

# 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
<b>Mechanical properties</b>		
Density	1.7–1.9	g/cm <sup>3</sup>
Flexural strength perpendicular at +20°C	350	N/mm <sup>2</sup>
Flexural strength perpendicular at +155°C	175	N/mm <sup>2</sup>
Flexural modulus of elasticity	24 000	N/mm <sup>2</sup>
Compressive strength perpendicular	350	N/mm <sup>2</sup>
Tensile strength	>250	N/mm <sup>2</sup>
Impact strength parallel to laminations	>33	kJ/m <sup>2</sup>
Water absorption (thickness 3 mm)	22	mg
<b>Thermal properties</b>		
Temperature endurance (Temperature index)	155	T.I
Working temperature	≤180	°C
<b>Electrical properties</b>		
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 <sup>8</sup>	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
<b>Mechanical properties</b>		
Density	1.9	g/cm <sup>3</sup>
Flexural strength perpendicular at +20°C	340	N/mm <sup>2</sup>
Flexural modulus of elasticity	24 000	N/mm <sup>2</sup>
Compressive strength perpendicular	350	N/mm <sup>2</sup>
Tensile strength	300	N/mm <sup>2</sup>
Impact strength parallel to laminations	33	kJ/m <sup>2</sup>
Water absorption (thickness 3 mm)	22	mg
<b>Thermal properties</b>		
Temperature endurance (Temperature index)	180	T.I
Working temperature	180	°C
<b>Electrical properties</b>		
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 <sup>4</sup>	MΩ
Dielectric constant at 1 Mhz	5.5	-
Dissipation factor (tan d) at 50Hz, 1 MHz	0.04	-

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