



Science.
Applied to Life.™

A close-up photograph of a male worker wearing safety glasses and a green button-down shirt. He is focused on applying a piece of white tape to a grey cable using a heat gun. The background is slightly blurred, showing industrial equipment. The bottom half of the image is overlaid with a large orange and yellow diagonal graphic.

Tapes to complete your toolkit.

3M Electrical Markets Division
Rubber, Mastic and Specialty Tapes Application Guide

Use the right stuff.

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Insulating & splicing

You've built a reputation on standout craftsmanship. So whether it's low-voltage wires or cables carrying up to 69 kV, making a secure cable connection is crucial. Precision tapes for insulating and splicing from 3M can help reinforce your work for years of worry-free and maintenance-free service.



Scotch® Linerless Rubber Splicing Tape 130C

Applications

- Insulate electrical connections up to 69 kV
- Seal out moisture from low- and medium-voltage connections
- Insulate bus bars
- Insulate motor leads
- End seal high-voltage cables
- Highly conformable for irregularly shaped objects



High Voltage



Linerless



Sealing



Made in USA



Linerless design for fast installation

Dissipates heat well for stable, long-lasting splices

Self-fusing material creates a moisture tight seal

Rated for 90°C continuous operating temperature and overload temperatures up to 130°C

Stable & durable for years of maintenance-free service.



Self-fusing material creates a moisture tight seal

Rated for 90°C continuous operating temperature and overload temperatures up to 130°C

Removable liner protects from dust and dirt during installation

Insulating & splicing



Scotch® Rubber Splicing Tape 23

Applications

- Insulate electrical connections up to 69 kV
- Seal out moisture from low- and medium-voltage connections
- Insulate bus bars
- Insulate motor leads
- End seal high-voltage cables



High Voltage



Sealing



Scotch® Self-Fusing Silicone Rubber Electrical Tape 70

Applications

- Pre-wrap low- and medium-voltage connections for clean re-entry, (e.g. motor lead connections or split-bolt connectors)
- Use as an overwrap for protection of high-voltage cables against arcing and tracking



Low Voltage



Clean re-entry



Class "H" temperature
rated (180°C or 356°F)

Extremely UV and
ozone resistant

Self-fusing material
bonds quickly

Excellent track and
arc resistance

Insulating & splicing



Scotch® Varnished Cambric Tape 2510* and 2520

Applications

- Insulate electrical connections up to 600 V
- Pre-wrap low-voltage connections for clean re-entry, (e.g. split bolt connections)



