

## US Samica 3470-07 VPI Mica Tapes:

### FEATURES

- Low Resin Content**
- Calcined Mica**
- Elastomeric Polymer**
- Excellent Electrical Properties**
- Excellent Taping Characteristics**

### BENEFITS

- Improved Impregnation rate
- High short time dielectric (Green Hi-pot test) as compared to large flake papers
- Compatible with both Epoxy and Polyester V.P.I resins
- Reliable finished coil Performance
- Easy to apply
- Excellent around knuckles
- Less fatigue during hand taping
- Superior lay down
- No wrinkles to cause mechanical & electrical high stress points
- Maintain uniform build
- Improve resin retention
- Competitive priced with VPI tapes suitable for 2.3 kV up to 13.8 kV

### Low Cost



### 13.8 KV Coils

Applied with robotic taping machine.

Tension: 12 lb/in

Angles maintained the same during taping of both tapes.

Top 3 are taped with competitive material. Note the wrinkles and poor uniformity.

Bottom 3 were taped with 3470-07.

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## Description

VPI tape 3470-07 was designed to be used as primary insulation in AC and DC motors and generators. The low binder content of this tape makes it ideal for VPI processing and is compatible with a wide range of polyester or epoxy impregnates.

## Typical Material Properties

### Details of Construction

Nonwoven polyester mat	1.5 mils
Mica paper, Calcined	3.0 mils
Open weave glass cloth	2.0 mils

**Binder Type** Polytemp

**Resin Content** 7-11%

**Thickness** 6.2 - 8.5 mils ASTM D375, Method D

**Weight** 16.0 g/ft<sup>2</sup> (approximate)

**Gurley Stiffness** 1500 mg (max.) at 75°F

**Tensile Strength** 80 lb/in (min. avg.)

**Dielectric Strength** 425 V/mil (min. avg.) ASTM D149-64, Short Time in air @ R.T 1/4" diameter electrodes

## Shelf Life

Best if used two years from date of manufacture

## Application

The 3470-07 tape by itself is not a "finished" insulation and needs to be saturated with a VPI resin and cured. Electrical proof testing of the coils before and after processing is suggested as follows:

### A. Uncured Insulation

- Apply 1000 to 1500 volts RMS AC for every layer of 1/2 lapped layer of 3407-07 tape for a period of one minute. A DC power source can be used at 1.7 times the AC equivalent voltage.

### B. VPI processed and Cured

- NEMA specification of twice the rated voltage plus 1000 volts AC for a period of one minute. A DC power source can be used at 1.7 times the AC equivalent voltage.

The cure cycle of the VPI resin impregnate should be followed. Note that most VPI resin vendors state that the cure time initiates only after the part reaches the recommended temperature. This can be verified by attaching a thermocouple to the iron and monitoring during the cure cycle.

Because of the binder in these tapes, impregnated bars may not give the same tone quality as conventional epoxy and polyester binder tapes. This difference in tone alone should not be misinterpreted as poor impregnation. The 3407-07 has been designed for ease of impregnation and will result in a high quality primary electrical insulation.