



Electrical  
Solutions  
you can rely on

**Scotch**  
PROFESSIONAL GRADE  
Super 33+  
Vinyl Electrical Tape  
Ruban vinyle isolant électrique  
Elektro-isolierband auf PVC-Basis  
Nastro isolante in PVC  
Vinyl band voor  
elektrotechnische toepassing  
Sähköteippi Elettro  
Elettro av självslöckande PVC  
Elektro-isolagssnidade på PVC-basis  
Cinta eléctrica de PVC  
3M  
3M Electrical Markets Division  
www.3m.com/3mElectrical  
34 in x 66 ft (22 ft) x .007 in x 10 mm x 20.3 in x 0.07 mm



# 3M Electrical Solutions



“Every company seeks the **keys to innovation**, but few find them. Over the decades, 3M learned how to be **innovative** and today the company uses that skill to great **competitive advantage.**”

*Jerry I. Porras, Co-author, **Built to Last***

You're in a demanding industry. To be successful, you need a wide range of reliable products designed to effectively manage your daily processes. You need a supplier with a solid understanding of your industry and the technology that drives it. Quite simply, you need 3M. The Electrical Markets Division designs and manufactures a comprehensive line of products that can address your diverse applications. Widely recognised for our innovation, quality, reliability and global corporate strength, 3M has the products and services you need and the name you trust.

In your business, power, technology and reliability are essential. 3M delivers that and more. We have the power of a diversified, global manufacturer; a reputation for technical excellence and innovation; and employees committed to delivering quality products and services to you, our valued customer.

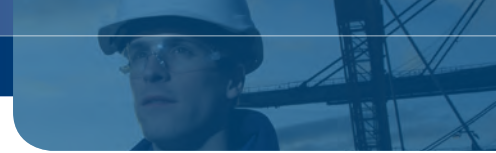
We strive to be the chosen supplier, with innovative and effective products and a commitment to high levels of service and support to your business. Our goal is to satisfy your needs through the provision of exceptional products, expertise, and quality and service excellence.

Our global technology, manufacturing and knowledge network allows us to provide superior design, expertise, widespread support and a continuously evolving range of electrical solutions. Although we design and manufacture a comprehensive line of product that can address your diverse applications, we also recognise that many projects and applications require a customised solution to meet your specific needs. 3M offers customised solutions in a number of areas to suit your application.

Please browse through our catalogue and visit our local websites to see how 3M can help you.

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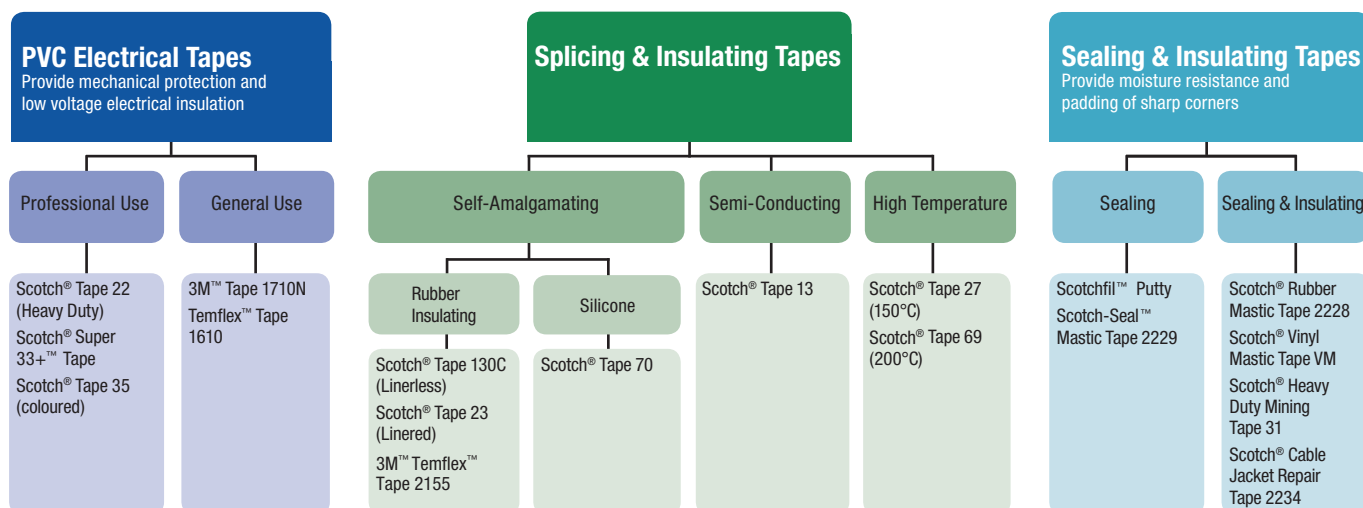


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# 3M™ Electrical Tapes

3M has been developing and manufacturing high performance, easy handling electrical tapes since the 1940s. The 3M Electrical Tapes range includes tapes for low and medium voltage insulating, colour coding, moisture sealing, padding, shaping, protective jacketing, bundling, and harnessing. Additionally, 3M manufactures a variety of tapes for technical applications; semi-conducting tape to reconstruct a medium voltage cable, track resistant tapes for terminations, and fire retardant electric arc proofing tapes to protect cables from arcs and fires from nearby cable failures.



