

ISOVAL[®] R

Temperature resistant epoxy laminate with excellent mechanical properties at elevated temperatures according to the following international standards:

IEC 60893	EP GC 205
DIN 7735	Hgw 2370.4

Composition

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

Application

ISOVAL[®] R can be used as a high quality construction material as well as an electric or thermal insulation material for large parts in various machines and equipments, especially for those areas where high operating temperatures are coupled with high mechanical strength requirements.

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°C / 150°C	ISO 178	MPa	400 / 200
Flexural modulus of elasticity	ISO 178	MPa	approx. 20000
Impact strength (Charpy) parallel to laminations	ISO 179/3 C	kJ/m ²	50
Tensile strength	ISO 527	MPa	240
Compressive strength perpendicular to laminations 23 / 180 °C	ISO 604	MPa	500 / 350
Insulation resistance after immersion in water	IEC 167	Ohm	5.10 ¹⁰
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	50
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.	180
Water absorption (thickness 10 mm)	ISO 62/1	mg	30
Thermal conductivity	DIN 52612	W/mK	0.3
Linear coefficient of expansion	VDE 0304/2	1/K	1.3 x 10 ⁻⁵

Availability

Thickness: 1 - 100 mm, tolerances acc. DIN 40606
Sheet size: 1040 x 1040 mm
2140 x 1040 mm (for thicknesses up to 80 mm)
2800 x 1220 mm (for thicknesses up to 30 mm)
tolerances +30/-0 mm
Colour: brown
Machined parts and cuttings are available on request.