



CERTIFICATE

Electric strength of grooved rubber matting

Three different types of grooved rubber matting of material 5485 has been tested according to IEC Publication 60243-1, 1998, Electrical strength of insulating materials. The short-time (rapid-rise) test in accordance with clause 9.1, and equal diameter (25 mm) electrodes in accordance with clause 4.1.1.2, were used. No machining of the test specimens was performed and the tests were performed in open air.

Test object M39, grey, Art. No. 2908680, 5.0 x 1200 x short length mm
M29, grey, Art. No. 215167, 3.5 x 1200 x short length mm
M9, grey, Art. No. 2908620, 3.0 x 1200 x short length mm
Testing institute SP, Swedish National Testing and Research Institute
Test site Borås
Date of test 1999-07-07—09
Report denomination 99F13130


Test conditions

Ambient temperature $21^{\circ}\text{C} \pm 2^{\circ}\text{C}$
Humidity $45\% \pm 10\%$
Test frequency 50 Hz

Results

Matting	Number of Measurements	Breakdown voltage
M39, Wide-grooved	6	>50 kV
M29, Medium-grooved	5	>38 kV
M9, Narrow-grooved	5	>40 kV

Trelleborg Industri AB, 2001-12-18
Trelleborg Elastomer Laminates


Gabriella Wikander Johansson
Product Manager

Trelleborg Industri AB
Technical Laminates Division
231 81 Trelleborg

Handläggare, enhet / *Handled by, department*
Jon Ivar Juvik, Fysik och elteknik

Datum / *Date*
1999-08-13

Beteckning / *Reference*
99F13130

Sida / *Page*
1 (2)

Electrical strength of grooved rubber matting

Test object 3 types Grooved rubber matting
- Wide-grooved 2908680
- Medium-grooved 0215167
- Narrow-grooved 02908620

Test site Borås

Date of test 1999-07-07--09

Test conditions

Ambient temperature $21^{\circ}\text{C} \pm 2^{\circ}\text{C}$
Humidity $45\% \pm 10\%$
Test frequency 50 Hz

Test method

The tests were performed in accordance with the provisions of IEC Publication 60243-1, 1998, Electrical strength of insulating materials. The short-time (rapid-rise) test in accordance with clause 9.1, and equal diameter (25 mm) electrodes in accordance with clause 4.1.1.2, were used. No machining of the test specimens was performed and the tests were performed in open air.

Results

Matting	Number of measurements	Breakdown voltage
Wide-grooved	6	60 kV
Medium-grooved	5	48 kV
Narrow-grooved	5	50 kV

Uncertainty of measurement

The voltage measuring equipment has an uncertainty less than $\pm 1\%$. The total uncertainty of the voltage measurement is estimated to be $\pm 3\%$ with coverage $k=2$ and assumed normal distribution.

Observations during test

For the wide grooved matting 4 of 6 breakdowns occurred directly between the electrodes. 1 breakdown took place 40 cm from the centre of the electrodes, and 1 breakdown were over the side of the sheet (eg. > 45 cm from centre of the electrodes).

For the medium grooved matting all breakdowns occurred away from the centre of the electrodes. The following distances were measured: 4, 13, 16, 17 and 25 cm, and the breakdowns were found in random directions around the electrodes.

For the narrow grooved matting 1 breakdown occurred directly between the electrodes. The other breakdowns were found in random directions at distances 3, 14, 16 and 19 cm.

Test and measuring equipment

High voltage generating equipment

ASEA Transformer, SP no. 501 464

Voltage measuring equipment

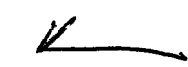
Haefely AC Peak voltmeter type 53, SP no. 502 411

Technical manager



Anders Bergman

Technical officer



Jon Ivar Juvik

*on behalf of
Jon Ivar Juvik*