

Material code VDL WIENTJES SMC			0120	0130	0230	0240	0330
Discription / Characteristic	Latest Version 08-04-24		Standard 20	Standard 25	Electrical	Automotive High mechanical	Low Profile
Applications (Examples)			Water Sink	Roof-gutter	Lamp Housing	Automotive fenders	Locker Doors
METHOD	UNIT		>UP-GF20<	>UP-GF25<	>UP-GF25<	>UP-GF30<	>UP-GF25<
Code SMC	VDA 280						
1. MECHANICAL PROPERTIES							
1.1 Tensile modulus	EN ISO 527-4	MPa	7500	8500	9000	9000	9000
1.2 Tensile Strength	EN ISO 527-4	MPa	45	70	70	95	75
1.3 Tensile rupture strain	EN ISO 527-4	%	1,3	1,5	1,5	2,0	1,5
1.4 Flexural modulus	EN ISO 14125	MPa	8500	9000	9500	10000	10000
1.5 Flexural strength	EN ISO 14125	MPa	120	150	150	170	150
1.6 Charpy Impact strength	EN ISO 179-1	kJ/m²	35	50	50	60	50
1.7 Compressive strength	EN ISO 14126	MPa	110	150	145	155	150
2. THERMAL PROPERTIES							
2.1 Temperature of deflection under load	EN ISO 75-2	°C	>190	>190	>190	>190	>190
2.2 Coefficient of linear thermal expansion	ISO 11359-2	10 ⁻⁶ /K	20	16	14	17	14
2.3 Glass transition Temperature	ISO 11359-2	°C	170	170	170	170	170
2.4 Temperature aging (50%)	IEC 216	°C	160	160	160	160	160
2.5 Thermal conductivity	ISO 22007-2	W/(Km)	0,3	0,3	0,3	0,3	0,3
3. ELECTRICAL PROPERTIES							
3.1 Diëlectric constant	IEC 60250		4,0	4,0	4,0	4,0	4,0
3.2 Dissipation factor tanδ100	IEC 60250		0,01	0,01	0,01	0,01	0,01
3.3 Volume resistivity	IEC 60093	Ωcm	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁴
3.4 Surface resistivity	IEC 60093	Ω	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹
3.5 Proof tracking Index CTI	DIN 60112		>600	>600	>600	>600	>600
4. FLAMMABILITY, BURNING BEHAVIOUR							
4.1 Flammability	EN 60695-11-10	class	HB	HB	HB	HB	HB
4.2 Oxygen Index	EN ISO 4589-2	VOL% O2	22	22	22	22	22
4.3 Flammability	ISO 3795	class	NBR	NBR	NBR	NBR	NBR
4.4 Flammability (glow bar)	EN 60707	step	BH2-95	BH2-95	BH2-95	BH2-95	BH2-95
4.5 Constructions burning behaviour	DIN 4102	class	B2	B2	B2	B2	B2
4.6 Fire hazard testing, Glow Wire test	IEC 60695-2-1	°C	650	650	650	650	650
5. OTHER PROPERTIES							
5.1 Water absorption	EN ISO 62	mg/4d	25	15	25	25	25
5.2 Poisson's ratio	EN ISO 527-4	°C	0,30	0,30	0,30	0,30	0,30
5.3 Density	EN ISO 1183	kg / dm³	1,80	1,80	1,80	1,82	1,85
6. RHEOLOGICAL AND PROCESSING PROPERTIES							
6. 1 Shrinkage	ISO 2577	%	0,18	0,15	0,09	0,10	0,03
6.2 Glas fiber Content	EN ISO 1172	%	20	25	25	30	25
6.3 Curing Characteristics	EN ISO 12144	sec	20	14	20	20	18
6.4 Flowability	EN ISO 12155	%	70	55	60	55	55

All values are mean values determined on standard compression moulded specimens at roomtemperature (ISO 1268- part 8).

