

Datasheet Insulation Materials - Sheets																			
	Material			Availability		Electrical Properties											Thermal Properties		
	Characteristic property applications	Resin	Substrate	Sizes	Thickness	Impact strength Charpy or Izod	Shear strength parallel	Tensile strength	Dielectric strength perpendic at 90 °C in oil (thickness 3 mm)	Dielectric strength parallel at 90 °C in oil	Permittivity 50 Hz	Permittivity 1 MHz	Dissipation factor 50 Hz	Dissipation factor 1 MHz	Insulation resistance	Proof tracking index	Comparative tracking index	Thermal endurance	Flammability
DIN EN 60893-2						5.4.2/5.4.3	5.5	5.6	6.1.3.1	6.1.3.2	6.2	6.2	6.2	6.2	6.3	6.4	6.4	7.1	7.2
Test Standard						ISO 179/3C	VDE 0318/2	ISO 527-4	IEC 60243-1	IEC 60243-1	IEC 60250	IEC 60250	IEC 60250	IEC 60250	IEC 60167	IEC 60112	IEC 60112	IEC 60216	IEC 60707
Unit				mm	mm	kJ/m ²	MPa	MPa	kV/mm	kV				MΩ	V	V	T.I.	Category	
Min/Max						Min	Min	Min	Min	Min	Max	Max	Max	Max	Min	Min	Min	Min	
AS EP CC 201	Epoxy-laminated cotton cloth, CTI 600, fine weave	Epoxy	Woven cotton cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	6	10	10	5	35	5.3	5.3	0.04	0.04	1.000	-	600	130	-
AS EP CP 201	Epoxy-laminated cellulose paper, UL 94 V-0	Epoxy	Cellulose paper	1050x1020, 1050x2150 and 1250x2800	0.1-360	0	0	80	13	35	5	5	0.05	0.05	10.000	-	100	110	V-0
AS EP PC 301	Epoxy-laminated polyester fiber cloth, SF6-resistant	Epoxy	Polyester fiber	1050x1020, 1050x2150 and 1250x2800	0.1-360	55	12	135	10.2	45	5.3	5.3	0.05	0.05	100	-	380	130	-
AS EP GC 201	Electrical and mechanical applications, TC 130	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	42	30	300	10.2	45	5.5	5.5	0.04	0.04	50.000	-	200	130	-
AS EP GC 202	As type 201 but with combustibility according to UL 94 V-0	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	42	30	300	10.2	45	5.5	5.5	0.04	0.04	50.000	-	200	130	V-0 ⁽⁴⁾
AS EP GC 203	As type 201 but with TC 155	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	50	30	300	10.2	45	5.5	5.5	0.04	0.04	50.000	-	180	155	-
AS EP GC 204	As type 203 but with combustibility according to UL 94 V-0	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	50	30	300	10.2	45	5.5	5.5	0.04	0.04	50.000	-	180	155	V-0
AS EP GC 205	As type 203 but with heavyweight roving as substrate	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	70	20	300	9	45	5.5	5.5	0.04	0.04	10.000	-	180	155	-

