

TUFNOL Grade 10G/24

Phenolic Glass Fabric laminate

Glass fibre/phenolic resin laminated plastic with low smoke properties

(SRBGF - Synthetic Resin Bonded Glass Fabric)

For electromechanical applications.

TUFNOL Grade 10G/24 is a laminated plastic sheet material manufactured from modified phenolic resin with a woven glass fabric reinforcement.

It exhibits good electrical insulation, high mechanical strength and exceptionally good fire properties. It has excellent weather resistance and can be used in long-term applications in outdoor or marine environments.

Special Resin Formulation

The specially formulated resin of TUFNOL Grade 10G/24 gives exceptional performance in fire tests, over and above the properties found in standard phenolic materials. This results in controlled flammability, good resistance to ignition and excellent low smoke and toxicity values.

What is Grade 10G/24 used for?

This combination of properties makes TUFNOL Grade 10G/24 an ideal choice for many applications where the benefits of a high performance glass fibre laminate need to be combined with low smoke output and good fire resistance. Low smoke performance is particularly important in areas such as tunnels, underground facilities, offshore platforms and passenger transport vehicles, where escape from a fire may be restricted.

TYPES AVAILABLE	Sheets	Rods	Tubes	Other sections
Natural colour (dark brown)	Yes	No	No	No

Minimum order quantities may apply.

SPECIFICATIONS for TUFNOL Grade 10G/24**BRITISH STANDARDS****Current Standards****Recent Standards****(now obsolete)**

Sheet

BS EN 60893-3-4 Type PF GC 201

BS 3953 Type PF-2

with additional fire performance
properties, as shown below.

PHYSICAL PROPERTIES

TUFNOL Grade 10G/24 Sheet

PROPERTY	TYPICAL RESULT	UNITS
Cross breaking strength	350	MPa
Impact strength, notched, Charpy	50	kJ/m ²
Water Absorption		
- 3mm thick.	24	mg
- 12mm thick.	52	mg
Electric strength, edgewise in oil at 90°C	45	kV
Insulation resistance after immersion in water	in4x10 ¹⁰	ohms
Loss tangent at 1 MHz	0.020	-
Permittivity at 1 MHz	7.5	-
Relative density	1.90	-
Maximum working temperature**		
- continuous	150	°C
- intermittent	160	°C
Thermal classification	Class F	-

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

ADDITIONAL FIRE PROPERTIES

PROPERTY	TEST METHOD	TYPICAL RESULT
Flammability	BS 6334	Category FV0
	IEC 707	
	ISO 1642	
Fire propagation	BS 476	Fire Propagation Index, I=9.2 Subindex, i1=0.5
	Part 6	
Surface spread of flame	BS 476	Class 1
	Part 7	
Smoke emission	BS 6853	Ao(max) =146 3 metre cube flooring test
Combustion Toxicity Index	NES 713	0.45

Detailed results are available.

**Users of highly stressed components at temperatures approaching the maximum are recommended to seek further advice from Tufnol Composites Ltd.