



GRADE 6G/92

SRBGF Material
Synthetic Resin Bonded
Glass Fabric

Polyimide Glass Fabric laminate
Glass fibre/polyimide resin laminated plastic

SRBF Material. GRADE 6G/92.

High performance laminate for high temperature applications.

High performance laminate for high temperature applications. TUFNOL Grade GG/92 is specially formulated for applications requiring excellent mechanical strength and insulation properties at elevated temperatures. It is a strong, rigid material, with good dimensional stability and moisture resistance and good electrical properties. It is resistant to a wide range of working environments and exhibits good thermal endurance properties at temperatures up to 250°C.

This grade is suitable for many applications requiring resistance to temperatures of 200°C to 250°C or short-term exposure to slightly higher temperatures. It is naturally fairly flame retardant and can be readily machined into finished components, using standard machine tools with techniques similar to those used for machining epoxy glass materials.

What is TUFNOL Grade 6G/92 used for?

Tufnol polyimide glass laminate is widely used throughout industry, particularly in the aircraft industry, as electrical insulation and in industrial machinery where high temperatures are required. Applications in general engineering range from heat barriers on plastic injection moulding machines, to support assemblies on diesel engine exhaust systems. It is also used for certain high temperature applications where asbestos based materials were previously used. Typical examples are:

- Sealing rings in high temperature chemical plant
- Components on equipment for use in microwave ovens
- Terminal plates for high temperature strain gauges
- Aircraft components, such as high temperature insulation on jet engines
- Electrical insulation fixtures for high temperature testing of solid state devices
- Scraper blades in high temperature processing

Types available

Sheets	
Natural colour (dark brown) only.	Yes*

*or in machined components made from sheet

Specifications for GRADE 6G/92

British Standards	Current Standards	Recent Standards (now obsolete)
Sheet	BS EN 60893-3-7 Type Pl GC 301	BS 3953 Type Pl-1
Rod from Sheet	BS EN 60893-3-7: 2009 Pl GC 301	-



Physical Properties

Property	Typical Result	Units
Cross breaking strength	570	MPa
Cross breaking strength at 200°C (after 1 hour at 200°C)	470	-
Cross breaking strength at 200°C (after 100 hours at 200°C)	430	-
Impact strength, notched, Charpy	100	kJ/m ²
Water Absorption		
- 1.6mm thk.	30	mg
- 3mm thk.	32	mg
- 6mm thk.	38	mg
- 12mm thk.	45	mg
Electric strength, flatwise in oil at 90°C		
- 1.6mm thk.	17	MV/m
- 3mm thk.	11	MV/m
Electric strength, edgewise in oil at 90°C	60	kV
Insulation resistance after immersion in water	5 x 10 ¹⁰	ohms
Loss tangent at 1 MHz	0.005	-
Permittivity at 1 MHz	4.8	-
Comparative tracking index	800	-
Flammability category	FV1*	-
Relative density	1.85	-
Glass transition temperature T _g	260	°C
Maximum working temperature**	250	°C

Test methods as BS EN 60893-2, where applicable.

*This flammability category is applicable to sheets of nominal thickness 3mm and above.

**Prolonged exposure of resin-bonded materials to high temperature always reduces properties over time. Users of highly stressed components at temperatures approaching the maximum are recommended to seek further advice from Tufnol Composites Ltd.

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Reliability in the field of engineering plastics & composites.

Tufnol is the byword for quality in laminated plastics and resin based materials for engineering applications. It was invented here in the UK and its development to meet modern engineering demands continues to keep it abreast of 21st century technology.

This type of material is known as 'synthetic resin bonded laminated plastic', and is made from layers of paper, cotton cloth or woven glass fibre cloth, dipped in resin, then compressed and bonded together in a hot press. It is a strong, hard material, made in a number of different grades with varying properties and uses.

Tufnol's reliability is key to the many sectors of engineering industry in which it serves.

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Tufnol warrants the materials it produces will conform to Tufnol specifications. It is entirely the customer's responsibility to make the final product choice and satisfy themselves of the suitability of the product for the intended application and carrying out testing where required. Tufnol does not warrant the conformity of its materials to these properties or the suitability of its materials for any particular purpose.

The values are "typical only" and are based on test results generally in accordance with Test methods BS EN 60893-2, where applicable.