

## Rigid Insulation

### Paper Bakelite (S.R.B.P)

#### GENERAL

Paper Bakelite are laminated sheets made from layers of paper using thermo-setting synthetic resin as the bonding medium. They are graded on the basis of their electrical properties.

#### P1 Paper Bakelite

It has excellent mechanical and adequate electrical properties. Suitable for low-tension, dry (no-humidity) applications.

**Applications:** Transformer and choke bobbins, tube-light ends and chokes, control panels, condenser mountings, and general insulation panels.

#### P1 Paper Bakelite - Cold Punching Grade

This has similar electrical properties to P1, however can be cold punched (20-25°C).

#### P2 Paper Bakelite

Combination of good electrical and mechanical properties. Especially suitable for the electrical industry for use in oil (transformers).

**Applications:** Used for Transformer covers, C.B. handles and side frames, distribution boards, and fuse holder bases, etc.

#### P3 Paper Bakelite

Good electrical and adequate mechanical properties, low water absorption, and suitable for high-tension electrical applications even under tropical conditions.

**Applications:** Transformer and choke bobbins for power-electronics. Relay spacers, HV transformer tap changers, grid covers, selector bank insulation, etc.

Physical	
Colour P1:	Natural or Black
Colour P2 & P3:	Natural Brown & Tan
P1 Cold Punching Grade:	Natural
Standard thicknesses P1/P2/P3:	0.8mm - 75mm
Standard thicknesses P1 cold punch:	0.8mm - 3.2mm
Standard sheet size:	2440mm x 1220mm

NOTE: P1 grade is also available in tubes from 4.75mm ID up to 250mm OD x 915mm long.

PROPERTIES:					
Paper Phenolic, Specification 2036-1974, Test method 1998-1962					
	Unit	P1	P2	P3	P1 C.P.
Tensile Strength (min)	kgf/cm <sup>2</sup>	840	700	560	700
Flexural strength (min)	kgf/cm <sup>2</sup>	1350	1350	850	1050
Shear strength (min)	kgf/cm <sup>2</sup>	775	700	625	625
Impact Strength (min) for 12.7mm width	kgf/cm <sup>2</sup>	4.14	3.45	2.07	3.15
Electric Strength					
Flatwise for 1.6mm thickness	kV	2	15	15	2
Edgewise	kV	2	15	20	2
Insulation Resistance (min)	M	1	50	2000	1
Water absorption for 1.6mm (max)	mg	216	140	29	200
Power factor (tan δ) at 1 MHz	-	-	-	0.045	-
Permittivity at 1 MHz	-	-	-	5.8	-
Punchability (Typical temp. thickness limit)	°C/mm(max)	Hot 80-100/3.2	Hot 80-100/3.2	Hot 100-120/3.2	Cold 20-25/3.2
Temperature Index	°C	110	110	110	110