

## Medium Weave Phenolic Sheet F2

Medium weave is a good, general purpose grade for mechanical applications. It has excellent all round physical properties with strength, good toughness and wear resistance. It is used for electrical insulation at low voltages only.

Medium weave is a most useful general purpose material and is the most popular grade for a wide range of mechanical applications and general uses, such as gears, spacers, jigs and fixtures, wear resistant components, low voltage insulation and many others.

### Physical Properties (indicative values)

GENERAL PROPERTIES	Test Method	Units	Value
Density	ISO 1183	g/cm <sup>3</sup>	1.9
Water absorption	ISO 62	mg	
1.6mm thick	ISO 62	mg	90
3mm thick	ISO 62	mg	105
6mm thick	ISO 62	mg	130
12mm thick	ISO 62	mg	160
MECHANICAL PROPERTIES			
Tensile Strength	ISO 527-4	MPa	92,48
Flexual Stress - Perpendicular to Laminate	ISO 178	MPa	129
Modulus of Elasticity in Flexure	ISO 178	MPa	6902
Impact Strength "Charpy" Parallel	ISO 173/3C	kJ/m <sup>2</sup>	22,46
Comp. Strength - Perpendicular	ISO 604	MPa	4.20
Shearing Strength - Parallel	VDE 0318/2	MPa	52,83
THERMAL PROPERTIES			
Maximum Working Temp.			
Continuous	-	°C	130
Short Term	-	°C	150
Thermal conductivity through laminate	ISO 22007.2	W/(mK)	0.32
Thermal expansion in plane of laminate	ISO 11359	x 10 <sup>-5</sup> /K	2.2
Specific Heat	-	KJ/(kgK)	1.5
Thermal Classification	-	-	Class E
ELECTRICAL PROPERTIES			
Electric Strength, Perpendicular in Oil at 90°C	IEC60243-1	Kv/mm	1,66
Breakdown Voltage at 90°C in Oil - Parallel	IEC 60243-1	Kv	5
Insulation Resistance after Immersion in Water	IEC 60167	Mohm	50,000
Comparative Tracking Index CTI	IEC 60112	CTI	150
Resistance after immersion in water	ISO 243	Ω	1x10 <sup>8</sup>

Operating temperature continuously 5000h. From 23°C upwards, the materials' features change in a non-uniform and disproportional way. The quoted limits are indicative and based on a tensile stress of 50% of the value at 23°C.

Operating temperature short period (no load).

The mechanical features decrease with a reduction in temperature and are also influenced by other factors (moisture, etc). The quoted values do not take into consideration impact conditions or heavy loads.

This table, is mainly to be used for comparison purposes. It's a valuable tool to help in the choice of material.

The data listed here falls within the normal range of product properties. However, they aren't guaranteed and shouldn't be used to establish material specification limits nor used alone as the basis of design.

#### Current British Standards

BS EN 60893-3-4 Type PF CC 305

**\*Testing & certification to these standards is subject to special enquiry. Standard quality testing is to British Standards.**

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