

# DATASHEET

## 1P13 TUFNOL

1P13 Tufnol is a low-cost commercial paper-based laminate, produced to meet the need for an economical material where electrical requirements are moderate. As a good basic, low voltage insulation material, this grade has a higher mechanical strength than the other phenolic paper grades and a greater impact strength.

### Applications

- Engineering Parts
- Spacers
- Base Plates
- Jigs & Fixtures

### Availability

- Colour – Natural
- Type – Sheet, Rod & Tube
- Regularly produced in a wide variety of thicknesses

### Typical Properties

Property	Units	Result
Cross Breaking Strength	MPa	175
Impact Strength, Notched, Charpy	kJ/m <sup>2</sup>	3.9
Shear Strength, Flatwise	MPa	100
Tensile Strength	MPa	164
Young's Modulus	GPa	10.4
Water Absorption:		
- 1.6mm thick	mg	65
- 3mm thick	mg	80
- 6mm thick	mg	100
- 12mm thick	mg	150
Electric Strength, Flatwise in Oil at 90°C:		
- 1.6mm thick	MV/m	10
- 3mm thick	MV/m	6.2
- 6mm thick	MV/m	4.0
Electrical Strength, Edgewise in Oil at 90°C	kV	25
Insulation Resistance after Immersion in Water	ohms	5x10 <sup>8</sup>
Relative Density	-	1.36
Maximum Working Temperature:		
- Continuous	°C	90
- Intermittent	°C	120
Thermal Classification	-	Class E