## Taping Tips

To ensure the safest, most reliable use of PVC Electrical Tapes, always:

- Apply tape with enough stretch to conform to the objects you're wrapping. Be sure to let the last 50 mm relax before tabbing it down to prevent unwinding (sometimes called "flagging").
- Wrap an irregular mechanical connector, such as a split bolt, with rubber or mastic tape to pad sharp edges, before overwrapping with vinyl electrical tape.
- Wrap tapered shapes "uphill" – that is, from the smallest to the largest point. This way you always secure the previous layer.
- Always use scissors or a knife to cut tape. If you must tear it by hand, then keep fingers close together when tearing tape. The farther apart they are, the more the tape will stretch before it tears.
- Use the right tape for the right conditions. Vinyl tapes are rated for cold weather application in two classes: 0°C and -18°C. Tapes formulated for high temperature environments are typically rated 80°C or 105°C. Only professional grade tapes should be used on cables rated for less than 0°C and higher than 80°C.



## Wrapping Tips

Type of Tape	Number of Layers/Application Instructions
<b>Vinyl Electrical Tapes</b> - Jacketing and Mechanical Protection	Always use a minimum of two half-lapped layers. The last layer should be wrapped in a more relaxed manner - let the last wrap relax to prevent the layer from flagging.
<b>Rubber Tapes</b> - Electrical Insulation, Mechanical Padding, Water Sealing and Shaping	Wrap tape tightly to achieve the watertight seal. Rubber tapes are typically overwrapped with vinyl tape (refer image above).
<b>High Voltage Tapes</b> - Insulating and Semi-conductive Layers	Apply outside of roll to the cable, in highly stretched half-lapped layers. Never use a semi-conductive tape as an insulation.
<b>Mastic Compounds</b> - Insulating, Mechanical Padding, Moisture Sealing and Shaping	Overwrapping with vinyl prevents mastic flow and helps to create a watertight seal. Do not apply excessive amount of mastic to prevent oozing.

## Scotch® Super 33+™ Vinyl Electrical Tape

Scotch® Super 33+™ Vinyl Electrical Tape is a premium grade, 0.18 mm thick, flame retardant, all weather vinyl insulating tape. It is designed to perform continuously between a temperature range of -18 to 105°C. It has excellent resistance to abrasion, moisture, alkalis, acids, corrosion and varying weather conditions (including ultraviolet exposure). The combination of elastic backing and aggressive adhesive provides moisture tight electrical and mechanical protection with minimum bulk. Scotch® Super 33+™ Vinyl Electrical Tape is an Underwriters' Laboratories Listed and Canadian Standards Association Certified "Insulating Tape." Available in custom sizes in addition to standard sizes below.

**Agency Approvals:**  

**Applications:** Primary insulation for splices up to 600 V and 105°C  
Protective jacketing in indoor and outdoor environments



Scotch® Electrical, Industrial & Special Use Tapes

Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Breaking Strength	Operating Temperature
Super 33+ 19 mm x 20 m	80611207012	Black	19 mm	20 m	0.18 mm	45 kV/mm	2.6 kN/m	-18 to 105°C
Super 33+ 19 mm x 33 m	80610138929	Black	19 mm	33 m	0.18 mm	45 kV/mm	2.6 kN/m	-18 to 105°C
Super 33+ 25 mm x 33 m	80014001020	Black	25 mm	33 m	0.18 mm	45 kV/mm	2.6 kN/m	-18 to 105°C

## Scotch® Vinyl Colour Coding Electrical Tape 35

Scotch® Vinyl Electrical Tape 35 is a 0.18 mm thick PVC colour-coding, flame retardant tape. Outstanding electrical and mechanical properties make this tape excellent for use in phase identification, colour coding of motor leads and piping systems, and for marking safety areas. Scotch® Tape 35 operates over a wide range of temperatures between 0 to 105°C. This tape is available in a range of fade-resistant colours.

**Agency Approvals:**  

**Applications:** Phase identification and marking  
Harnessing  
Insulating splices up to 600 V



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Breaking Strength	Operating Temperature
35 Blue	80610833925	Blue	19 mm	20 m	0.18 mm	49 kV/mm	3.0 kN/m	0 to 105°C
35 Green	80610834048	Green	19 mm	20 m	0.18 mm	49 kV/mm	3.0 kN/m	0 to 105°C
35 Red	80610833909	Red	19 mm	20 m	0.18 mm	49 kV/mm	3.0 kN/m	0 to 105°C
35 White	80610833982	White	19 mm	20 m	0.18 mm	49 kV/mm	3.0 kN/m	0 to 105°C
35 Yellow	80610833966	Yellow	19 mm	20 m	0.18 mm	49 kV/mm	3.0 kN/m	0 to 105°C

## Scotch® Heavy Duty Vinyl Electrical Tape 22

Scotch® Heavy Duty Vinyl Electrical Tape 22 is one of 3M's thickest (0.25 mm) premium vinyl electrical tapes. It is designed for insulation applications that require greater mechanical strength and abrasion resistance. Scotch® Tape 22 provides moisture-resistant electrical and mechanical protection with fewer wraps than thinner tapes.

**Agency Approvals:**  

**Applications:** Bus bar insulation  
Cable jacket repair



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Breaking Strength	Operating Temperature
22 - 19 mm x 33 m	80012017044	Black	19 mm	33 m	0.25 mm	47.2 kV/mm	3.5 kN/m	-10 to 80°C
22 - 25 mm x 33 m	80012017051	Black	25 mm	33 m	0.25 mm	47.2 kV/mm	3.5 kN/m	-10 to 80°C
22 - 38 mm x 33 m	80012017069	Black	38 mm	33 m	0.25 mm	47.2 kV/mm	3.5 kN/m	-10 to 80°C
22 - 50 mm x 33 m	80012017077	Black	50 mm	33 m	0.25 mm	47.2 kV/mm	3.5 kN/m	-10 to 80°C

### 3M™ PVC Electrical Tape 1710N

3M PVC Electrical Tape 1710N is a good quality general purpose PVC insulating tape. It has very good resistance to abrasion, moisture, alkalis, acids, copper corrosion and varying weather conditions. It is flame retardant, has a high wet dielectric strength, is conformable, and provides excellent mechanical protection with minimum bulk. This tape is an Underwriters' Laboratories Listed and Canadian Standards Association Certified "Insulating Tape."

