

# Scotch® Heavy Duty Mining Tape 31

Data Sheet

June 2013

## Description

Scotch® Heavy Duty Mining Tape 31 has a tough, abrasion-resistant backing for jacket repair on mining cables. Due to the extremely abrasive environment, the original jacket on the cable gets damaged often and needs to be repaired. The tape is flexible, and the self-healing property of the mastic helps keep out moisture. Scotch® Mining Tape 31 is approved by MSHA (Mining Safety & Health Administration) as the outer jacketing of the 3M™ Mining Cable Splice Kits 3100 Series. The tape is printed with the MSHA logo.

## Features

- On-site, quick, universal cable repair
- Abrasion, water and oil-resistant, flexible, heavy-duty backing
- Moisture-resistant, self-healing, flame-retardant mastic
- MSHA-Approved

## Applications

- Repair of mining cables and outer jacket of mining cable splice kits.
- Repair and splicing of mine conduit.

## Agency Approvals & Self Certifications

**RoHS  
2011/65/EU**

"RoHS 2011/65/EU" means that the product or part does not contain any of the substances in excess of the maximum concentration values ("MCVs") in EU RoHS Directive 2011/65/EU. The MCVs are by weight in homogeneous materials. This information represents 3M's knowledge and belief, which may be based in whole or in part on information provided by third party suppliers to 3M.

## Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (~23°C) unless otherwise stated.

| Physical Properties (Test Method) | Typical Value<br>US units (metric) | ASTM Test Method<br>(unless noted) |
|-----------------------------------|------------------------------------|------------------------------------|
| Color                             | Black                              |                                    |
| Adhesive                          | Flame retardant                    |                                    |
| Thickness                         | 60 mils (1,52 mm)                  | D4325                              |
| Tensile Strength*                 | 2400 psi (16,5 Mpa)                | D412                               |
| Elongation* (% at break)          | 500%                               | D412                               |
| Tear Resistance*                  | 200 pli (35 kg/cm)                 | D624                               |
| Hardness-Shore A                  | 55                                 | D2240                              |
| Adhesion to Steel                 | 160 oz/in (17,5 N/cm)              | D1000                              |
| Adhesion to PVC                   | 85 oz/in (9,3 N/cm)                | D1000                              |
| Adhesion to Neoprene              | 14 oz/in (1,5 N/cm)                | D1000                              |
| Adhesion to CSM                   | 107 oz/in (11,7 N/cm)              | D1000                              |
| Adhesion to PE                    | 112 oz/in (12,2 N/cm)              | D1000                              |

\*Test result for backing only

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## Typical Properties, *continued*

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (~23°C) unless otherwise stated.

| Electrical Properties (Test Method) | Typical Value<br>US units (metric) | ASTM Test Method<br>(Unless Noted) |
|-------------------------------------|------------------------------------|------------------------------------|
| Volume Resistivity                  | 10 <sup>14</sup> ohm/cm            | D257                               |
| Breakdown Voltage                   | 400 V/mil (15,7 kV/mm)             | D149                               |

| Environmental Resistance<br>Properties (Test Method)      | Typical Value<br>US units (metric)        | ASTM Test Method<br>(Unless Noted) |
|-----------------------------------------------------------|-------------------------------------------|------------------------------------|
| Heat Resistance* (70h/125°C)                              | Pass                                      | D2000-Type CE                      |
| Temperature Rating (105°C)                                | Pass                                      | UL 510                             |
| Flammability                                              | Pass                                      | MSHA CFR 30 Part 7                 |
| Oil Resistance* (70h/125°C/IRM 903)                       | Pass                                      | D2000-Type CE                      |
| Abrasion Resistance<br>Tabor H22 wheel, 250g, 1000 cycles | 0.05g (0.05g)                             | --                                 |
| MVTR (37.8°C, 100% RH)                                    | 0.025 g/100sq.in.24h<br>(0,38 g/sq.m.24h) | D1249                              |
| Water Absorption                                          | 0.50%                                     | D570                               |

\*Test result for backing only

## Engineering Specification

Scotch® Heavy Duty Mining Tape 31 should be half-lapped over the damaged jacket area so as to cover the entire area. Each end should be overwrapped with 3M™ Temflex™ Vinyl Electrical Tape 1700P, Scotch® Super 33+™ Vinyl Electrical Tape or Scotch® Vinyl Electrical Tape Super 88 depending on local governing requirements.

## Shelf Life & Storage

This product has a 5-year shelf life from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).

## Availability

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1.800.245.3573.

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