

ISOVAL[®] FR5-HF

ISOVAL[®] FR5-HF is in accordance with the following international standards:

IEC 60893	EP GC 204
DIN 7735	Hgw 2372.2
NEMA LI 1	PR 5
BS 3953	EP-6

Composition

ISOVAL[®] FR5-HF is a halogen free epoxy glass laminate with a limiting temperature > 180°C and good mechanical and electrical properties.

Toxicity

ISOVAL[®] FR-5 HF is free of halogens, antimony, nitrogen, phosphor and sulfur.

Corrosiveness

According to VDE 0472/ part 813 the conflagration gases of ISOVAL[®] FR5 - HF are non-corrosive.

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 / 180°C / 200°C	ISO 178	MPa	450/320/200/120
Flexural modulus of elasticity	ISO 178	MPa	approx. 22000
Tensile strength	ISO 527	MPa	240
Compressive strength perpendicular to laminations 23 / 180 °C / 200°C	ISO 604	MPa	650 / 400 / 360
Impact strength (Charpy) parallel to laminations	ISO 179/3 C	kJ/m ²	33
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	40
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 200
Thermal endurance	IEC 216	T.I.	180
Flammability (3 mm laminate)	UL 94	-	V0
LOI (limiting oxygen index)	ASTM-D 2863/91	-	> 88
Smoke density: 1,5 mm laminate Dsa 90"	ASTM-E 662	-	1
Smoke density: 1,5 mm laminate Dsa 4'	ASTM-E 662	-	3

Availability

Thickness: 1 - 100 mm, tolerances according IEC 60893

Standard sheet size: 1040 x 1040 mm
 2140 x 1040 mm (up to 60 mm thickness)
 tolerances +30/-0 mm

Colour: blue

Machined parts and cuttings, other sheet sizes and thicknesses are also available upon request.