



**Engineering
Plastics**

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Typical Properties Data Sheet

The Supplier of Engineering Plastics
Rods, Sheets, Tubes, Profiles and Machining Parts

Ketonolic® Yellow FR4 Epoxy Fiber Glass Sheet & Rod Properties Data Sheet

①Raw material description

Standard grade	laminated grade	Appearance color	Yellow
Application	Sheet, plate, rods; chemical machinery parts, general machinery parts and gears, generators, pad, base, bezel, transformers, motors and electrical insulation components and so on.		
Characteristics	High mechanical properties and dielectric properties, good heat resistance and moisture resistance and good machinability.		

②Raw material technical data

Property item	Test conditions (status)	Testing method	Testing data	Unit
I. Physical Property				
Density	---	GB/IPC4101	2.0±0.2	g/cm ³
Water absorption	---	GB/IPC4101	0.07-0.16	%
Flammability class	---	UL94	V0	Class
II. Mechanical property				
Flexural strength	---	GB/IPC4101	40-50	Kg/mm ²
Impact strength	---	GB/IPC4101	150-180	Kg-cm/cm ²
Compression strength	---	GB/IPC4101	19-24	Kg/mm ²
Cleavability	---	---	450-500	kg
Bonding strength	---	GB/IPC4101	8.0-1.0	KN
Hardness-Rockwell	---	GB/IPC4101	120-125	R (Scale)
Hardness-Shore D	---	DIN 53505	96	D
III. Thermal property				
Heat deflection temperature(HDT/A)	---	GB/IPC4101	280	°C
Max.working temperture-short time	5S	GB/IPC4101	260	°C
Max.working temperture-long time	---	GB/IPC4101	160	°C
Vertical coefficient linear thermal expansion	RT~200°C	GB/IPC4101	1.7×10 ⁻⁴	1/°C
Parellel coefficient linear thermal expansion	RT~200°C	GB/IPC4101	9.2×10 ⁻⁶	1/°C
IV. Electrical Property				
Relative dielectric constant	50Hz	GB/IPC4101	≤5.5	---
Dielectric dissipation factor	50Hz	GB/IPC4101	≤0.04	---
Electric grinding resistance	---	GB/IPC4102	200-300	V (CTI)
Insulation resistance	---	GB/IPC4101	10" -5×10"	Ω
			10-5×10	
Volume resistance	---	GB/IPC4102	5×10" -10"	Ω-cm
			5×10" -10"	
Surface resistance	---	GB/IPC4103	5×10" -10"	Ω
			10" -5×10"	

The voltage resistance of vertical layer		GB/IPC4101	16	KV/mm
The voltage resistance of parallel layer		GB/IPC4101	10	KV/mm
Arc resistance	---	GB/IPC4101	120-140	sec

Note: $1 \text{ g/cm}^3 = 1,000 \text{ kg/m}^3$, $1 \text{ Mpa} = 1 \text{ N/mm}^2$, $1 \text{ kV/mm} = 1 \text{ MV/m}$

Statement:

Note:The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Quanda will not provide any legally binding guarantee of certain properties, or any suitability.