Material code VDL WIENTJES SMC				0342	0442	0531	0533	0631
Discription / Characteristic	Latest Version 08-04-24			High LP mech	Fire Retardant	in LP-Colour plates	Waterboard Panel	Class A - coloured non painted
Applications (Examples)				Rotor Blades	Wastebin	Cover industrial machines	Waterboard Panel	Housing electrical chargers
	METHOD	UNIT						
Code SMC	VDA 280			>UP-GF30<	>UP-GF30<	>UP-GF30<	>UP-GF27<	>UP-GF30<
1. MECHANICAL PROPERTIES								
1.1 Tensile modulus	EN ISO 527-4	MPa	10000	9500	9000	9000	9500	9500
1.2 Tensile Strength	EN ISO 527-4	MPa	100	85	90	85	85	85
1.3 Tensile rupture strain	EN ISO 527-4	%	1,8	1,7	1,5	1,5	1,5	1,5
1.4 Flexural modulus	EN ISO 14125	MPa	11000	9500	9500	9500	9500	9500
1.5 Flexural strength	EN ISO 14125	MPa	180	170	175	160	170	170
1.6 Charpy Impact strength	EN ISO 179-1	kJ/m ²	65	60	60	50	55	55
1.7 Compressive strength	EN ISO 14126	MPa	170	160	165	160	160	160
2. THERMAL PROPERTIES								
2.1 Temperature of deflection under load	EN ISO 75-2	°C	>190	>190	>190	>190	>190	>190
2.2 Coefficient of linear thermal expansion	ISO 11359-2	10 ⁻⁶ /K	16	20	15	19	19	19
2.3 Glass transition Temperature	ISO 11359-2	°C	170	170	170	170	170	170
2.4 Temperature aging (50%)	IEC 216	°C	160	160	160	160	160	160
2.5 Thermal conductivity	ISO 22007-2	W/(Km)	0,3	0,3	0,3	0,3	0,3	0,3
3. ELECTRICAL PROPERTIES								
3.1 Diëlectric constant	IEC 60250		4,0	4,0	4,0	4,0	4,0	4,0
3.2 Dissipation factor tanδ100	IEC 60250		0,01	0,01	0,01	0,01	0,01	0,01
3.3 Volume resistivity	IEC 60093	Ωcm	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁴
3.4 Surface resistivity	IEC 60093	Ω	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹
3.5 Proof tracking Index CTI	DIN 60112		>600	>600	>600	>600	>600	>600
4. FLAMMABILITY, BURNING BEHAVIOUR								
4.1 Flammability	EN 60695-11-10	class	V0	V0	V0	V0	V0	V0
4.2 Oxygen Index	EN ISO 4589-2	VOL% O2	34	41	28	30	30	30
4.3 Flammability	ISO 3795	class	NBR	NBR	NBR	NBR	NBR	NBR
4.4 Flammability (glow bar)	EN 60707	step	BH2-10	BH1	BH1	BH2-30	BH2-30	BH2-30
4.5 Constructions burning behaviour	DIN 4102	class	B2	B2	B2	B2	B2	B2
4.6 Fire hazard testing, Glow Wire test	IEC 60695-2-1	°C	850	950	850	850	850	850
5. OTHER PROPERTIES								
5.1 Water absorption	EN ISO 62	mg/4d	20	25	20	25	20	20
5.2 Poisson's ratio	EN ISO 527-4	°C	0,30	0,30	0,30	0,30	0,30	0,30
5.3 Density	EN ISO 1183	kg / dm ³	1,80	1,80	1,75	1,80	1,83	1,83
6. RHEOLOGICAL AND PROCESSING PROPERTIES								
6. 1 Shrinkage	ISO 2577	%	0,07	0,12	0,00	0,09	0,00	0,00
6.2 Glas fiber Content	EN ISO 1172	%	30	30	28	27,5	28	28
6.3 Curing Characteristics	EN ISO 12144	sec	20	25	25	20	25	25
6.4 Flowability	EN ISO 12155	%	40	40	80	50	50	50

All values are mean values determined on standard compression moulded specimens at roomtemperature (ISO 1268- part 8).

