ISOVAL® R

ISOVAL® R is in accordance with the following international standard:
IEC 60893 EP GC 205

Composition
ISOVAL® R is prepared from glass roving 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 equipment's, especially for those areas where high operating temperatures are coupled with high mechanical strength requirements.

Availability

Thickness:	1 - 160 mm	Thickness tolerances acc. DIN 40606
Standard sheet size:	2140 +30/-0 mm x 1040 +30/-0 mm 2140 +30/-0 mm x 1220 +30/-0 mm 2800 +30/-0 mm x 1220 +30/-0 mm (1 to 130 mm thickness) 1590 -10/+20 mm x 1220 +30/-0 mm (1 to 50 mm thickness) 1590 -10/+20 mm x 1040 +30/-0 mm (1 to 50 mm thickness) Machined parts and cuttings are available on request.	
Color:	brown	

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.

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Company No.: J40/3749/1999 | Commercial register: Bucharest | VAT: RO 117 03 677

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TECHNICAL DATA

Values in the table are mean values of our production. Values according to the standard IEC 60893 are guaranteed.

Properties	Norm	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
Charpy impact strength parallel to laminations	IEC 60893-2	kJ/m^2	70
Tensile strength	ISO 527	MPa	240
Compressive strength perpendicular to laminations 23 / 180 °C	ISO 604	MPa	500 / 350
Compressive strength parallel to laminations 23 °C	ISO 604	MPa	180
Splitting Force	DIN 53463	N	3000
Insulation resistance after immersion in water	IEC 60167	Ohm	10^{10}
Electric strength at 90°C in oil perpendicular to laminations (thickness 3mm)	IEC 60243	kV/mm	13
Breakdown voltage at 90°C in oil parallel to laminations	IEC 60243	kV	45
Permittivity at 50 Hz and 1 MHz	IEC 60250	-	5.5
Dissipation factor at 50 Hz and 1 MHz	IEC 60250	-	0.04
Comparative tracking index	IEC 60112	-	CTI 180
Thermal index	IEC 60216	°C	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	1.3×10^{-5}

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