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AS EP GC 306	As type 203 but tracking-resistant, CTI 600	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	50	30	300	10.2	45	5.5	5.5	0.04	0.04	50.000	500	600	155	-
AS EP GC 307	As type 306 but with heavyweight roving as substrate 3	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	70	20	300	9	45	5.5	5.5	0.04	0.04	10.000	500	600	155	-
AS EP GC 308	As type 203 but with TC 180	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	50	30	300	10.2	45	5.5	5.5	0.04	0.04	50.000	-	180	180	-
AS EP GC 309	As type 201 but with defined flexural strength at 130 °C	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	42	30	300	10.2	45	5.5	5.5	0.04	0.04	50.000	-	200	130	-
AS EP GC 310	As type 202 but with zero-halogen flame retardant, V-0	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	42	30	300	10.2	45	5.5	5.5	0.04	0.04	50.000	-	200	130	V-0
AS EP GC 311	As type 204 but with zero-halogen flame retardant, V-0	Epoxy	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	50	30	300	10.2	45	5.5	5.5	0.04	0.04	50.000	-	180	155	V-0
AS MF CC 201	Resistant to arcs and tracking	Melamine	Woven cotton cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	3	8	60	4	15	8	8	0.03	0.03	10	500	500	130	V-0
AS MF GC 201	Resistant to arcs and tracking	Melamine	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	35	12	150	5	15	7.5	7.5	0.02	0.02	100	500	500	130	V-0
AS PF CP 201	Mechanical applications	Phenolic	Cellulose paper	1050x1020, 1050x2150 and 1250x2800	0.1-360	-	10	120	-	-	-	-	-	-	-	-	100	120	-
AS PF CP 202	High-voltage grade for mains frequency in oil	Phenolic	Cellulose paper	1050x1020, 1050x2150 and 1250x2800	0.1-360	-	10	100	13	60 ⁽³⁾	-	5.5	-	0.05	-	-	100	120	-
AS PF CP 203	Electrical applications at normal humidity	Phenolic	Cellulose paper	1050x1020, 1050x2150 and 1250x2800	0.1-360	-	10	100	8.4	15	-	5.5	-	0.05	50	-	100	105	-
AS PF CP 204	Stable electrical properties at high humidity	Phenolic	Cellulose paper	1050x1020, 1050x2150 and 1250x2800	0.1-360	-	20	70	8.4	25	-	5.5	-	0.05	10.000	-	100	105	-
AS PF CP 205	As type 204 but with flame retardant, V-1	Phenolic	Cellulose paper	1050x1020, 1050x2150 and 1250x2800	0.1-360	-	20	60	8.4	20	-	5.5	-	0.05	1.000	-	100	100	V-1
AS PF CP 206	Stable electrical properties at high humidity	Phenolic	Cellulose paper	1050x1020, 1050x2150 and 1250x2800	0.1-360	-	20	70	7.7	25	-	6	-	0.05	1.000	-	100	105	-
AS PF CP 207	Cold-punching grade	Phenolic	Cellulose paper	1050x1020, 1050x2150 and 1250x2800	0.1-360	-	10	100	-	-	-	-	-	-	-	-	100	105	-
AS PF CP 308	As type 206 but with flame retardant, V-1	Phenolic	Cellulose paper	1050x1020, 1050x2150 and 1250x2800	0.1-360	-	20	70	7.7	25	-	6	-	0.05	1.000	-	100	100	V-1
AS PF CC 201	Mechanical applications, coarse weave	Phenolic	Woven cotton cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	8	25	80	0.5	1	-	-	-	-	1	-	100	120	-
AS PF CC 202	Mechanical and electrical applications, coarse weave	Phenolic	Woven cotton cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	7	20	60	3	20	5.5	-	-	-	50	-	100	120	-
AS PF CC 203	Mechanical applications, fine weave	Phenolic	Woven cotton cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	7	25	85	0.5	1	-	-	-	-	1	-	100	120	-
AS PF CC 204	Mechanical and electrical applications, fine weave	Phenolic	Woven cotton cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	6	20	80	4	20	5.5	-	-	-	50	-	100	120	-
AS PF CC 305	Mechanical and electrical applications, very fine weave	Phenolic	Woven cotton cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	6	20	80	0.89	1	-	-	-	-	1	-	100	120	-
AS PF GC 201	Phenolic-laminated glass cloth	Phenolic	Woven glass cloth	1050x1020, 1050x2150 and 1250x2800	0.1-360	30	-	100	5.7	20	5	-	-	-	100	-	100	120	-

Standard types according to DIN EN 60893.

Sheets made from industrial laminated materials.

Value: Minimum requirements of DIN EN 60893.

Value: Typical values, general recommended values, which must not be used as standard values.

(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): After 96 h pretreatment in air at 105 °C ± 5K directly prior to testing and immediate immersion in the hot oil.

(4): UL- listed file E307596.