Semi conducting tape to IN. SK. 46089 is used for End Corona Protection in High Voltage A.C. machine stator coils with VPI technology.

This specification gives the details of evaluation parameters for Semi conducting tape in addition to parameters mentioned in IN. SK. 46089.

Conditions for technical acceptance of the material (In addition to IN. SK. 46089)

The following evaluation is to be conducted only for new vendors / new material grades (non-approved) of existing vendors / type test requirement / trial / development orders.

Distribution:	Date of Rev.00: 13/08/2022	Name	Signature
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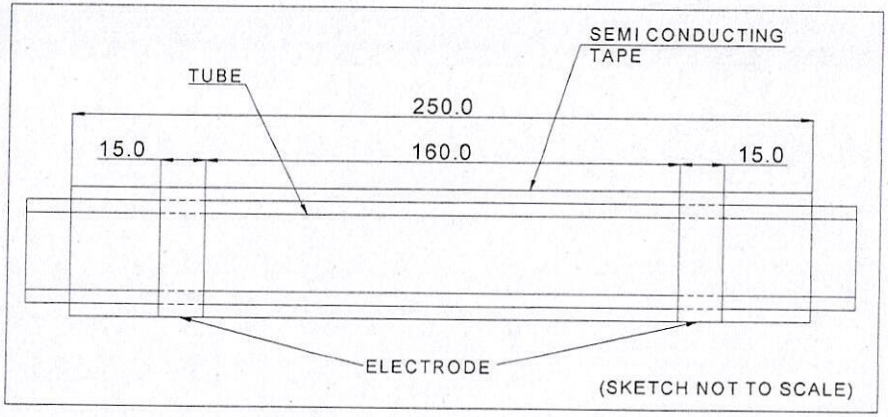
Sl. No.	Type of Test	Desired Parameters
1.0	**Lab Evaluation**	
1.1	Voltage endurance test on 11 kV rated voltage sample bar(s)/coil(s)	No appreciable audio and visual corona shall occur during testing.
1.2	<u>High voltage test on tube:</u> One-half overlapped layer of the semi-conducting tape is applied on a phenolic cotton laminate/ glass/ fibreglass laminate tube of outer diameter approx. 40 mm as per sketch shown. This is suitably cured in electric oven. Aluminium foil electrodes are applied as per the arrangement shown in Figure-I. The sample is subjected to the following tests:	FIGURE-I 

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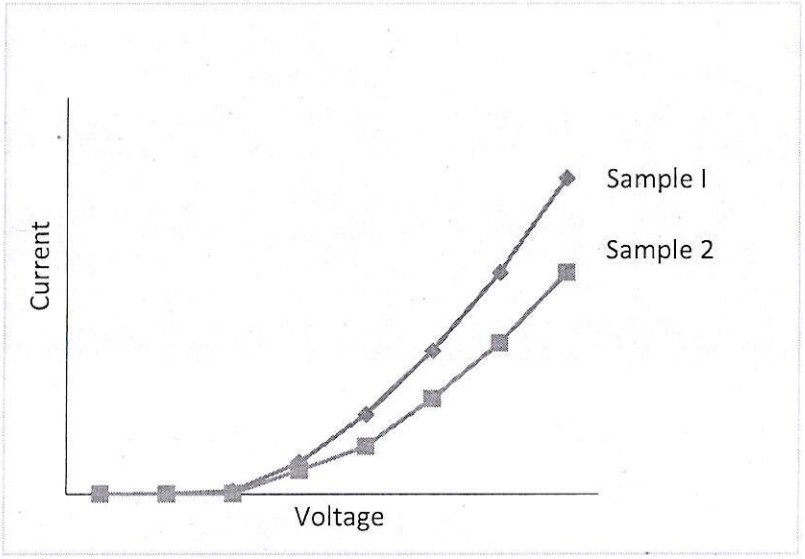
(a)	Voltage current measurement at 1-40 kV DC	The voltage current (VI) characteristic should be similar to the symbolic graph given below.  X-axis – Voltage, Y-axis - Current
(b)	High voltage test at 60 kV for 10 minutes between the two electrodes	The sample is considered to have passed the test, if there is no flashover or tracking during the test duration. Appreciable heating may take place on the surface of the sample during testing.

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2.0	**Shop Application (Application on stator coils)**	
2.1	Physical observation	Tape should be satisfactory in application. No breaking of tape, stiff and dry tape should be observed. Adequate stretchability and adhesion should be present for tightening and sticking of adjacent layers.

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