

G11 glassfiber woven epoxy



Glassfiber woven epoxy G11 is a glassfiber laminate consisting of a woven fiberglass fabric impregnated with an epoxy resin binder for applications up to 180°C with very good thermal, mechanical and electrical properties.

Excellent for machining where high mechanical strength is sought.



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Typical applications

High temperature Glassfiber epoxy G11 is suitable for a broad range of applications within the electrical and mechanical fields such as spacers, mechanical barriers, electrical insulation components/spacers, etc.

The typical value for the coefficient of linear expansion is 10.

Properties

- Very low moisture absorption.
- High heat resistance up to 180°C without major impact on the mechanical properties.
- Resistant against most impregnation varnishes.
- Very good dielectric properties.

Dimensions and weight

In addition to the stocked dimensions listed below, G11 is also available in sizes 2040 +/- 25mm x 1020 +/-15mm, with thickness from 0.2–100 mm. We offer these sizes as an order item on request.

Composition

Layers of woven fiberglass fabric impregnated with epoxy resin binder. Compressed and cured under high pressure and temperature to comply with defined industry standards.

Colours

Come in light green, yellow and brown hue colours.

Norms

G11 glassfiber woven epoxy is compliant with:

- EPGC 308 class H 180°C.
- EPGC203, stocked type with good mechanical properties up to 180°C.

Packaging

Sold individually.

We deliver machined G11 according to specification on request.

Item number	Description	Dimensions L x W (mm)	Tolerances +/- (mm)	Thickness (mm)	Tolerances +/- (mm)	Weight/sheet ca (kg)	Unit
125338	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	0.2	0.05	0.4	pc
125339	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	0.3	0.07	0.6	pc
125340	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	0.5	0.12	1	pc
113255	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	1	0.18	2	pc
125341	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	1.5	0.24	3	pc
125342	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	2	0.28	4	pc
113254	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	3	0.37	6	pc
125343	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	4	0.45	8	pc
125344	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	5	0.52	10	pc
125345	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	6	0.6	12	pc
125346	G11 glassfiber woven poxy EPGC203	1020 x 1020	15	8	0.72	16	pc

Technical data

G11 sheets compliant with norm EPGC 203

Thickness 0.2–100 mm. Thermal endurance test T.I. 155°C, for applications up to 180°C.

Properties	Value	Unit
Mechanical properties		
Density	1.7–1.9	g/cm ³
Flexural strength perpendicular at +20°C	350	N/mm ²
Flexural strength perpendicular at +155°C	175	N/mm ²
Flexural modulus of elasticity	24 000	N/mm ²
Compressive strength perpendicular	350	N/mm ²
Tensile strength	>250	N/mm ²
Impact strength parallel to laminations	>33	kJ/m ²
Water absorption (thickness 3 mm)	22	mg
Thermal properties		
Temperature endurance (Temperature index)	155	T.I
Working temperature	≤180	°C
Electrical properties		
Dielectric strength at 90°C in oil perpendicular (for 3 mm)	11.5	kV
Dielectric strength at 90°C in oil parallel	35	kV/25 mm
Creep voltage strength	180	CTI
Insulation resistance after immersion in water	>5x10 ⁸	Ω
Dielectric constant at 1 Mhz	5.5	-
Dissipation factor (tan d) at 50Hz, 1 MHz	0.04	-

G11 sheets compliant with norm EPGC 308

For sheet thickness 0.5–30 mm. Thermal endurance test T.I. 180°C (Class H) Non stock order item.

Properties	Value	Unit
Mechanical properties		
Density	1.9	g/cm ³
Flexural strength perpendicular at +20°C	340	N/mm ²
Flexural modulus of elasticity	24 000	N/mm ²
Compressive strength perpendicular	350	N/mm ²
Tensile strength	300	N/mm ²
Impact strength parallel to laminations	33	kJ/m ²
Water absorption (thickness 3 mm)	22	mg
Thermal properties		
Temperature endurance (Temperature index)	180	T.I
Working temperature	180	°C
Electrical properties		
Dielectric strength at 90°C in oil perpendicular (for 3 mm)	40	kV
Dielectric strength at 90°C in oil parallel	40	kV/25 mm
Creep voltage strength	180	CTI
Insulation resistance after immersion in water	5x10 ⁴	MΩ
Dielectric constant at 1 Mhz	5.5	-
Dissipation factor (tan d) at 50Hz, 1 MHz	0.04	-

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