**Agency Approvals:**  

**Applications:** Primary electrical insulation for all wire and cable joints rated up to 600 volts and 80°C  
Protective jacketing for cable joints and repairs  
Harnessing of wires and cables  
For indoor or outdoor applications



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Breaking Strength	Operating Temperature
1710N Black	XE000724635	Black	18 mm	20 m	0.18 mm	39.4 kV/mm	2.6 kN/m	0 to 80°C
1710N Blue	XE000724668	Blue	18 mm	20 m	0.18 mm	39.4 kV/mm	2.6 kN/m	0 to 80°C
1710N Green	XE000724676	Green	18 mm	20 m	0.18 mm	39.4 kV/mm	2.6 kN/m	0 to 80°C
1710N Red	XE000724650	Red	18 mm	20 m	0.18 mm	39.4 kV/mm	2.6 kN/m	0 to 80°C
1710N White	XE000724643	White	18 mm	20 m	0.18 mm	39.4 kV/mm	2.6 kN/m	0 to 80°C
1710N Yellow	XE000724684	Yellow	18 mm	20 m	0.18 mm	39.4 kV/mm	2.6 kN/m	0 to 80°C
1710N Yellow/Green	XE000724692	Yellow/Green Stripe	18 mm	20 m	0.18 mm	39.4 kV/mm	2.6 kN/m	0 to 80°C
1710N Rainbow NZ*	XE000724700	Rainbow NZ	18 mm	20 m	0.18 mm	39.4 kV/mm	2.6 kN/m	0 to 80°C
1710N Rainbow AU**	XE000724718	Rainbow AU	18 mm	20 m	0.18 mm	39.4 kV/mm	2.6 kN/m	0 to 80°C

\*Rainbow NZ pack includes 2 rolls each of black, white, red, blue and green

\*\*Rainbow AU pack includes 3 rolls of black, 2 rolls each of white, red and blue, and 1 roll of yellow/green stripe

### 3M™ Temflex™ General Purpose Electrical Tape 1610 (available in AU only)

3M Temflex Electrical Tape 1610 is a good quality, economical, general purpose vinyl insulating tape. Temflex Tape 1610 is designed for use in phase identification, colour coding of motor leads and piping systems and for marking safety areas. It has very good resistance to abrasion, moisture, alkalis, acids and varying weather conditions (including sunlight).

**Applications:** Phase identification  
Colour coding  
Harnessing



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Breaking Strength	Operating Temperature
1610 Black	AE010586764	Black	19 mm	20 m	0.15 mm	39.4 kV/mm	2.8 kN/m	0 to 80°C
1610 Blue	AE010586749	Blue	19 mm	20 m	0.15 mm	39.4 kV/mm	2.8 kN/m	0 to 80°C
1610 Brown	AE019172450	Brown	19 mm	20 m	0.15 mm	39.4 kV/mm	2.8 kN/m	0 to 80°C
1610 Green/Yellow	AE010586723	Green/Yellow Stripe	19 mm	20 m	0.15 mm	39.4 kV/mm	2.8 kN/m	0 to 80°C
1610 Grey	AE019312394	Grey	19 mm	20 m	0.15 mm	39.4 kV/mm	2.8 kN/m	0 to 80°C
1610 Orange	AE019312329	Orange	19 mm	20 m	0.15 mm	39.4 kV/mm	2.8 kN/m	0 to 80°C
1610 Red	AE010586731	Red	19 mm	20 m	0.15 mm	39.4 kV/mm	2.8 kN/m	0 to 80°C
1610 White	AE010586756	White	19 mm	20 m	0.15 mm	39.4 kV/mm	2.8 kN/m	0 to 80°C
1610 Rainbow	AE010601407	Rainbow	19 mm	20 m	0.15 mm	39.4 kV/mm	2.8 kN/m	0 to 80°C

\*\*Rainbow pack includes 3 rolls of black, 2 rolls each of white, red and blue, and 1 roll of yellow/green stripe

Note: Available in Australia only

**3M™ Scotchkote™ Electrical Coating** provides vinyl tapes with an extra oil, moisture and corrosion resistant layer of flexible coating for problem areas.  
See page 34 for more details.



### Scotch® Rubber Splicing Tape 23

Scotch® Rubber Splicing Tape 23 is a premium, highly conformable, self-fusing Ethylene Propylene Rubber (EPR), high voltage insulating tape. Scotch® Tape 23 has a “snakeskin” liner that is easily removed as the tape is applied. This product can be used for low and high voltage (through 69 kV) applications.

**Applications:** Primary electrical insulation for splicing all solid dielectric cables through 69 kV  
Moisture sealing electrical connections  
Jacketing on high voltage splices and terminations



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Elongation	Breaking Strength	Operating Temperature	Emergency Operating Temperature
23 - 19 mm x 9 m	HT002007413	Black	19 mm	9.15 m	0.76 mm	31.5 kV/mm	1000%	1.4 kN/m	Up to 90°C	130°C
23 - 19 mm x 9 m Bulk*	AE010606562	Black	19 mm	9.15 m	0.76 mm	31.5 kV/mm	1000%	1.4 kN/m	Up to 90°C	130°C
23 - 25 mm x 9 m	HT002001283	Black	25 mm	9.15 m	0.76 mm	31.5 kV/mm	1000%	1.4 kN/m	Up to 90°C	130°C
23 - 38 mm x 9 m	HT002001275	Black	38 mm	9.15 m	0.76 mm	31.5 kV/mm	1000%	1.4 kN/m	Up to 90°C	130°C
23 - 50 mm x 9 m	HC000599767	Black	50 mm	9.15 m	0.76 mm	31.5 kV/mm	1000%	1.4 kN/m	Up to 90°C	130°C

