

ISOVAL[®] 200

High temperature resistant epoxy laminate with excellent mechanical and thermal properties at very high temperatures according to the following international standards:

IEC 893	EP GC 203, EP GC 308
DIN 7735	Hgw 2372.4
NEMA LI 1	G11
B 3953	EP 5, EP 7

Composition

ISOVAL[®] 200 is prepared from glasscloth impregnated with the high temperature resistant version of the ISOVAL[®] epoxy system. Laminates exhibit excellent thermal and chemical resistance as well as high mechanical strength at very high temperatures.

Application

ISOVAL[®] 200 can be used as a high quality construction material as well as an electric and thermal insulation material in various machines and equipments, especially in those areas, where high operating temperatures are coupled with high mechanical strength requirements. The extremely good flexural and compressive strength at high temperature enable also application in those areas that traditionally could only be covered by polyimides. The excellent chemical resistance makes ISOVAL[®] 200 an ideal construction material in the chemical industry.

Machining recommendation

Due to the strength and hardness of the laminate and also the high glass content the tools used can be subject to a great degree of abrasion. We therefore advise that only diamond carbide tipped tools and high speed machinery are used.

Technical Data

Values in the table are mean values of our production. Values according to the standards are guaranteed.

Properties	Testmethod	Unit	Value
Density	ISO 1183 / A	g/cm ³	approx. 2.0
Flexural strength at 23 / 150 / 180°C	ISO 178	MPa	450 / 250 / 150
Flexural modulus of elasticity	ISO 178	MPa	approx. 24000
Impact strength (Charpy) parallel to laminations	ISO 179/3 C	kJ/m ²	33
Tensile strength	ISO 527	MPa	240
Compressive strength perpendicular to laminations 23 / 180 / 220 °C	ISO 604	MPa	500 / 350 / 300
Insulation resistance after immersion in water	IEC 167	Ohm	10 ¹²
Electric strength at 90°C in oil perpendicular to laminations (thickness 3mm)	IEC 243	kV/mm	13
Breakdown voltage at 90°C in oil parallel to laminations	IEC 243	kV	60
Permittivity at 50 Hz and 1 MHz	IEC 250	-	5.5
Dissipation factor at 50 Hz and 1 MHz	IEC 250	-	0.04
Comparative tracking index	IEC 112	-	CTI 180
Thermal endurance	IEC 216	T.I.	200
Water absorption (thickness 10mm)	ISO 62 / 1	mg	20
Thermal conductivity	DIN 52612	W/mK	0.3
Linear coefficient of expansion	VDE 0304/2	1/K	1.3 x 10 ⁻⁵
Weight increase after 1000 h stored in Freon	ISO 62 / 1	%	0.1
High energy radiation resistance	IEC 544	Gy	10 ⁸
Flexural strength after 1000 h at 100 °C in oil	ISO 178	MPa	400

Availability

Thickness: 0,2 - 100 mm
 Tolerances according IEC 60893
 Sheet size: 2140 x 1040 mm (up to 60 mm thickness)
 1040 x 1040
 Tolerances +30/-0 mm
 Colour: green
 Machined parts and cuttings are available on request.