3M Data Sheet

Scotch ™ 2220

Electrical Stress Control Tape

1. Product Description

Scotch™ 2220 Stress Control Tape changes the voltage distribution in electrical field surrounding medium voltage joints or terminations.

2. Applications

Lines of flux are regulated to equalize the electrical stresses in a controlled manner along the entire taped joint or termination area where the shielding has been re-moved.

By changing the electrical field surrounding the joint or termination, the stress concentration is reduced from several thousand volts to values found in continuous cable.

The figures below show the stress concentrations around three energized cables. Figures Nos. 1, 2 and 3 show, respectively, the stress concentrations near a cable shield end, a standard tape stress cone, and a joint or termination utilizing Scotch 2220 'Stress Control Tape'. The stress concentrations on the insulation surface are directly proportional to the closeness of the equipotential lines.

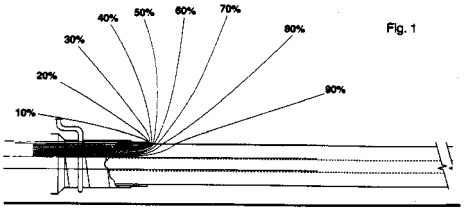


Fig. 1

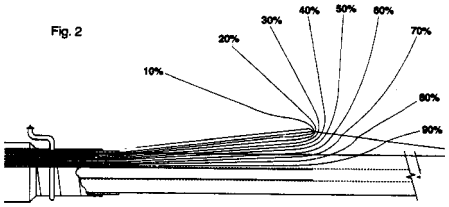


Fig. 2

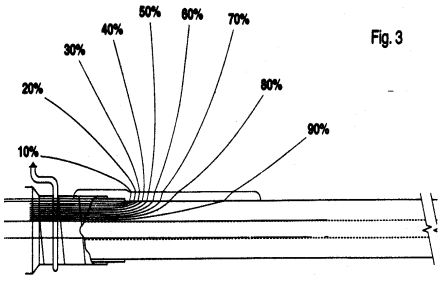


Fig. 3

3. Typical Properties*

Colour	Grey
Thickness[1]	0.76 mm
Tensile Strength[1]	>4.3 MPa
Elongation[1]	>225%
Dielectric Constant[2]	25 – 30
Electric Strength[3]	>13.8 kV/mm
Range of Temperature[4]	
Continuous operating temp.	90°C
Emergency operating temp.	130°C

*These are typical values and should not be used for specification purposes.

[1] IEC 60454-2
[2] VDE 0303-4
[3] IEC 60243
[4] IEC 60085, IEC 60216

4. Installation Technique

The tape shall be applied in half-lapped layers with very little tension and the silver color side looking outside.

Follow the appropriate instruction drawings for joints and terminations.

5. Maintenance

Scotch™ 2220 Tape shall have 5 years shelf life under normal storage conditions (21° C).

6. Availability

Scotch™ 2200 Tape is available from 3M and your local 3M authorized electrical distributor.

IMPORTANT NOTICE

All statements, technical information and recommendations related to the Seller's products are based on information believed to be reliable, but the accuracy or completeness thereof is not guaranteed. Before utilizing the product, the user should determine the suitability of the product for its intended use. The user assumes all risks and liability whatsoever in connection with such use.

Any statements or recommendations of the Seller which are not contained in the Seller's current publications shall have no force or effect unless contained in an agreement signed by an authorized office of the Seller.

The statements contained herein are made in lieu of all warranties, expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose which warranties are hereby expressly disclaimed.

SELLER SHALL NOT BE LIABLE TO THE USER OR ANY OTHER PERSON UNDER ANY LEGAL THEORY; INCLUDING BUT NOT LIMITED TO NEGLIGENCE OR STRICT LIABILITY; FOR ANY INJURY OR FOR ANY DIRECT; INDIRECT; INCIDENTAL OR CONSEQUENTIAL DAMAGES SUSTAINED OR INCURRED BY REASON OF THE USE OF ANY OF THE SELLER'S PRODUCTS.

3M

Electro Product Division
Carl-Schurz-Straße 1
D-41453 Neuss
Germany
Tel: +49 2131 – 14 0
Fax: +49 2131 – 14 3897

3M 2003
Issue: 1