

metastar® YT56 is the semi-calendered meta-aramid insulating paper with medium density. Its mechanical and electrical properties are between YT510 and YT511. YT56 has 8 thickness (0.13-0.76mm) (5-30mil), which are used for interlayer insulation of transformers and insulation of air-conditioning reactors.

Electrical properties

metastar® The typical electrical performance values of YT56 aramid paper are shown in Table 1. Among them, the dielectric strength value reflects the electric field strength when the paper breaks down under the condition of 50Hz AC rapid voltage, rather than the long-term withstand voltage level.

Because the chemical composition of YT56 is same with YT510, the temperature influence on its dielectric properties and its resistance to humidity are the same as that of YT510.

Thermal performance

metastar® YT56 aramid paper has been confirmed by UL with relative temperature index(RTI) of 210°, the file number is E331406. It has been verified in practice throughout the year.

metastar® The relationship between effective life and temperature of YT56 aramid paper is the same as YT510. The Arrhenius thermal aging characteristic curve is also the same with YT510.

Mechanical properties

metastar® The typical mechanical properties of YT56 are shown in Table 2. These effects including temperature and humidity on its mechanical properties are similar to those of YT510.

Table 1 **metastar®** YT56 Typical electrical properties

Standard Thickness	mil	5	7	10	12	15	20	24	30
	mm	0.13	0.18	0.25	0.30	0.38	0.51	0.61	0.76
Dielectric Strength ¹⁾	V/mil	279	279	305	381	305	330	330	330
	kV/mm	11	11	12	15	12	13	13	13

Dielectric Constant ²⁾	—	1.7	2.1	2.1	2.1	2.3	2.5	1.7	2.1
Dielectric loss factor ²⁾	×10 ⁻³	6	7	6	6	6	9	6	7

1) Testing standard GB/T1408.1-2006, using Φ25 mm top electrode and Φ75 mm bottom electrode;

2) Testing standard GB/T1409-2006, using Φ50 mm electrode and 50Hz test frequency

Chemical stability

YT56 has excellent chemical Stability. Because its molecular structure is extremely stable, it is basically not affected by common industrial solvents and is resistant to acid and alkali corrosion. Aramid paper and its laminated products are compatible with all kinds of electrical varnishes, adhesives, transformer oils,

lubricants and refrigerants, etc. YT56 does not melt in air, does not support combustion the surface is carbonized to form thermal insulation protection at high temperatures. The product has obtained UL94 VTM-0 and V-0 flame retardant certification.

Table 2 **metastar**® YT56 Typical mechanical properties

Standard Thickness	mil	5	7	10	12	15	20	24	30	Testing standard
	mm	0.13	0.18	0.25	0.30	0.38	0.51	0.61	0.76	
Typical Thickness	mm	0.13	0.18	0.25	0.30	0.38	0.52	0.61	0.76	GB/T451.3-2002
Basis Weight	g/m²	86	125	172	245	265	342	414	532	GB/T451.2-2002
Density	g/cc	0.66	0.69	0.68	0.79	0.67	0.67	0.67	0.69	
Tensile Strength N/cm	MD	100	155	200	300	260	320	375	420	GB/T12914-2008
	CD	40	60	80	145	130	150	180	200	
Elongation %	MD	8.0	9.0	9.5	12.0	10.5	11	11	10.0	
	CD	8.5	9.5	10.0	13.0	11.0	11.5	10.5	10.0	

Tear Strength³⁾ N	MD	1.5	2.5	3.0	5.5	8.5	11.5	N/A	N/A	GB/T455-2002
	CD	3.5	5.0	6.0	7.0	12.5	14.5	N/A	N/A	

3) Elmendorf tear strength, MD=Machine direction, CD=Cross direction.

metastar

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Please note:

The properties are average values and should not be used as specification limits. All properties were measured in air under 23 ° C, 50%RH. Metastar® papers have machine direction(MD) and cross direction(XD). Please orient the paper in the optimum direction to obtainits maximum potential performance.