\*Bulk pack is 90 rolls per carton, each roll shrink wrapped

### Scotch® Linerless Rubber Splicing Tape 130C

Scotch® Linerless Rubber Splicing Tape 130C is a premium, highly conformable, linerless Ethylene Propylene Rubber (EPR), high voltage insulating tape that provides excellent thermal dissipation of splice heat. Scotch® Splicing Tape 130C meets industry specifications and has excellent physical and electrical properties, which helps provide immediate moisture seal and void free buildups. Scotch® Splicing Tape 130C is rated up to 90°C continuous operating temperatures and short term 130°C overload service. This product can be used for low and high voltage (through 69 kV) applications. This tape should be applied like any rubber tape - that is, the outside of the tape should be facing down as applied (tacky side up). This will help prevent the roll from getting progressively further away from the work area.

**Applications:** Primary electrical insulation for splicing all solid dielectric cables through 69 kV  
Moisture sealing electrical connections  
Jacket repairs



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Elongation	Breaking Strength	Operating Temperature	Emergency Operating Temperature
130C - 19 mm x 9 m	80610833404	Black	19 mm	9.15 m	0.76 mm	29.5 kV/mm	850%	1.3 kN/m	Up to 90°C	130°C
130C - 25 mm x 9 m	80610833750	Black	25 mm	9.15 m	0.76 mm	29.5 kV/mm	850%	1.3 kN/m	Up to 90°C	130°C
130C - 38 mm x 9 m	80610833412	Black	38 mm	9.15 m	0.76 mm	29.5 kV/mm	850%	1.3 kN/m	Up to 90°C	130°C

### 3M™ Temflex™ Rubber Splicing Tape 2155

3M™ Temflex™ Rubber Splicing Tape 2155 is a conformable self-fusing rubber electrical insulating tape. Temflex Tape 2155 is compatible with solid dielectric cable insulations. Flexible over a wide temperature range, it is Underwriters Laboratories (UL) Listed for use up to 600 volts.

**Agency Approvals:** 

**Applications:** Low voltage electrical insulating up to 600 V  
Moisture sealing



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Elongation	Breaking Strength	Operating Temperature
2155 - 19 mm x 6.7 m	HC000592382	Black	19 mm	6.7 m	0.76 mm	23.6 kV/mm	700%	1.57 kN/m	Up to 80°C



For tips on how to easily apply Rubber Splicing Tapes, refer to page 1. For best mechanical and UV protection, overwrap with Scotch® Super 33+™ Vinyl Electrical Tape (see page 2).

### Scotch® Electrical Semi-Conducting Tape 13

Scotch® Electrical Semi-Conducting Tape 13 is a highly conformable, lined, semi-conducting Ethylene Propylene Rubber (EPR) based, high voltage splicing tape. Scotch® Tape 13 elongates easily to conform to irregular shapes and retains its conductivity when stretched.

**Applications:** Provides cable shield continuation



Product	3M Order Code	Colour	Width	Length	Thickness	Elongation	Breaking Strength
13 - 19 mm x 4.5 m	HT002000327	Black	19 mm	4.5 m	0.76 mm	800%	1.0 kN/m

### Scotch® Self-Fusing Silicone Rubber Electrical Tape 70

Scotch® Self-Fusing Silicone Rubber Electrical Tape 70 is a high temperature, arc and track resistant tape composed of self-fusing, inorganic silicone rubber with an easy-tear and easy-strip liner. It has excellent UV and ozone resistance and is workable at extremely low temperatures. Scotch Tape 70 can be used as base tape layer to enable clean re-entry of connections. Meets the requirements of Mil A-A-59163 Class I, Type I.

**Applications:** Protects and overlaps high voltage cable terminations and serves as base layer to provide clean re-entry into connections  
Protective overwrap for terminating high voltage cables



Product	3M Order Code	Colour	Width	Length	Thickness	Elongation	Dielectric Strength	Breaking Strength	Operating Temperature
70 - 25 mm x 9.15 m	80611438617	Grey	25 mm	9.15 m	0.3 mm	450%	34 kV/mm	2.1 kN/m	Up to 180°C

### Scotch® Fire-Retardant and Electric Arc Proofing Tape 77

Scotch® Fire and Electric Arc Proofing Tape 77 is a premium non-adhesive tape designed to protect most types of electrical cables when exposed to failures in an adjacent cable. Its specially formulated material expands in fire to form a thick char buildup between the flame and the cable. The resulting firewall acts as a heat shield and flame barrier, thus protecting the wrapped cables and accessories.

**Applications:** Protects cable until limiting devices can interrupt faulted current  
Use on high-energy cables that are within 457 mm of other high energy cables



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Breaking Strength
77 - 38 mm x 6 m	80611605975	Black	38 mm	6 m	0.76 mm	19.7 kV/mm	6.3 kN/m
77 - 38 mm x 6 m	80611605991	White	38 mm	6 m	0.76 mm	19.7 kV/mm	6.3 kN/m

### Scotch® Varnished Cambric Tape 2510

Scotch® Varnished Cambric Tape 2510 is made from straight-cut woven cotton cambric fabric. The fabric is oil primed and coated with a high grade yellow electrical insulating varnish. Varnished cambric tapes are flexible, electrically insulating and moisture resistant with a smooth finish. Scotch Tape 2510 is yellow, non-adhesive coated and 0.18 mm thick, providing an excellent dielectric strength with high puncture and cut-through resistance. Its electrical properties are stable up to 105°C.

