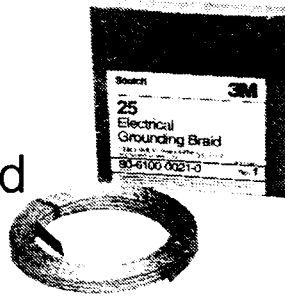


# Product Data

## Scotch® 25 Electrical Grounding Braid



### 1. Product Description

Scotch Brand 25 Electrical Grounding Braid is an all-metal woven grounding braid in a flat, cable-like form. It is conformable due to its woven construction of 240 strands of #30 AWG tinned copper wires.

#### Features:

- High current-carrying capacity (approximately that of #6 AWG wire);
- Tinned copper wires.
- Stable at elevated temperatures.
- Oil resistant.
- Compatible with all power cable insulations.
- Fire resistant.
- Easy conformity to irregular surfaces.
- Corrosion resistant.
- Compatible with high-voltage splicing and terminating materials.
- Unaffected by solvents, ultraviolet, ozone, and moisture.
- Usable for indoor and outdoor applications.
- Can be easily soldered to high-voltage cable shields.

### 2. Applications

- To provide a fault current path across shielded cable joints.
- For grounding high-voltage splices, terminations, cables or other cable accessories.

### 3. Data

#### Average Properties

#### Physical Properties

- Thickness  
ASTM-D-1000 3/32 in.  
(2.38mm)
- Width  
ASTM-D-1000 1/2 in.  
(12.7mm)
- Shelf life indefinite

#### Electrical Properties

- Wire size 240 #30  
AWG tinned  
copper wires
- Approximate AWG  
rating #6

#### Chemical Properties

- Ozone resistance  
ASTM-D-1373 pass
- Resistance to Ultraviolet  
3M (See Section 5.) pass

### 4. Specifications

#### Product

Conducting metal braid must be woven from 240 strands of #30 AWG tinned copper wires and be capable of carrying fault current comparable to that of #6 AWG copper wire. It must be usable with or without covering, both indoors and outdoors, without corroding, tearing or splitting. It must be capable of being soldered to high-voltage cable shields while being nonflammable and yet must be compatible with cable oils, common solvents, adhesives and high-voltage splicing and terminating insulations.

#### Engineering/Architectural Specifications:

Joining (splicing) and terminating shall be done according to the

engineering print supplied by the manufacturer of the joining or terminating materials for the specific cable and approved by the specifying engineer.

#### Alternate:

Joining and terminating engineering drawing shall be compatible with specific cable or cables and approved for specific voltage of cable.

### 5. Characteristics and Test Data

Test method, as shown in figure 1, was designed to determine fault current carrying capacity of a 12 in. (30.5cm) specimen of 25 Braid. The test ended when the braid separated, due to melting of tinned copper wires. Graph (figure 2) illustrates the results:

The data indicate that 25 Braid has excellent fault current carrying capacities for replacing shielding in high-voltage cables. It can be used as a ground strap or jumper wire because it can carry fault currents and lightning currents that can appear in high-voltage cables. Figure 3 is representative of the method used for testing fault current - carrying capacities of 25 Braid in a high-voltage cable splice.

