HGW 2083

PHENOLIC COTTON / PF CC 203

Material description

HGW 2083 consists of the finest cotton fabric sheets in combination with phenolic resins. This thermoset is of the mechanically highest quality on this material basis. It is ideally suited for the production of highly stressed parts in precision mechanics and drive technology.

Conformities

RoHS, REACH

Physical properties	Test method	Value	Unit
Density	DIN EN ISO 1183-1	1.4	g/cm3
Water absorbtion	DIN 53495	120	mg
Sliding friction		◑	
Abrasion resistance		◑	

Mechanical properties	Test method	Value	Unit
Tensile strength	DIN 53455	100	MPa
Modulus of elasticity from bending test	ISO 178	7000	MPa
Bending stress at fracture perpendicular to the layer direction	ISO 178	110	MPa
Shear strength parallel to the layer direction	VDE 0318/2	25	MPa
Notched impact strength (Charpy) parallel to the layer direction	DIN 53453	12	kJ/m2
Compressive strength parallel to the direction of layering	DIN 53454	170	MPa

Thermal properties	Test method	Value	Unit
Thermal conductivity	DIN 52612-2	0.2	W/(m*K)
Coefficient of linear expansion	VDE 0304/2	20-40	10^{-6*K}-1
Thermal endurance	VDE 0304/2	110	°C

Electrical properties	Test method	Value	Unit
Dielectric strength at 90°C in oil perpendicular to laminations	IEC 60243-1	0.5	kV/mm
Breakdown voltage at 90°C in oil parallel to laminations	IEC 60243-1	1	kV
Comparative tracking index (CTI)	IEC 60112	100	CTI

These technical data have been determined as average values by our suppliers from many individual measurements. In all measurements, the test specimens were tested in the dry state. We pass on the data with reservation. The table does not claim to be complete or correct. Material technology is subject to constant further development. No rights or guarantees can be derived from it. Own tests are necessary because the environmental and operating conditions (humidity, temperature, mechanical forces, radiation and chemicals, etc.) set limits in the application.

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