**Applications:** Insulation of bus bars, motor leads (for re-entry), service drop connectors



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Breaking Strength	Operating Temperature
2510 - 25 mm x 33 m	80100220054	Yellow	25 mm	33 m	0.18 mm	31.4 kV/mm	8.8 kN/m	Up to 105°C
2510 - 50 mm x 33 m	80100220096	Yellow	50 mm	33 m	0.18 mm	31.4 kV/mm	8.8 kN/m	Up to 105°C

### Scotch® Electrical Shielding Tape 24

Scotch® Electrical Shielding Tape 24 is an all-metal, flat, tinned copper open-weave shielding mesh that is compatible with power cable insulations and all high voltage splicing and terminating materials. Scotch® Electrical Shielding Tape 24 elongates easily to conform and is temperature stable.

**Note:** Scotch® Electrical Shielding Tape 24 should not be used as a ground strap or jumper wire. Its ampacity is not great enough to carry large fault currents. For ground strap applications please refer to Scotch® Electrical Grounding Braid 25.

**Applications:** Continuous electrostatic shielding across splices



Product	3M Order Code	Width	Length	Thickness	Breaking Strength
24 - 25 mm x 4.5 m	80012024016	25 mm	4.5 m	0.4 mm	3.8 kN/m

### Scotch® Electrical Grounding Braid 25

Scotch® Electrical Grounding Braid 25 is a flat, all-metal woven electrical grounding braid that is compatible with power cable insulations and high voltage splicing and terminating materials. The Scotch® Electrical Grounding Braid 25 is conformable and temperature stable, and has a current carrying capacity approximately that of 12 mm² wire.

**Applications:** Conformable ground braid for splices and terminations



Product	3M Order Code	Width	Length	Thickness
25 - 12.7 mm x 4.5 m	80610000210	12.7 mm	4.5 m	2 mm

## Scotch® Glass Cloth Electrical Tapes 27

Scotch® Glass Cloth Electrical Tape 27 is a 0.18 mm thick woven insulating glass cloth tape with pressure sensitive rubber thermosetting adhesive. This tape is designed to operate in 600 volt dry applications requiring high mechanical strength and resistance to high temperatures. The glass cloth is specially treated and prepared to provide corrosion protection.

**Agency Approvals:**  

**Applications:** Heat stable insulation for furnace and oven controls, motor leads and switches  
Provides corrosion free protection



Product	3M Order Code	Colour	Width	Length	Thickness	Breaking Strength	Operating Temperature
27 - 12.7 mm x 20 m	80012020352	White	12.7 mm	20 m	0.18 mm	26 kN/m	Up to 150°C
27 - 19 mm x 20 m	80012020360	White	19 mm	20 m	0.18 mm	26 kN/m	Up to 150°C
27 - 25 mm x 55 m	80012020139	White	25 mm	55 m	0.18 mm	26 kN/m	Up to 150°C

## Scotch® Glass Cloth Electrical Tape 69

Scotch® Glass Cloth Electrical Tape 69 is a white glass cloth tape with a high temperature thermosetting silicone adhesive. The thermosetting adhesive provides an increased bond once applied in areas of high ambient temperatures. Scotch® Tape 69 is UL recognised for continuous use up to 200°C. It conforms to Military Specification No. MIL-I-19166C.

**Applications:** Heat stable insulation for furnace and oven controls, motor leads and switches  
Replaces Scotch® Glass Cloth Electrical Tape 27 in locations where a higher temperature tape is needed



Product	3M Order Code	Colour	Width	Length	Thickness	Breaking Strength	Operating Temperature
69 - 12.7 mm x 33 m	80018002420	White	12.7 mm	33 m	0.18 mm	31.5 kN/m	Up to 200°C
69 - 19 mm x 33 m	80012040046	White	19 mm	33 m	0.18 mm	31.5 kN/m	Up to 200°C
69 - 25 mm x 33 m	80012040053	White	25 mm	33 m	0.18 mm	31.5 kN/m	Up to 200°C



### Scotch® Rubber Mastic Tape 2228

Scotch® Rubber Mastic Tape 2228 is a conformable self-fusing rubber electrical insulating and sealing tape. Scotch Rubber Mastic 2228 consists of ethylene propylene rubber (EPR) backing coated with a strong, temperature-stable mastic adhesive. The tape is 1.65 mm thick for quick application build-up. It is designed for electrical insulating and moisture sealing applications.

**Applications:** Primary electrical insulation for joints up to 1000 V  
 Insulate, pad and seal bus bar connections rated up to 35 kV  
 Environmental and moisture seal



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Elongation	Breaking Strength	Maximum Operating Temperature
2228 - 25 mm x 3 m	80610737662	Black	25 mm	3 m	1.65 mm	19.7 kV/mm	1000%	1.7 kN/m	90°C
2228 - 50 mm x 3 m	80610322945	Black	50 mm	3 m	1.65 mm	19.7 kV/mm	1000%	1.7 kN/m	90°C

### 3M™ Scotch-Seal™ Mastic Tape Compound 2229

Scotch-Seal Mastic Tape Compound 2229 is designed for quick and easy insulating, padding, shaping and sealing of electrical connections. It is a conformable, durable, tacky mastic with an easy release liner for easy application over irregular surfaces and provides excellent moisture resistance. It features excellent self-healing characteristics after being punctured or cut.

**Applications:** Sealing high voltage cables and accessories  
 Environmental and moisture seal



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Maximum Operating Temperature
2229 - 25 mm x 3 m	80610732911	Black	25 mm	3 m	3.2 mm	14.9 kV/mm	90°C
2229 - 95 mm x 3 m	80610594410	Black	95 mm	3 m	3.2 mm	14.9 kV/mm	90°C

### 3M™ Scotchfil™ Electrical Insulation Putty

Use as a build-up compound on highly irregular surfaces such as fittings and valves, providing a smooth, waterproof taping surface. Scotchfil Electrical Insulation Putty is soft and pliable - simply press putty into place on irregular surfaces, mould with finger pressure and overtape using standard methods.

