

Technical Data Sheet EP GC 202 (Hgw 2372.1)

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Glass-fabric laminate with epoxy resin per EN 60893 / DIN 7735, high-strength and flame-retardant (FR-4)

Typical Properties

- Very high mechanical strength
- Low water absorption
- Flame-retardant (UL 94 V-0)
- Very good electrical insulation properties
- Thermoset laminate (dimensionally stable)
- Colour light green

Typical Industries

- PCB substrate and electronics manufacturing (FR-4)
- Electrical engineering and switchgear construction (medium voltage)
- Mechanical and plant engineering (high-strength insulating parts)
- Aerospace and rail technology (flame-retardancy requirement)
- Jig, fixture and tool making
- Test and measurement engineering

	Test Method	Unit	Value
Mechanical Properties			
Flexural strength	DIN 53452	MPa	500 (DIN 7735: 350)
Tensile strength	DIN 53455	MPa	350 (DIN 7735: 220)
Compressive strength	DIN 53454	MPa	330 (DIN 7735: 200)
Impact strength	DIN 53453	kJ / m ²	150 (DIN 7735: 100)
Notched impact strength	DIN 53453	kJ / m ²	78 (DIN 7735: 50)
Bond strength (splitting force)	DIN 53463	N	4400 (DIN 7735: 3000)
Modulus of elasticity	DIN 53452	MPa	21 · 10 ³ (DIN 7735: 18 · 10 ³)
Electrical Properties			
Surface resistivity	DIN 53482	Ω	5 · 10 ¹² (DIN 7735: 5 · 10 ¹⁰)
Electric strength / ⊥	DIN 53481	kV	75 / 60 (DIN 7735: 40 / 40)

	Test Method	Unit	Value
Dielectric loss factor	DIN 53483		0.02 (DIN 7735: 0.05)
Dielectric constant	DIN 53483		4.6 (DIN 7735: 5)
Comparative tracking index CTI	IEC 60112		220 (DIN 7735: 200)
Electrolytic corrosion	DIN 53489		AN 1.2 (DIN 7735: AN 1.4)

Thermal Properties

Limiting temperature	VDE 0304, T.21	°C	130
Thermal conductivity	DIN 52612	W / (m·K)	0.3
Coefficient of linear thermal expansion	VDE 0304	10 ⁻⁶ / K	10-20
Thermal class	VDE 0534		B

General Properties

Density	DIN 53479	g / cm ³	1.7-1.9
Water absorption (5 mm thickness)	DIN 53495	mg	30
Resistance to glow heat	DIN 53459		2a
Flammability	UL 94		V-0
Colour			light green

EP GC 202 (Hgw 2372.1 acc. to DIN 7735, widely known as "FR-4") is a glass-fabric-reinforced epoxy-resin laminate per EN 60893 / DIN 7735. It is characterised by very high mechanical strength, low water absorption and self-extinguishing fire behaviour (UL 94 V-0). The values stated comprise the minimum requirement acc. to DIN 7735 and the typical measured value; they are subject to the usual manufacturing tolerances and serve as an aid to material selection. They are not a legally binding warranty of specific properties. EP GC 202 is not declared for direct food contact.