Material code VDL WIENTJES SMC			0637	0731	0741	0860	1032
Discription / Characteristic	Latest Version 08-04-24		Transportation Box	Water collector Thermal Heating	Water collector Waste Water	High mechanical	Electrical Antistatic
Applications (Examples)			Transportation Box	Water collector for Heating Units	Water collector for Heating Units	High mechanical	Instrumental Box antistatic
	METHOD	UNIT					
Code SMC	VDA 280		>UP-GF23<	>VE-GF25<	>VE-GF30<	>VE-GF45<	>UP-GF23<
1. MECHANICAL PROPERTIES							
1.1 Tensile modulus	EN ISO 527-4	MPa	9000	9500	10000	12000	9000
1.2 Tensile Strength	EN ISO 527-4	MPa	60	70	80	140	80
1.3 Tensile rupture strain	EN ISO 527-4	%	1,2	1,8	1,8	1,9	1,3
1.4 Flexural modulus	EN ISO 14125	MPa	9000	9000	10500	13000	10500
1.5 Flexural strength	EN ISO 14125	MPa	140	160	175	240	145
1.6 Charpy Impact strength	EN ISO 179-1	kJ/m ²	45	50	55	85	55
1.7 Compressive strength	EN ISO 14126	MPa	140	140	140	170	130
2. THERMAL PROPERTIES							
2.1 Temperature of deflection under load	EN ISO 75-2	°C	>190	>210	>210	>200	>190
2.2 Coefficient of linear thermal expansion	ISO 11359-2	10 ⁻⁶ /K	20	13	13	13	18
2.3 Glass transition Temperature	ISO 11359-2	°C	170	175	175	175	170
2.4 Temperature aging (50%)	IEC 216	°C	160	168	168	170	155
2.5 Thermal conductivity	ISO 22007-2	W/(K.m)	0,3	0,3	0,3	0,3	0,4
3. ELECTRICAL PROPERTIES							
3.1 Diëlectric constant	IEC 60250		4,0	4,0	4,0	4,0	N.D.
3.2 Dissipation factor tanδ100	IEC 60250		0,01	0,01	0,01	0,01	N.D.
3.3 Volume resistivity	IEC 60093	Ωcm	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹¹
3.4 Surface resistivity	IEC 60093	Ω	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ⁰⁸
3.5 Proof tracking Index CTI	DIN 60112		>600	>600	>600	>600	>600
4. FLAMMABILITY, BURNING BEHAVIOUR							
4.1 Flammability	EN 60695-11-10	class	V0	V0	V0	HB	V0
4.2 Oxygen Index	EN ISO 4589-2	VOL% O2	100	30	30	22	35
4.3 Flammability	ISO 3795	class	NBR	NBR	NBR	NBR	NBR
4.4 Flammability (glow bar)	EN 60707	step	BH1	BH2-30	BH2-30	BH2-95	BH2-10
4.5 Constructions burning behaviour	DIN 4102	class	B1	B2	B2	B2	B2
4.6 Fire hazard testing, Glow Wire test	IEC 60695-2-1	°C	950	850	850	650	850
5. OTHER PROPERTIES							
5.1 Water absorption	EN ISO 62	mg/4d	20	15	15	25	25
5.2 Poisson's ratio	EN ISO 527-4	°C	0,30	0,30	0,30	0,30	0,30
5.3 Density	EN ISO 1183	kg / dm ³	1,95	1,68	1,71	1,75	1,71
6. RHEOLOGICAL AND PROCESSING PROPERTIES							
6. 1 Shrinkage	ISO 2577	%	0,02	0,04	0,08	-0,02	0,10
6.2 Glas fiber Content	EN ISO 1172	%	23	25	30	45	25
6.3 Curing Characteristics	EN ISO 12144	sec	25	20	18	20	18
6.4 Flowability	EN ISO 12155	%	30	40	30	50	40

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Material code VDL WIENTJES SMC			1230	1330	1340	1430	1640
Discription / Characteristic	Latest Version 08-04-24		Low-density	Standaard HD	Density Chemical Resistant	Automotive	Low Pressure
Applications (Examples)			Noise Reduction	High Density	High Density panel	Painted Automotive Parts	Transportation
	METHOD	UNIT					
Code SMC	VDA 280		>UP-GF32<	>UP-GF20<	>UP-GF25<	>UP-GF28<	>UP-GF30<
1. MECHANICAL PROPERTIES							
1.1 Tensile modulus	EN ISO 527-4	MPa	9000	10000	10000	9500	9000
1.2 Tensile Strength	EN ISO 527-4	MPa	80	60	90	80	75
1.3 Tensile rupture strain	EN ISO 527-4	%	1,9	2,0	2,0	1,5	1,4
1.4 Flexural modulus	EN ISO 14125	MPa	7000	10500	11000	9000	10000
1.5 Flexural strength	EN ISO 14125	MPa	160	165	180	180	160
1.6 Charpy Impact strength	EN ISO 179-1	kJ/m ²	55	55	60	65	65
1.7 Compressive strength	EN ISO 14126	MPa	100	170	180	190	125
2. THERMAL PROPERTIES							
2.1 Temperature of deflection under load	EN ISO 75-2	°C	>190	>190	>190	>190	>190
2.2 Coefficient of linear thermal expansion	ISO 11359-2	10 ⁻⁶ /K	15	17	25	10	25
2.3 Glass transition Temperature	ISO 11359-2	°C	170	175	175	170	170
2.4 Temperature aging (50%)	IEC 216	°C	155	160	160	160	160
2.5 Thermal conductivity	ISO 22007-2	W/(Km)	0,3	0,3	0,3	0,3	0,3
3. ELECTRICAL PROPERTIES							
3.1 Diëlectric constant	IEC 60250		4,0	4,0	4,0	4,0	4,0
3.2 Dissipation factor tanδ100	IEC 60250		0,01	0,01	0,01	0,01	0,01
3.3 Volume resistivity	IEC 60093	Ωcm	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁴	10 ¹⁴
3.4 Surface resistivity	IEC 60093	Ω	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹	10 ¹¹
3.5 Proof tracking Index CTI	DIN 60112		>600	>600	>600	>600	>600
4. FLAMMABILITY, BURNING BEHAVIOUR							
4.1 Flammability	EN 60695-11-10	class	HB	HB	HB	HB	HB
4.2 Oxygen Index	EN ISO 4589-2	VOL% O2	22	22	22	22	22
4.3 Flammability	ISO 3795	class	NBR	NBR	NBR	NBR	NBR
4.4 Flammability (glow bar)	EN 60707	step	BH2-95	BH2-95	BH2-95	BH2-95	BH2-95
4.5 Constructions burning behaviour	DIN 4102	class	B2	B2	B2	B2	B2
4.6 Fire hazard testing, Glow Wire test	IEC 60695-2-1	°C	650	650	650	650	650
5. OTHER PROPERTIES							
5.1 Water absorption	EN ISO 62	mg/4d	35	20	10	15	25
5.2 Poisson's ratio	EN ISO 527-4	°C	0,30	0,30	0,30	0,30	0,30
5.3 Density	EN ISO 1183	kg / dm ³	1,36	2,20	2,00	1,85	1,90
6. RHEOLOGICAL AND PROCESSING PROPERTIES							
6. 1 Shrinkage	ISO 2577	%	0,07	0,07	0,10	-0,04	-0,01
6.2 Glas fiber Content	EN ISO 1172	%	32,5	20	25	28	30
6.3 Curing Characteristics	EN ISO 12144	sec	20	15	20	20	25
6.4 Flowability	EN ISO 12155	%	70	40	55	65	90