**Applications:** Insulation of connections up to 600 V  
 Smoothing of bus bar irregularities  
 Shaping and padding for split bolt connections



Product	3M Order Code	Colour	Width	Length	Thickness	Elongation	Dielectric Strength	Operating Temperature
Scotchfil Putty	80610833727	Black	38 mm	1.5 m	3.2 mm	1000%	22.6 kV/mm	0 to 80°C



#### For best mechanical and UV protection, overwrap

- Scotch® Rubber Mastic Tape 2228
- 3M™ Scotch-Seal Mastic Tape Compound 2229
- 3M Scotchfil™ Electrical Insulation Putty

with Scotch® Super 33+™ Vinyl Electrical Tape (see page 2)



### Scotch® Vinyl Mastic Tape VM

Two tapes in one - vinyl and mastic, designed to provide low voltage insulation, seal out moisture and protect against corrosion. Scotch® Vinyl Mastic (VM) Tape seals out moisture and protects against corrosion in one step, without the need for heating tools or using other tapes.

**Applications:**

- Cable sheath repair
- Splice case and load case protection
- Auxiliary sleeve and cable reel end sealing
- Drop wire insulating
- Conduit repair and protection of CATV components



Product	3M Order Code	Colour	Width	Length	Thickness	Dielectric Strength	Operating Temperature
VM - 38 mm x 6 m	80050045014	Black	38 mm	6 m	1.1 mm	11.8 kV/mm	-40 to 80°C
VM - 102 mm x 3 m	80050045022	Black	102 mm	3 m	1.1 mm	11.8 kV/mm	-40 to 80°C
VM - 152 mm x 3 m	80050045030	Black	152 mm	3 m	1.1 mm	11.8 kV/mm	-40 to 80°C

### Scotch® Heavy Duty Mining Tape 31

Scotch® Heavy Duty Mining Tape 31 has a tough, abrasion resistant backing for jacket repair on mining cables. Mining cables are exposed to extremely abrasive environments which often results in the damage of their original jackets. MSHA-approved Scotch Tape 31 offers an innovative solution for cable repair. With its abrasion-resistant properties and flame retardant mastic, Scotch Tape 31 applies easily and remains flexible while maintaining a strong moisture seal. The tape is printed with the MSHA logo/approval number.

**Applications:**

- Jacket repair of mining cables
- Splicing of mine conduit



Product	3M Order Code	Colour	Width	Length	Thickness	Elongation	Dielectric Strength	Breaking Strength	Operating Temperature
31 - 50 mm x 2.6 m	80611434004	Black	50 mm	2.6 m	1.5 mm	500%	15.7 kV/mm	27.3 kN/m	-30 to 105°C

### Scotch® Cable Jacket Repair Tape 2234

Scotch® Cable Jacket Repair Tape 2234 has a tough abrasion-resistant backing for jacket repair on industrial cables, such as flexible portable power cables, draglines, diesel locomotive cable, welding and shipboard cables. Due to abrasive dragging and reeling of these flexible cables, the original jacketing gets damaged often and needs to be repaired. Scotch Tape 2234 is flexible and the self-healing property of the mastic helps keep out moisture.

**Agency Approvals:** 

**Applications:** Jacket repair on electrical cables in extremely harsh environments



Product	3M Order Code	Colour	Width	Length	Thickness	Elongation	Dielectric Strength	Breaking Strength	Operating Temperature
2234 - 50 mm x 1.8 m	80611440936	Black	50 mm	1.8 m	1.5 mm	500%	15.7 kV/mm	27.3 kN/m	-30 to 105°C

### 3M™ Performance Plus Duct Tape 8979

3M Performance Plus Duct Tape 8979 has a unique tape construction that allows for both permanent and temporary applications whether indoors or outdoors. It is removable with little or no adhesive residue from most opaque surfaces up to six months after application. The tape is conformable, abrasion resistant, and water resistant. The polyethylene film and cloth scrim with rubber adhesive construction provides straight, easy tear with high tensile strength for some of the most demanding applications.

**Agency Approvals:** 

**Applications:** Cap pipe ends and conduit stored outside  
Hanging, sealing poly drapes



Product	3M Order Code	Colour	Width	Length	Thickness	Elongation	Breaking Strength	Operating Temperature	Adhesion to Steel
8979 - Blue - 48 mm x 23 m	70006412756	Slate Blue	48 mm	23 m	0.32 mm	21%	6.3 kN/m	Up to 93°C	57 N/100 mm
8979 - Blue - 48 mm x 55 m	70006413457	Slate Blue	48 mm	55 m	0.32 mm	21%	6.3 kN/m	Up to 93°C	57 N/100 mm
8979 - Olive - 48 mm x 55 m	70006413499	Olive	48 mm	55 m	0.32 mm	21%	6.3 kN/m	Up to 93°C	57 N/100 mm
8979 - Black - 48 mm x 55 m	70006413507	Black	48 mm	55 m	0.32 mm	21%	6.3 kN/m	Up to 93°C	57 N/100 mm
8979 - Black - 72 mm x 55 m	70006704590	Black	72 mm	55 m	0.32 mm	21%	6.3 kN/m	Up to 93°C	57 N/100 mm

### 3M™ Duct Tape 3939

3M Duct Tape 3939 is composed of waterproof polyethylene film over cloth scrim backing with a rubber adhesive used for demanding duct tape applications. Meets UL 723.