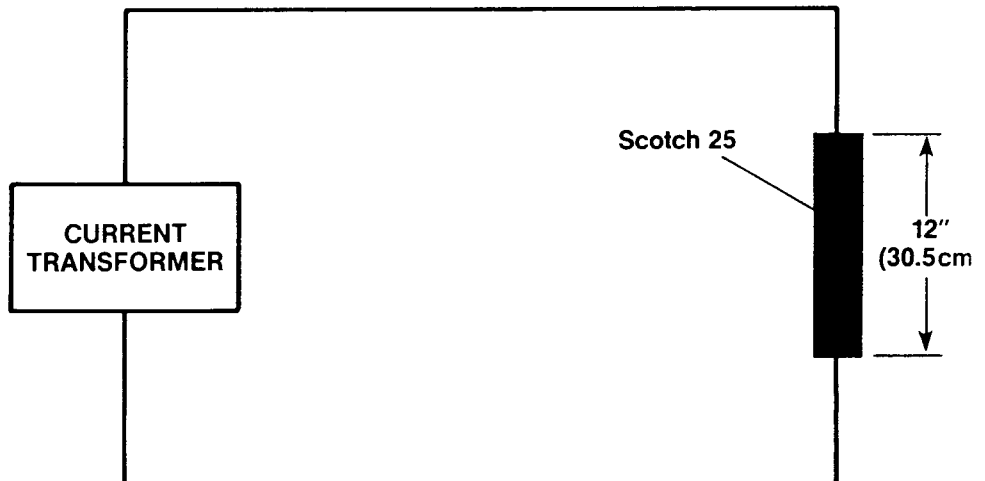


FIGURE 1

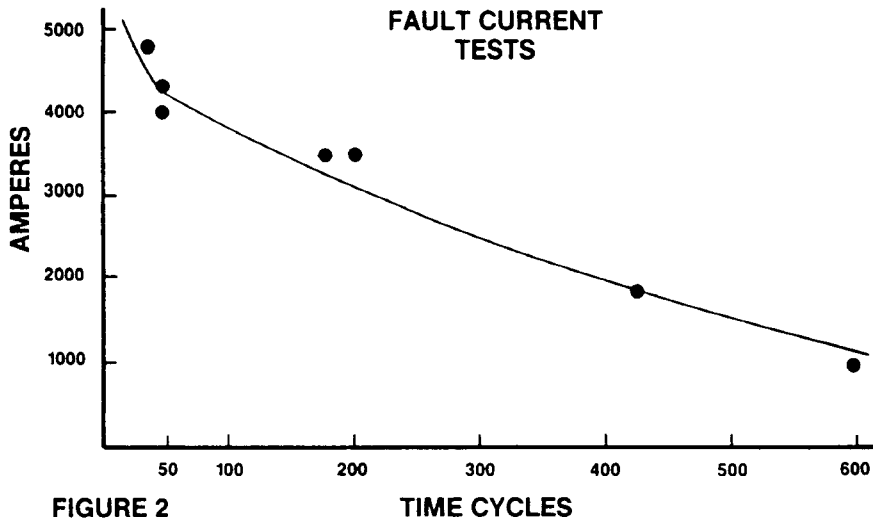


FIGURE 2

TIME CYCLES

Every cable tested had a single half-lapped layer of 3/4-inch by 5-mil (19mm x 0.13mm) tinned copper metallic shielding tape for fault current protection. In all cases, the cable's metallic shield was destroyed (by current), whereas, grounding braid remained unharmed.

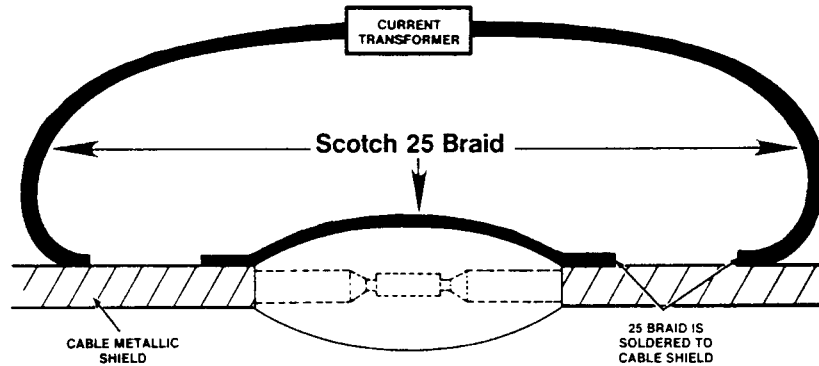


FIGURE 3

## 6. Installation Techniques

When grounding termination or splices:

Solder Scotch 25 Ground Braid to cable metallic shield and bring

remainder of braid out of splice or termination.

Construct a 2-inch (51mm) solder block on ground braid to prevent

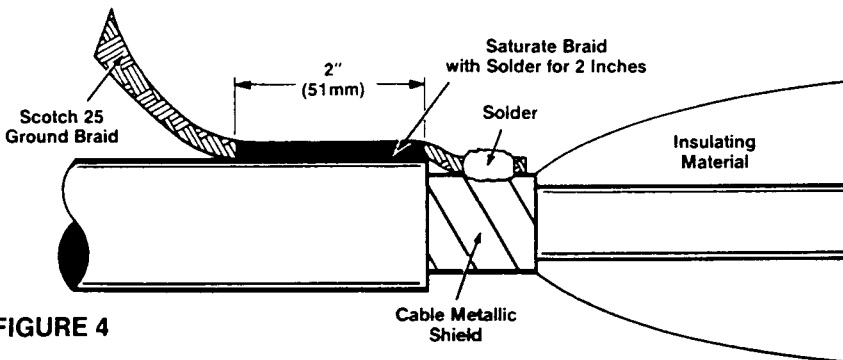


FIGURE 4

moisture penetration into splice. Figure 4.

Wrap two half-lapped layers of Scotch 130°C Rubber Splicing Tape, covering the end 2 inches (51mm) of cable jacket.

Wrap two half-lapped layers of 130°C Tape for 3 inches (76mm) along ground braid, beginning at a point where ground is soldered to shield.

Lay ground braid over 130°C Tape, applied on jacket for 1 inch (25mm), then bend strap away from cable.

Apply outer sheath over ground braid.

For bonding jumper wire across splice, lay Scotch 25 Ground Braid across splice and solder ends to cable's metallic shielding.

## 7. Maintenance

25 Braid has an indefinite storage life and is not impaired by freezing nor by over-heated conditions. Braid can be checked for flaws by visual inspections.

## 8. Availability

Scotch 25 Braid is available in 1/2-inch x 3/32-inch x 15-foot rolls (12.7mm x 2.38mm x 4.57m), and is available from your local authorized 3M electrical distributor.

### Important Notice:

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed, and the following is made in lieu of all warranties, expressed or implied:

Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risks and liability whatsoever in connection therewith.

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