

RLG1 - RLG3

SRBGF Material
Synthetic Resin Bonded
Glass Fabric

Polyimide Glass Fabric laminate
Glass fibre/polyimide resin laminated plastic

SRBF Material. RLG1-RLG3.

Strong, rigid laminated tubes.

TUFNOL Rolled Laminated epoxy glass fabric tubes have good mechanical strength, low water absorption and are resistant to weathering and to chemical attack by mild acids and alkalis. They are strong and rigid, with good bursting strength and excellent electrical insulation properties. Three grades are available:

- Grade RL G/1 is a strong, rigid material, with good moisture resistance and excellent electrical insulation properties. It has good dimensional stability and is resistant to a wide range of working environments. It may be used in Class B (130°C) electrical applications.
- Grade RL G/2 is similar to Grade RL G/1 and meets additional standards for flammability properties. It is a strong, rigid material, with good moisture resistance and excellent electrical properties. It has good dimensional stability and is resistant to a wide range of working environments. It is used in Class B (130°C) electrical applications.
- Grade RL G/3 is made with an epoxy resin which is specially formulated to give improved performance at raised temperatures. It is a strong, rigid material, with good moisture resistance and excellent electrical properties. It has good dimensional stability and is resistant to a wide range of working environments. It is used in Class F (155°C) applications.

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- RL G/1 is the main general purpose grade and the other two grades may be selected where their particular additional properties are required. Grade RL G/1 is used for a wide variety of applications where a strong, high performance insulating tube material is required. Typical uses include mechanical components or electrical insulation for machines operating at slightly raised temperatures and in electronic equipment or for insulation where high strength and very long life is required.
- RL G/2 is normally selected where the same type of tube is required, but with additional fire properties. Typical applications include electrical insulation for machines operating at slightly raised temperatures and in electronic equipment.
- RL G/3 is normally selected where a similar material is required but with the extra temperature capability of a Class F material. Typical applications include electrical insulation for machines operating at raised temperatures and in a wide range of electronic equipment.

Types Available

Tubes	
Grade RL G/1 - Natural colour	Yes
Grade RL G/2 - Natural colour	Yes
Grade RL G/3 - Natural colour	Yes

Minimum order quantities may apply.



Specifications for
RL Cotton Fabric
Tubes

British Standards	Current Standards	Recent Standards (now obsolete)
Grade RL G/1 tube	BS EN 61212-3-1 Type EP GC 21	BS 6128 Part 8 Type EP GC 81
Grade RL G/2 tube	BS EN 61212-3-1 Type EP GC 21 plus added flammability properties	BS 6128 Part 8 Type EP GC 81 (plus added flammability properties)
Grade RL G/3 tube	BS EN 61212-3-1 Type EP GC 22	BS 6128 Part 8 Type EP GC 81

Physical Properties

Property	GRADE RL G/1	GRADE RL G/2	GRADE RL G/3	Units
	Typical Result	Typical Result	Typical Result	
Axial compressive strength	200	200	220	MPa
Cohesion between layers	500	500	500	MPa
Water absorption	0.22	0.30	0.30	mg/cm ²
Insulation resistance after immersion in water	1 x 10 ¹⁰	1 x 10 ¹⁰	1 x 10 ¹¹	ohms
Loss tangent at 1 MHz	0.017	0.016	0.016	-
Permittivity at 1 MHz	4.6	4.7	4.7	-
Axial electric strength in oil at 90°C	70	-	-	kV
Electric strength normal to axis in oil at 90°C				
- 1.6mm thk.	12	-	-	MV/m
- 3mm thk.	9	-	-	MV/m
Flammability category	-	FV0	-	-
Relative density	1.80	1.80	1.80	-
Maximum working temperature**				
- continuous	120	120	120	°C

Test methods as BS EN 61212-2, where applicable.

*Note: Data on this grade is provisional and is based on a small number of tests.

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

SRBF Material. RLG 1-3.

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.