**Agency Approvals:** 

**Applications:** Sealing heating ventilation and air conditioning ducts



Product	3M Order Code	Colour	Width	Length	Thickness	Elongation	Breaking Strength	Operating Temperature	Adhesion to Steel
3939 - 48 mm x 55 m	70006250131	Silver	48 mm	55 m	0.23 mm	17%	4.4 kN/m	Up to 93°C	60 N/100 mm

### 3M™ Utility Duct Tape 1910C

Polyethylene coated cloth backing with tacky rubber adhesive for sealing, holding, bundling. Available in black or silver.

**Applications:** Sealing, holding, bundling



Product	3M Order Code	Colour	Width	Length	Thickness	Breaking Strength	Operating Temperature	Adhesion to Steel
1910C - Black - 48 mm x 10 m	XT000706728	Black	48 mm	10 m	0.15 mm	2.0 kN/m	Up to 50°C	106 N/100mm
1910C - Black - 48 mm x 50 m	XT000706744	Black	48 mm	50 m	0.15 mm	2.0 kN/m	Up to 50°C	106 N/100mm
1910C - Silver - 48 mm x 10 m	XT000706736	Silver	48 mm	10 m	0.15 mm	2.0 kN/m	Up to 50°C	106 N/100mm
1910C - Silver - 48 mm x 50 m	XT000706751	Silver	48 mm	50 m	0.15 mm	2.0 kN/m	Up to 50°C	106 N/100mm

### Scotch® 1352B & Tartan™ 2352 Duct Tapes

Scotch® 1352B and Tartan™ 2352 Tapes are stabilised and plasticised PVC film coated tapes suitable for most light industrial sealing and joining applications.

**Applications:** Joining polythene sheeting  
Sealing air ducts  
Temporary holding



Product	3M Order Code	Colour	Width	Length	Thickness
1352B (NZ) - 50 mm x 30 m	XT000732013	Black	50 mm	30 m	0.15 mm
1352B (AU) - 50 mm x 30 m	AT010575275	Black	50 mm	30 m	0.15 mm
2352 - 50 mm x 30 m	AT010575283	Silver	50 mm	30 m	0.13 mm

### 3M™ VHB™ Tape RP45

3M™ VHB™ Tape RP45 is a conformable, double-sided, pressure sensitive, closed-cell acrylic foam tape with a paper liner. Excellent permanent bonding to most surfaces used in a wide range of general industrial bonding applications. This permanent assembly tape bonds high and medium surface energy substrates. Provides handling convenience, cushioning, damping, and impact resistance. UV and weather resistance for exterior and interior applications.

**Applications:** Bonding a lens to a metal sign frame, washing machine touch panel bonding, commercial vehicle roof vent attachment, commercial vehicle trim attachment, interior rail car construction.

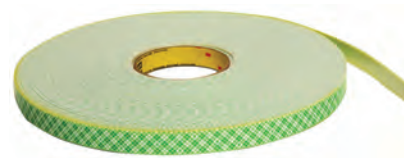


Product	3M Order Code	Colour	Width	Length	Thickness	Operating Temperature
RP45 - 12.7 mm x 5 m	70006743044	Grey	12.7 mm	5 m	1.1 mm	Up to 93°C long term. Up to 121°C short term
RP45 - 19 mm x 5 m	70006743168	Grey	19 mm	5 m	1.1 mm	Up to 93°C long term. Up to 121°C short term

### 3M™ Double Sided Foam Tape 4466W

3M™ Double Sided Foam Tape 4466W is a polyethylene, conformable, double coated, closed-cell foam tape. It provides "quick stick" and conformability for a wide range of surfaces.

**Applications:** Bonding, attaching and mounting. Indoor use only



Product	3M Order Code	Colour	Width	Length	Thickness	Operating Temperature
4466W - 12 mm x 10 m	AT019314783	White	12 mm	10 m	1.6 mm	Up to 49°C long term. Up to 70°C short term
4466W - 18 mm x 10 m	AT019314791	White	18 mm	10 m	1.6 mm	Up to 49°C long term. Up to 70°C short term
4466W - 24 mm x 10 m	AT019314809	White	24 mm	10 m	1.6 mm	Up to 49°C long term. Up to 70°C short term

### 3M™ Scotchrap™ Corrosion Protection Tape 50

3M Scotchrap Corrosion Protection Tape 50 is a tough PVC tape with high tack adhesive that resists corrosion of metal piping systems above and below ground. It applies over a wide temperature range and is resistant to impact, abrasion and punctures. Coat the pipe or other metal surfaces with 3M Scotchrap Pipe Primer before wrapping with Scotchrap Tape 50.

**Applications:** Protects pipe, conduits and fittings from corrosion



Product	3M Order Code	Colour	Width	Length	Thickness	Breaking Strength	Installation Temperature Range	Service Temperature Range
50 - 25 mm x 30 m	80008006621	Black	25 mm	30 m	0.25 mm	3.5 kN/m	-12 to 65°C	-48 to 80°C
50 - 50 mm x 30 m	80008006639	Black	50 mm	30 m	0.25 mm	3.5 kN/m	-12 to 65°C	-48 to 80°C
50 - 100 mm x 30 m	80008006647	Black	100 mm	30 m	0.25 mm	3.5 kN/m	-12 to 65°C	-48 to 80°C
50 - 150 mm x 30 m	80008006654	Black	150 mm	30 m	0.25 mm	3.5 kN/m	-12 to 65°C	-48 to 80°C

### 3M™ Scotchrap™ Pipe Primer

A quick-drying, non-sag rubber based primer that fills metal surface pits and irregularities, preparing the surface for tape application. Compatible with the special adhesive on 3M Scotchrap Tapes, it enhances adhesion. To be used with 3M Scotchrap Corrosion Protection Tape 50.