All values are mean values determined on standard compression moulded specimens at roomtemperature (ISO 1268- part 8).

Material code VDL WIENTJES SMC			2023	2140
Discription / Characteristic	Latest Version 08-04-24		UV SMC	Food Contact
Applications (Examples)			UV-reactive	FDA Boxes
	METHOD	UNIT		
Code SMC	VDA 280		>UP-GF20<	>UP-GF30<
1. MECHANICAL PROPERTIES				
1.1 Tensile modulus	EN ISO 527-4	MPa	8000	9000
1.2 Tensile Strength	EN ISO 527-4	MPa	50	80
1.3 Tensile rupture strain	EN ISO 527-4	%	1,3	1,5
1.4 Flexural modulus	EN ISO 14125	MPa	8000	10000
1.5 Flexural strength	EN ISO 14125	MPa	110	180
1.6 Charpy Impact strength	EN ISO 179-1	kJ/m ²	40	60
1.7 Compressive strength	EN ISO 14126	MPa	150	150
2. THERMAL PROPERTIES				
2.1 Temperature of deflection under load	EN ISO 75-2	°C	>190	>190
2.2 Coefficient of linear thermal expansion	ISO 11359-2	10 ⁻⁶ /K	25	20
2.3 Glass transition Temperature	ISO 11359-2	°C	170	170
2.4 Temperature aging (50%)	IEC 216	°C	160	160
2.5 Thermal conductivity	ISO 22007-2	W/(Km)	0,3	0,3
3. ELECTRICAL PROPERTIES				
3.1 Diëlectric constant	IEC 60250		4,0	4,0
3.2 Dissipation factor tanδ100	IEC 60250		0,01	0,01
3.3 Volume resistivity	IEC 60093	Ωcm	10 ¹⁴	10 ¹⁴
3.4 Surface resistivity	IEC 60093	Ω	10 ¹¹	10 ¹¹
3.5 Proof tracking Index CTI	DIN 60112		>600	>600
4. FLAMMABILITY, BURNING BEHAVIOUR				
4.1 Flammability	EN 60695-11-10	class	V0	HB
4.2 Oxygen Index	EN ISO 4589-2	VOL% O2	45	22
4.3 Flammability	ISO 3795	class	NBR	NBR
4.4 Flammability (glow bar)	EN 60707	step	BH1	BH2-95
4.5 Constructions burning behaviour	DIN 4102	class	B1	B2
4.6 Fire hazard testing, Glow Wire test	IEC 60695-2-1	°C	950	650
5. OTHER PROPERTIES				
5.1 Water absorption	EN ISO 62	mg/4d	15	20
5.2 Poisson's ratio	EN ISO 527-4	°C	0,30	0,30
5.3 Density	EN ISO 1183	kg / dm ³	1,70	1,80
6. RHEOLOGICAL AND PROCESSING PROPERTIES				
6. 1 Shrinkage	ISO 2577	%	0,20	0,11
6.2 Glas fiber Content	EN ISO 1172	%	20	30
6.3 Curing Characteristics	EN ISO 12144	sec	UV	15
6.4 Flowability	EN ISO 12155	%	0	50

All values are mean values determined on standard compression moulded specimens at roomtemperature (ISO 1268- part 8).