

Corona resistance polyimide films coated with F46 composite adhesive tape



Corona resistance polyimide films coated with F46 composite adhesive tape, not only with ordinary polyimide film electrical properties, good heat resistance and resistance chemicals, but also with the super corona resistance and good thermal conductivity performance, mainly apply to sintering electromagnetic winding wire, traction motor, wind generators, and the special motor turn-to-turn insulation and heat insulation, the heat resistance level is above class C. The corona resistance (voltage endurance) is 80,000 hr at 20 kV/mm at 50 Hz by IEC 343 testing method.

The technical requirements

1. Type

CR type: Corona resistance polyimide film without any F46 coating

FCR type: Corona resistance polyimide film with F46 single side coating

FCRF type: Corona resistance polyimide film with F46 double side coating

2. Appearance

Its appearance is golden brown, translucent, the surface is bright and clean, no wrinkles, tear, particles, bubble, pinhole and foreign material defects. Its edge is tidy, and without damage.

3. Thickness and allowable deviation

Model	CR type	FCR type	FCRF type (F46)
Thickness (um)	25	38	50
Allowable deviation (um)	±2	±3	±3

Note: coating thickness may be based on customer demand in 5 ~ 12.5 um range regulation.

4. Width and allowable deviation

Width may cut according to the customer request within 10 -1050 mm. Each volume length is for 500-1000 m; Each volume joints for final product are not more than three, the proportion of volumes with joints vs the total volumes number in the one order is no more than 25%, the shortest length is more than 300 m; Single plate or roll product joint numbers are not more than



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three, the shortest length is more than 300 m.

FCR type and FCRF type using thermal bonding lap.

5. Film marks:

-Every single volume label marked: batch number, specification, net weight; Every single plate or roll labeling: specification.

-Package should have obvious and firm mark;

-The format of the packing cases is confirmed by purchase order related terms.

Serial number	Index Name	CR	FCR	FCRF
1	Corona resistance life (h) 1 KV voltage, frequency 20 KHz temperature 90 °C ±2 °C pulse rise time 400 ns	≥80	≥80	≥80
2	Industrial frequency electric intensity (v/um)	≥200	≥120	≥100
3	Surface resistivity (Ω)	1×10^{14}	1×10^{14}	1×10^{14}
4	Volume resistivity (Ω. Cm)	1×10^{10}	1×10^{10}	1×10^{10}
5	Relative permittivity (48-62 Hz ac)	3.2±0.4	3.2±0.4	3.2±0.4
6	Dielectric power factor (48-62 Hz ac)	$\leq 3.5 \times 10^{-3}$	$\leq 3.5 \times 10^{-3}$	$\leq 3.5 \times 10^{-3}$
7	Tensile strength (Mpa) :	≥135	≥80	≥80
8	Elongation at break (%)	≥40	≥40	≥40
9	stripping force (F and F) (N / 25 mm)	--	≥6	≥10
10	hot shrinkage rate (%) 150°C, 0.5h 400°C, 0.5h	≤ 1.0 ≤ 3.0	≤ 1.0 ≤ 3.0	≤ 1.0 ≤ 3.0

Note:

1. Test method: According to the IEC62068-1-2003/ GB /T13542.6-2006 "electrical insulation, part 6," "Polyimide film for electrical insulation "regulation experimental method.

2. The film packaging: film roll with plastic film packaging, outer with shockproof foam cushion packaging, and support in place in the package overhead, make the film in the transportation conditions often get fully protected without damage, each volume end article sticker marking.

3. Dust is strictly prohibited in the packing box internal.

4. Film should be stored in a dry and clean indoor, film roll to be supported in the box, placed suspended and not be erected. It should not be close to the fire, central heating or exposed to direct sunlight.

5. Products should avoid damp and mechanical damage in the storage and transport.

6. Film storage period is for two years after COA issued date. Expired films are still available after again qualified according to the product standards inspection.