Low Voltage



Mechanical
Protection



Clean re-entry

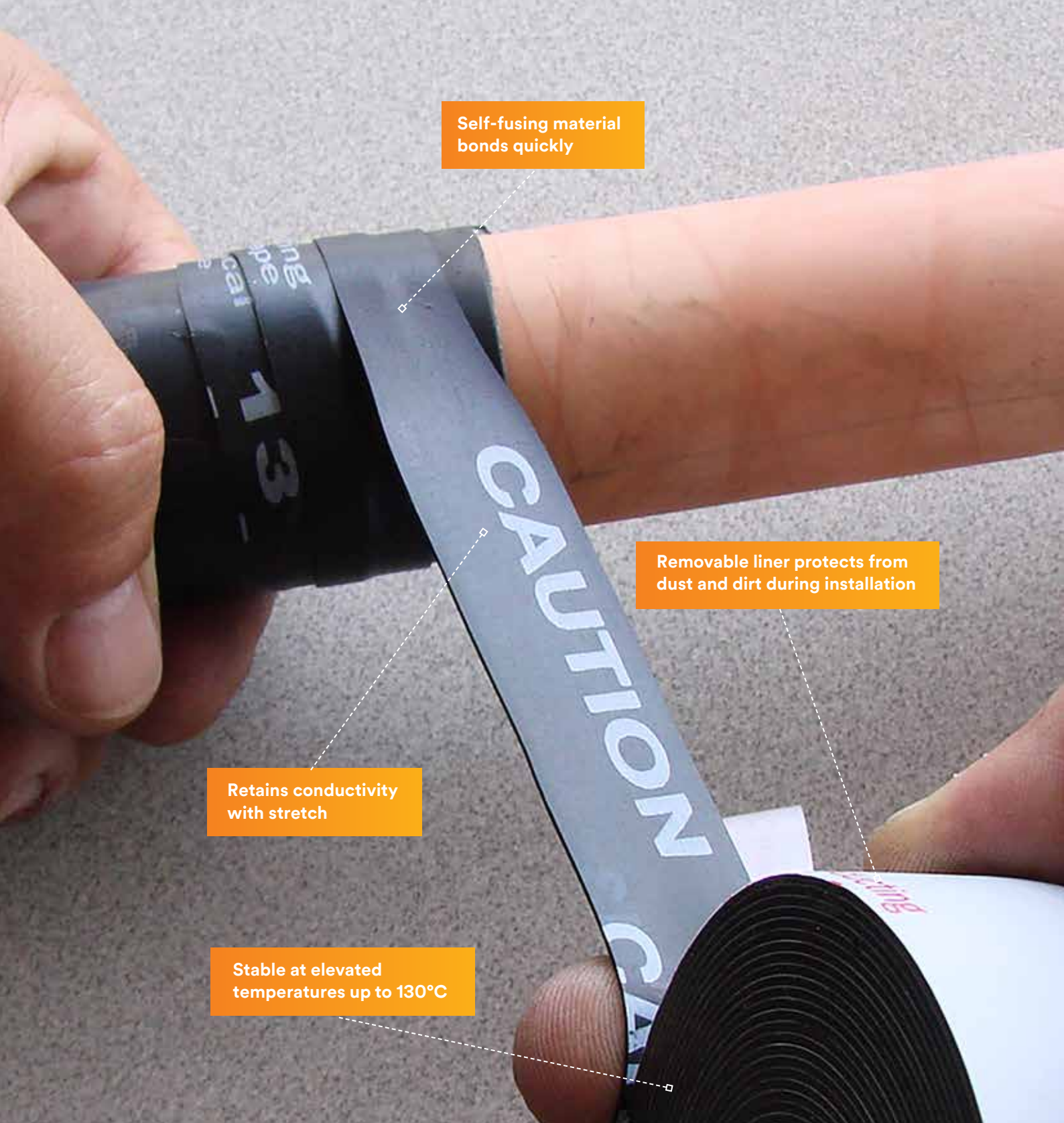


Temperature resistant
up to 105°C

Tough and durable backing provides excellent
tear, puncture, and cut-through resistance

*Available without adhesive
for clean removal

Insulating & splicing



Self-fusing material bonds quickly

Removable liner protects from dust and dirt during installation

Retains conductivity with stretch

Stable at elevated temperatures up to 130°C

Insulating & splicing



Scotch® Semi-Conducting Tape 13

Applications

- Replace semi-conducting layer beneath metallic shield in various medium-voltage cable repairs and splices
- Electrically round-out high-voltage connectors and bond to insulating materials to minimise electrical stresses
- Round-out bolted connections on insulated bus bars
- Provide shielding for cable splices on solid dielectric insulated power cables
- Not to be used for electrical insulation!





3M™ Temflex™ Rubber Splicing Tape 2155

Applications

- Insulate electrical connections up to 600 V
- Seal out moisture from low-voltage connections
- Insulate service drops
- Insulate lighting connections



Low Voltage



Sealing



Rated for temperatures
up to 80°C

Self-fusing material creates
a moisture-tight seal

Removable liner protects from
dust and dirt during installation

Insulating & splicing

Sealing, padding & shaping

The elements will put your connections to the test. Fight back with 3M and Scotch-brand Mastic Tapes. Engineered to keep water out, you can use them to pad sharp edges, and make smooth transitions over irregular shapes. Plus, the extra, hand-moldable, padding stands up to environmental vibrations.



3M™ Scotch-Seal™ Mastic Tape 2229

Applications

- Electrically insulate and seal-out moisture from low-voltage connections
- Seal high-voltage cable splice and termination accessories
- Pad sharp edges of a low-voltage connection to prevent cut-through of vinyl tape overwrap
- Smooth transitions of irregular shapes
- End seal cables



Sealing



Padding



Made in USA



Linerless design for fast installation

Dissipates heat well for stable, long-lasting splices

Self-fusing material creates a moisture tight seal

Rated for 90°C continuous operating temperature and overload temperatures up to 130°C

Stable & durable for years of maintenance-free service.



