TUFNOL

BEAR BRAND

SRBF
Synthetic Resin Bonded Fabric

Cotton fabric based laminate
Medium weave cotton/phenolic resin
laminated plastic

SRBF Material.
BEAR BRAND.

For lubricated bearings.

Bear Brand TUFNOL is a cotton fabric grade specially formulated for use as a lubricated bearing material. It has enhanced wearing properties and dimensional stability and gives excellent performance in a multitude of bearing applications, using water as a lubricant, or more conventional oils or greases. The low water absorption properties allow reduced clearances in bearings and also provide enhanced electrical insulation properties.

What is Bear Brand used for?

Bear Brand is used for a wide range of wearing and bearing applications, such as oil or grease lubricated bearings, slideways, water lubricated marine bearings, pump sleeve bearings, seal rings, mixer bearings, slipper pads, rolling mill bearings, guide bushes and a wide variety of components which are lubricated by the water-based process fluids in which they operate.

Types available

	Sheets	Rods	Tubes	Other Sections
Natural colour	Yes	Yes	Yes	Yes
Graphite-impregnated Bear Brand	Yes*	Yes*	Yes*	Yes*
Molybdenum disulphide impregnated Bear Brand	Yes*	No	No	No

Specifications for BEAR BRAND

British Standards	Current Standards	Recent Standards (now obsolete)
Sheet	Since the withdrawal of BS 2572, no British Standards or other national standards are applicable to Bear Brand Tufnol. This grade is therefore now manufactured to in-house quality specifications of Tufnol Composites ltd, based on the former BS 2572 Type F2/1.	BS 2572 Type F2/1
Round Rod	BS EN 61212-3-3 Type PF CC 42	BS 6128 Part 2 Type PF CC 23
Rectangular Bar	BS 6128 Part 4 Type PF CC 44	
Hexagon Bar	BS 6128 Part 6 Type PF CC 64	
Round Tube	BS EN 61212-3-2 Type PF CC 32	BS 6128 Part 9 Type PF CC 93
Rectangular Tube	BS 6128 Part 13 Type PF CC 133	

Physical Properties

Property	Typical Result	Units
Cross breaking strength	110	MPa
Impact strength, notched, Charpy	11.0	kJ/m²
Compressive strength, flatwise	290	MPa
Compressive strength, edgewise	210	MPa
Shear strength, flatwise	100	MPa
Tensile strength	58	MPa
Young's modulus	6.6	GPa
Water Absorption		
- 3mm thk.	45	mg
- 6mm thk.	80	mg
- 12mm thk.	100	mg
Electric strength, flatwise in oil at 90°C		
- 3mm thk.	3.9	MV/m
- 6mm thk.	3.5	MV/m
Electric strength, edgewise in oil at 90°C	15	kV
Insulation resistance after immersion in water	5 x 1010	ohms
Loss tangent at 1 MHz	0.037	-
Permittivity at 1 MHz	5.1	-
Relative density	1.32	-
Maximum working temperature**		
- continuous	120	°C
- intermittent	130	°C
Thermal classification	Class E	-
Thermal conductivity through laminae	0.29	W/(mK)
Thermal expansion in plane of laminae	2.7	x 10-⁵/K
Specific heat	1.5	kJ/(kgK)

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

BEAR BRAND
Round Tube

Property	Typical Result	Units
Axial compressive strength	170	MPa
Cohesion between layers	110	MPa
Water absorption	2.0	mg/cm²
Insulation resistance after immersion in water	1 x 108	ohms
Relative Density	1.32	-

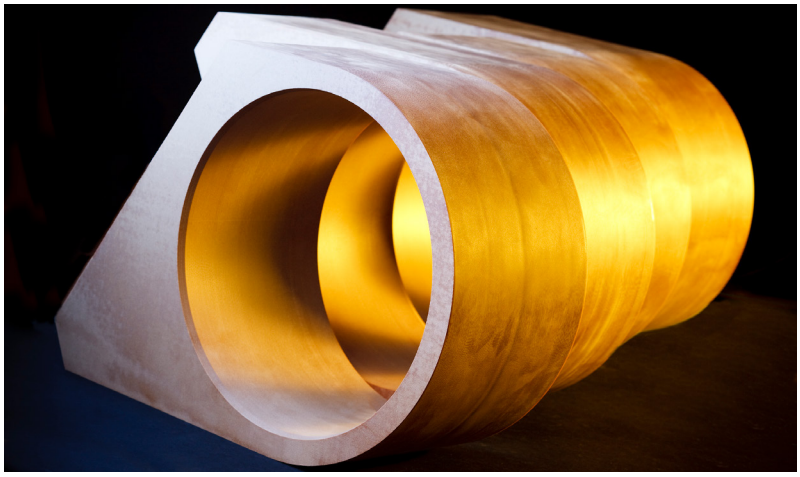
Test methods as BS EN 61212-2, where applicable.

BEAR BRAND
Round Rod

Property	Typical Result	Units
Flexural strength	110	MPa
Water absorption	2.0	mg/cm²
Insulation resistance after immersion inwater	5 x 107	ohms
Axial electric strength in oil at 90°C	6	kV
Relative density	1.32	-

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

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



SRBF Material.
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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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