

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/cm ³)	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® CP 1515	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 / 2.16 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
POE	PRE-ELEC® PE 19400	Flexible Tubes and Profiles		•	•		< 5	< 1E+3	-	1.12	-	55
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 18900	Sheets		•	•	○	4 (f)	6E+2 (f)	230°C / 5.0 kg: 0.5	1.06	1,500 (f)	71 (f)

• 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/cm ³)	Flexural modulus (MPa)	Hardness (Sh D)
PP-C	PRE-ELEC@ PP 18920	Cables	•		•		1.2	3.7E+2	230°C / 5.0 kg: 1.2	1.12	1,400	71
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	230°C / 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(g)	5E+2 (g)	230°C / 10.0 kg: 1.6	1.15	1,400 (g)	66 (g)
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 (h)	1E+5 (h)	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	1,700	68
PP-C	PRE-ELEC@ PP 24191	Boxes, Crates, Technical parts	•			•	250	4E3	230°C / 2.16 kg: 8	1.02	1,300	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 (i)	1E+3 (i)	230°C / 10.0 kg: 9.0	1.11	1,300 (i)	75 (i)
PP-H	PRE-ELEC@ PP 15392	Sheets		•	•	○	150 (j)	8E+3 (j)	230°C / 10.0 kg: 8	1.11	1,265 (j)	70 (j)
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@ PS 19660	Sheets		•	•		< 100 (k)	1E+3(k)	200°C / 21.6 kg: 0.2	1.10	1,600 (k)	70 (k)
SBC	PRE-ELEC@ TP 15837	Sheets		•	•		100 (l)	8E+2 (l)	200°C / 21.6 kg: 2.3	1.17	1,650 (l)	72 (l)
TPE-S	PRE-ELEC@ TPE 1502	Flexible Tubes and Profiles, Cables	•		•		15	9E+2	190°C / 10.0 kg: 4.0	1.08	-	65 (m)
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 (m)
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 (m)
TPU-Es	PRE-ELEC@ TPU 18438	Flexible Tubes and Profiles	•		•		250	2E+3	190°C / 10.0 kg: 9.0	1.27	-	84 (m)
TPU-Es	PRE-ELEC@ TPU 18600	Flexible Tubes and Profiles, Cables	•		•		41	6E+4	190°C / 10.0 kg: 1.0	1.28	-	87 (m)
TPU-Et	PRE-ELEC@ TPU 16619	Flexible Tubes and Profiles	•		•	○	30	2E+3	190°C / 5.0 kg: 5.0	1.21	-	88 (m)
TPU-Et	PRE-ELEC@ TPU 18025	Films, Sheets, Cables	•		•		< 10	< 5E+2	190°C / 10.0 kg: 2.0	1.22	-	86 (m)

• 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 13 (230°C / 2.16 kg)
- (g) dilution 30% PP-C MFI 4 (230°C / 2.16 kg)
- (h) 50% PP-C, MFI 3.5 (230°C / 2.16 kg)
- (i) dilution 50% PP-H MFI 35 (230°C / 2.16 kg)

- (j) dilution 50% PP-C MFI 3.5 (230°C / 2.16 kg)
- (k) dilution 50% HIPS MFI 4 (200°C / 5 kg)
- (l) dilution 50% HIPS MFI 4 (200°C / 5 kg)
- (m) Shore A

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.