





SPECIAL TYPES

Sheets made from industrial laminated materials

Designation DIN EN 60893	Characteristic property Applications	Flexural strength	Elastic modulus from bending test	Compressive strength perpendicular	Impact strength Charpy or Izod	Shear strength parallel	Tensile strength	Dielectric strength perpendic. (3) thickness 3 mm	Dielectric strength parallel (3)	Fire test Railway	Fire test Railway	Glow wire flammability	Glow wire ignition temperature	Insulation resistance	PTI	CTI	Thermal endurance	Flammability	Density	Water absorption thickness 10 mm
Test standard		ISO 178	ISO 178	ISO 604	ISO 179/3C	VDE 0318/2	ISO 527	IEC 60243-1	IEC 60243-1	EN 45545-2	DIN 5510-2	EN 60695-2	EN 60695-2	IEC 60167-1	IEC 60112-1	IEC 60112-1	IEC 60216-1	UL 94	ISO 1183	ISO 62
Unit		MPa	MPa	MPa	kJ/m ²	MPa	MPa	kV/mm	kV			GWFI	GWIT	MΩ			TI	cat.	g/cm ³	mg
min/max		min	min	min	min	min	min	min	min					min	min	min	min			max
EP GC 103 S30	Highly tracking-resistant, CTI 600M, TC 155, UL 94 V-0 	340 (1)	24.000	500	70	30	300	10,2	45		S4/SR2/ST2	960/3.0	960/3.0	50.000	600	600 M	155	V-0]	1.8-2.0	34
EP GC 202 HFS	Tracking-resistant, TC 155, UL 94 V-0 	340 (1)	24.000	500	70	30	300	10,2	45	R22/R23	S4/SR2/ST2	960/3.0	960/3.0	50.000	600	400 M	155	V-0]	1.9-2.1	34
EP GC 202 HFD	Tracking-resistant, TC 180, UL 94 V-0 	340 (1)	24.000	500	70	30	300	10,2	45	R1/R22/R23	S4/SR2/ST2	960/3.0	960/3.0	50.000		600	180	V-0]	1.9-2.1	34
EP GC 308 SY	High thermal class (TC) > 180	500 (1)	24.000	500	70	30	300	10,2	45					50.000		180	> 180		1.8-2.0	34
MkHP	Melamine-laminated paper, mechanical applications	135	7.000	300	10	20	100	-	-	-	-	-	-			600	120		1.3-1.5	920
MkHP-E	Melamine-laminated paper, electrical applications	120	7.000	250	10	10	70	13	40	-	-	-	-			600	120		1.3-1.5	149
Hi-con	Paper/epoxy, also with black pigment	140	6.000	200	25	30	80	10	50	-	-	-	-			200	110		1.3-1.5	200
PF AC 201	+ PTFE, plain bearing, very low water absorption	70	4.000	200	10	20	30	30	5	-		-				100	120		1.2-1.3	50
PF CC 201	+ PTFE as dry lubricant, anti-seizure property	100	6.000	200	20	30	60	0,5	1	-	-	-	-	1		100	120		1.3-1.4	400
PF CC 201	+ graphite as dry lubricant, anti-seizure property	100	7.000	200	20	30	60	0,5	1	-	-	-	-	1		100	120		1.3-1.4	300
PF CC 201	+ MoS ₂ as dry lubricant, anti-seizure property	100	6.000	200	20	40	60	0,5	1	-	-	-	-	5		100	120		1.3-1.4	400

(1) The flexural strength measured at 150°C ± 3K must not be less than 50% of the defined value
 (2) The flexural strength measured at 130°C ± 3K must not be less than 50% of the defined value
 (3) At 90 °C in oil
 (4) With zero-halogen flame retardant
 (5) After 96 h pretreatment in air at 105°C ± 5K directly prior to testing and immediate immersion in the hot oil
 (6)  UL- listed file E307596

xxxx Minimum requirements of DIN EN 60893
 xxxxx Typical values, general recommended values, which must not be used as standard values

Resin	Substrate	Weave types for polyester and cotton substrate materials	
EP Epoxy	CC Woven cotton cloth	Coarse weave	Mass per unit area > 130 g/m ² No. of threads ≤ 30 per cm
MF Melamine	CP Cellulose paper	Fine weave	≤ 130 g/m ² > 30 per cm
PF Phenolic	GC Woven glass cloth	Very fine weave	≤ 125 g/m ² > 38 per cm
	AC Acrylic cloth		