76593 Fusa-Flex® Tape

76593 Fusa-Flex, is a B-staged epoxy-coated polyester-glass tape that fuses during cure to provide a tough moisture and chemical seal. Insulation for coils can be easily flexed for winding, even pounded and scuffed without breaking the seal. The epoxy resin in the tape flows with heat during the curing process, while the polyester wrap threads shrink, pulling the tape down tightly. This insures a leakproof seal without the need for any external pressure. The simple processing of this material makes it adaptable to commonly used cure cycles.

Quick Cure Time
Low Cure Temperature

Cure Time is only one to two hours at 170°C, three to four hours at 150°C, or six to eight hours at 130°C. This results in much shorter processing time, increased oven capacities, quicker "turn around" times for repair jobs and less downtime on critical customer repairs. The lower curing temperatures reduce the risk of thermal shock to magnet wire enamel.

Dissipation Factor

Dissipation Factor is an important property in AC equipment. This is a measure of the proportion of electrical energy which is transformed into heat within the insulation itself. Heat not only degrades the insulation, but also makes electrical conduction in the copper less efficient. Fusa-Flex Sealable Armor Tape exhibits a good dissipation factor after cure, and it improves with time under operating temperatures.

Dielectric Constant

This is a measure of the ability of a material to store electrical energy. This property is important in two respects:

1. Arcing rapidly degrades insulation. One of the causes of arcing is material with a high dielectric constant which will store a charge. Fusa-Flex sealable armor tape has a low dielectric constant (value of 5 measured at 60 cycles per second), which minimizes arcing.

2. An armor with a high dielectric constant places most of the voltage stress on the ground insulation - the most vital part of the system. Fusa-Flex Sealable Armor Tape matches the low dielectric constant of mica ground insulation. This allows more accurate design of required insulation build to meet specifications.

Environmental Protection

Fusa-Flex Sealable Armor Tape's tough epoxy armor withstands salt water, abrasive atmospheres, chemicals, and solvents.

Application

Fusa-Flex Sealable Armor Tape may be applied over any cured or uncured mica ground insulation. For a sealed system on coils 600 volts or less, two layers of ¾" Fusa-Flex Sealable Armor Tape half lapped over the entire coil is recommended; On coils of this type, no ground insulation is required on the coil nose. The two layers of Fusa-Flex Sealable Armor Tape give complete insulation protection in this case. Should be at room temperature or warm when used.

Note: When taping the coil nose, it is recommended that the trailing edge of the tape (the edge that overlaps the previous wrap) lay down tightly. This will prevent a "shingle" effect on the outer radius of the nose.

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Chemical and Solvent Resistance

Chemicals	Immersion Time (hrs)	Weight Loss (%)
10% N_aOH	240	5
10% H_2SO_4	240	2
Water	240	0
3% Nac1	240	0

Solvents (4 day Immersion)	Weight Loss %	Swell %
Benzene	0.1	Nil
Toluene	Nil	Nil
Xylene	Nil	Nil
Aliphatic Hydrocarbons	Nil	Nil
Alcohols	Nil	Nil
Esters	7	Nil
Ketones	Nil	Nil

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