 (190°C / 5 kg)
(c) dilution 40% HDPE MFI 9 (190°C / 21.6 kg)
(d) dilution 50% HDPE MFI 9 (190°C / 21.6 kg)
(e) dilution 30% PP-C MFI 13 (230°C / 2.16 kg)
(f) dilution 30% PP-C MFI 4 (230°C / 2.16 kg)
(g) 50% PP-C, MFI 3.5 (230°C / 2.16 kg)
(h) dilution 50% PP-H MFI 35 (230°C / 2.16 kg)
(i) dilution 50% PP-C MFI 3.5 (230°C / 2.16 kg)
(j) dilution 50% HIPS MFI 4 (200°C / 5 kg)

Surface resistance - how to read: for example, 2E+6 Ω = 2,000,000 Ω

Carbon black concentrates
are an excellent way to reduce the raw material costs. In PRE-ELEC® concentrates, the carbon black content has been optimized to the highest possible level. In sustainable and/or cost-driven applications, regrind or recycled plastics can be used for dilution. Besides the economical advantages concentrates also allow the modification of product properties e.g. stiffness or flame retardancy.