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# SPIndulam Epoxy G11 F

Glass Fibre Epoxy Sheets  
Temperature Class F (155°C)

### Properties:

Spindulam Epoxy is made of epoxy-glass-sheets, which have high electrical resistance combined with excellent mechanical strength.

### Application:

The Sheets can be used for various insulating Parts for electrical machines.

Properties	Test method	Unit	Value
Density	ISO 1183 / A	g/cm <sup>3</sup>	approx. 2,0
Flexural strength at 23 / 100 / 120 150 / 180°C	ISO 178	MPa	400 / 320 / 300 220 / 100
Flexural modulus of elasticity	ISO 178	MPa	approx. 24 000
Impact strength (Charpy) parallel to laminations - with notch - without notch	ISO 179/3 C	kJ/m <sup>2</sup>	50 100
Tensile strength	ISO 527	MPa	240
Compressive strength perpendicular to laminations 23 / 180 °C	ISO 604	MPa	500 / 350
Compressive strength parallel to laminations	ISO 604	MPa	150
Insulation resistance after immersion in water	IEC 167	Ohm	10 <sup>12</sup>
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
Pemittivity 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	20
Thermal conductivity	DIN 52612	W/mK	0,3
Linear coefficient of expansion	VDE 0304/2	1/K	1,3 x 10 <sup>-5</sup>
Weight increase after 1000 h stored in Freon	ISO 62 / 1	%	0,1
High energy radiation resistance	IEC 544	Gy	108
Flexural strength after 1000 h at 100 °C in oil	ISO 178	MPa	400

The given Information is based on Test results that have been done with the necessary care and according to actual standards. The user is responsible for correct use in specific applications. Results may vary and are only indicators.