Easy to mold and shape
by hand down to 32°F (0°C)

Excellent aging properties -
will not dry out

Noncorrosive,
synthetic rubber

Sealing, padding & shaping



3M™ Scotchfil™ Electrical Insulation Putty

Applications

- Build-up cable splices and fill out major irregularities and voids in low-voltage splices to create a uniform base for further taping
- Smooth bus bar irregularities, round out connections, and pad sharp edges
- Create a moisture seal at ground wire exit points in high-voltage splices
- Create a moisture seal in multiconductor cable connections



Low Voltage



Sealing



Padding



Made in USA



Scotch® Rubber Mastic Tape 2228

Applications

- Primary electrical insulation for bus bar connections up to 35 kV
- Insulate electrical connections up to 1,000 V
- Seal-out moisture from connections



High Voltage



Sealing



Padding



Made in USA

Rated for 90°C continuous operating temperature and overload temperatures up to 130°C

Self-fusing material creates a moisture tight seal

Flexible and conformable over irregular shapes

Sealing, padding & shaping



Adhesive-free design enables removal for cable or accessory inspection

Available in black or white

Swells with exposure to heat

Insurance for your cables.

Fire retardant & arc proofing

You can plan ahead for the best outcome in fire and arcing scenarios. Protect your low- and medium voltage cables and accessories with 3M's arc proofing and fire retarding tapes. When the heat rises, the tape expands putting a thick layer of char between the flames and your cable to help minimise potential damage.

Scotch® Fire Retardant Electric Arc Proofing Tape 77

Applications

- Protect cables from electric arcs and fires
- Use on energy cables running in close proximity to other energy cables, such as:
 - Cables in substations, manholes, and vaults
 - Critical feeder cables and nearby branch circuits
 - Energy cables in buildings that cannot afford to lose power, (e.g. hospitals, military bases, server farms, etc.)
 - Energy cables in cable trays

Cables during and after the consolidated edison flame test



Cable protected with Scotch® Fire Retardant Electric Arc Proofing Tape 77 during test



Unprotected cable during test



Cable protected with Scotch® Fire Retardant Electric Arc Proofing Tape 77 after test



Unprotected cable after test



Mechanical Protection



Clean re-entry



Made in USA

Jacket repairing

Shield your work from environmental wear and tear. When wrapped over a splice or damaged cable jacket, 3M jacket repairing tapes offer layered defense against external hazards. Vulcanized CSM rubber on the outside resists abrasion and chemical damage, while the inner layer includes flame-retardant mastic to keep moisture away and provide excellent adhesion to a variety of cable jacket materials.



Scotch® Cable Jacket Repair Tape 2234 Scotch® Mining Tape 31

Applications

- Repair sections of damaged cable jacket
- Seal out moisture and environmental elements
- Overwrap a splice for added mechanical protection
- Scotch® Mining Tape 31 is MSHA approved for cable repair



Sealing



Padding



Mechanical
Protection



Made in USA



Ultra tough vulcanized CSM rubber

UL recognized for temperatures up to 105°C

Flame retardant

Seal out moisture

Extremely tough tape for your extremely rough environments

Bundling & harnessing

You never know what you're going to find encounter on a project site. Be prepared to take on any challenge with 3M bundling and harnessing tapes that bind, hold and organise wires. Bundling tapes also offer excellent mechanical protection and can act like a second set of hands that steady wires in place.



3M™ Temflex™ Friction Tape 1755

Applications

- Bundle and bind wires and cables
- Create wire harnesses
- Wrap tool handles for better grip



Low-Voltage



Mechanical
Protection



Bundling



Excellent abrasion
resistance

Excellent resistance
to salt water

High tensile strength
and low stretch

**Designed to make
your job easier.**

Are you insulating, sealing, protecting or connecting?

Call the 3M Electrical Helpline

 **1800 3M ELEC**

**3M Electrical Products.
Use the right stuff.**

3M

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