Carbex inside



GLASS WOVEN EPOXY G11

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.

- ***Compliant with: EPGC308 Class H 180°C***
- ***Compliant with: EPGC203, Stocked type with good mechanical properties up to 180°C***
- ***Very good thermal properties***
- ***Very good electrical properties***
- ***Very good mechanical properties***

PRODUCT INFORMATION

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.

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

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

- Light green, yellow and brown hue

Dimensions

- Sheets in dimensions 1020 x 1020 +/- 15mm (stocked sizes)*
- Sheets in dimensions 2040 +/- 25mm x 1020 +/-15mm (non stock order items)*
- Thicknesses 0.2mm, 0.3mm, 0.5mm, 1mm, 1.5mm, 2mm, 3mm, 4mm, 5mm, 6mm, 8mm (stocked dimensions)*
- Sheets manufactured in thicknesses 0.2mm – 100mm*
- We deliver machined G11 according to specification on request

Packaging

- Sold individually

* Machined G11 or non stock dimensions and thicknesses on request

Product information for which Carbex bears no responsibility is provided by the manufacturer.

GLASS WOVEN EPOXY G11

Technical data

For sheet thickness 0.5 - 30 mm Thermal endurance test T.I. 180°C (Class H)
Non stock order items
Epoxy G11 compliant with norms: EPGC 308

Properties

Mechanical	***Value***	***Unit***
Density	1.9	g/cm³
Flexural strength perpendicular at +20°C	340	N/mm²
Flexural modulus of elasticity	24000	N/mm²
Compressive strength perpendicular	350	N/mm²
Tensile strength	300	N/mm²
Impact strength parallel to laminations	33	kJ/m²
Water absorption (thickness 3mm)	22	mg
Thermal		
Temperature endurance (Temperature index)	180	T.I
Working temperature	180	°C
Electrical		
Dielectric strength at 90°C in oil perpendicular (for 3 mm)	40	kV
Dielectric strength at 90°C in oil parallel	40	kV/25mm
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	-

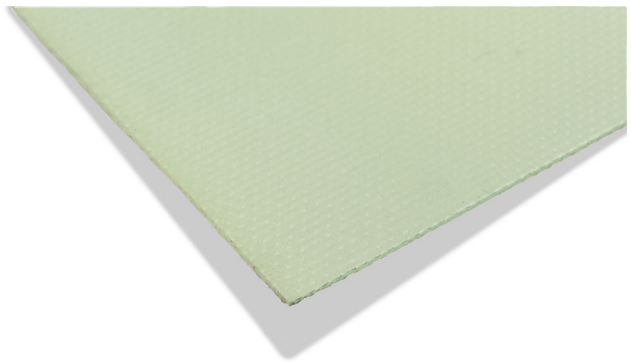
For sheet thickness 0.2 - 100 mm Thermal endurance test T.I 155°C, for Applications up to (180°C
Epoxy G11 compliant with norms: EPGC 203

Properties

Mechanical	***Value***	***Unit***
Density	1.7-1.9	g/cm³
Flexural strength perpendicular at +20°C	350	N/mm²
Flexural strength perpendicular at +155°C	175	N/mm²
Flexural modulus of elasticity	24000	N/mm²
Compressive strength perpendicular	350	N/mm²
Tensile strength	>250	N/mm²
Impact strength parallel to laminations	>33	kJ/m²
Water absorption (thickness 3mm)	22	mg
Thermal		
Temperature endurance (Temperature index)	155	T.I
Working temperature	180	°C
Electrical		
Dielectric strength at 90°C in oil perpendicular (for 3 mm)	11.5	kV/mm
Dielectric strength at 90°C in oil parallel	35	kV/25mm
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	-

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Item number	Type	Dimensions L x B mm	Tolerances +/- mm	Thickness mm	Tolerances +/- mm	Weight ca/sheet kg	Base unit
031010002	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	0.2	0.05	0,4	ST
031010003	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	0.3	0.07	0,6	ST
031010005	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	0.5	0.12	1	ST
031010010	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	1	0.18	2	ST
031010015	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	1.5	0.24	3	ST
031010020	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	2	0.28	4	ST
031010030	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	3	0.37	6	ST
031010040	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	4	0.45	8	ST
031010050	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	5	0.52	10	ST
031010060	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	6	0.6	12	ST
031010080	Glass woven epoxy G11 EPGC203	1020 x 1020 mm	15	8	0.72	16	ST

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