**Applications:** Used with Scotchrap Corrosion Protection Tape 50 to resist corrosion of above and below ground metal piping systems

Product	3M Order Code	Size
Pipe Primer	80610925739	3.8 L



### 3M™ Temflex™ Cotton Friction Tape 1755

3M Temflex Cotton Friction Tape 1755 is a high-grade, black friction tape designed to provide mechanical protection against abrasion and cut-through for cable, wire splices and connections insulated with rubber electrical tape. The 0.33 mm thick tape is composed of a high quality cotton fabric, coated on both sides with an electrical grade, solvent free, rubber adhesive. Temflex Tape 1755 has high break strength and low stretch, making it ideal as a heavy duty binding and harnessing tape.

**Applications:** Abrasion protection for splices and connections



Product	3M Order Code	Colour	Width	Length	Thickness	Breaking Strength	Operating Temperature
1755 - 19 mm x 18.3 m	80611604283	Black	19 mm	18.3 m	0.33 mm	8.4 kN/m	Up to 80°C

### 3M™ Antistatic Utility Tape 40PR

General use utility tape, clear polyester film backing, anti-static conductive polymer adhesive. With preprinted static symbol. Helps prevent electrostatic discharge (ESD) damage to sensitive electronic components in manufacturing environments.

**Applications:** For use in static sensitive areas  
Closing static shielding bags



Product	3M Order Code	Colour	Width*	Length*	Thickness	Breaking Strength	Adhesion to Steel	Static Charge Generation at 50% RH	
								Remove from Roll	Remove from Stainless Steel
40PR - 6.4 mm x 66 m	80610872592	Clear with printing	6.4 mm	66 m	0.056 mm	3.5 kN/m	17 N/100mm	5 V	5 V
40PR - 19 mm x 66 m	80610872642	Clear with printing	19 mm	66 m	0.056 mm	3.5 kN/m	17 N/100mm	5 V	5 V

\*Also available from 3M converters in other standard and custom sizes.

### Scotch® Pipe Thread Sealant Tape 48

A high temperature-stable (PTFE) thread sealant that provides a leak-proof seal.



Product	3M Order Code	Colour	Width	Length	Thickness	Operating Temperature
48 - 12.7 mm x 33 m	80018003915	White	12.7 mm	33 m	0.076 mm	-268 to 260°C

### 3M™ Armorcast Structural Material

3M Armorcast Structural Material (roll format) is packed dry in a sealed foil envelope and is a flexible fiberglass knit fabric strip that has been saturated with a curable black urethane resin syrup that starts to cure when water is added. Once wet, the fiber strip becomes tacky and sticks to itself, so it wraps easily around almost any shape or size. Armorcast Structural Material is resistant to moisture, fungus, acid, alkali, ozone, sunlight, gasoline and high temperatures. It combines long life and very little maintenance.

**Applications:** Creates maintenance free mechanical protection for power cable splices  
For strengthening old cable, splices and auxiliary seals  
For sheath repairs as well as repairs to lead auxiliaries



Product	3M Order Code	Width	Length
4560 - 100 mm x 3 m	YP206100015	100 mm	3 m





## 3M™ Insulating and Conductive Tapes

3M Insulating and Conductive Tapes are made from a broad range of backings and adhesives to meet the uniquely demanding requirements of different applications and environments. Extensive quality control and testing, combined with accurate process controls, are just part of the reason that 3M consistently provides high quality products.



These tapes are typically available from 3M converters in standard and custom sizes. Some tapes are available in slit sizes from 3M. Please contact your 3M representative for more details.



Product	Product Description	Features	Total Thickness	Operating Temperature	UL Flame retardant	Dielectric Breakdown	Insulation Resistance	Breaking Strength	Adhesion to Steel	Agency Approvals	
											
Glass Cloth Electrical Tapes											
27	Scotch® Glass Cloth Electrical Tape 27	High-performance glass cloth tape that is tough and conformable. White	0.18 mm	150°C		3000 V	48 x 10³ MΩ	25.2 kN/m	33 N/100 mm	✓	✓
69	Scotch® Glass Cloth Electrical Tape 69	High-temperature (200°C) glass cloth tape. UL 510 flame retardant. Printable. White	0.18 mm	200°C	Yes	3000 V	48 x 10³ MΩ	31.4 kN/m	44 N/100 mm	✓	✓
Filament Reinforced Paper Electrical Tape											
1076	3M™ Paper Backed Filament Electrical Filament Tape 1076	Paper/glass filament backing designed for oil-filled transformer applications	0.25mm	105°C		3500 V		48.1 kN/m	44 N/100 mm		
Glass Fibre Reinforced Polyester Film Electrical Tape											
1039	3M™ Glass Fibre Reinforced Polyester Film Electrical Tape 1039	Solvent-resistant filament tape with pressure sensitive acrylic adhesive	0.18 mm	130°C		5500 V	1 x 10⁵ MΩ	48.1 kN/m	38 N/100 mm	✓	
Acetate Cloth Electrical Tape											
28	3M™ Acetate Cloth Electrical Tape 28	Thermosetting Rubber adhesive. Printable. White	0.20 mm	105°C		2500 V	20 x 10³ MΩ	7 kN/m	44 N/100 mm		
Crepe Paper Electrical Tape											
16	3M™ Crepe Paper Electrical Tape 16	Paper tape with aggressive rubber resin adhesive. Coil cover on bobbin-wound coils	0.23 mm	105°C		2500 V	>1 x 10⁶ MΩ	4.4 kN/m	55 N/100 mm		
Epoxy Film Electrical Tape											
Super 20	3M™ Super 20 Restricting Tape White	Thick double sided epoxy for higher temperature and dielectric strength	0.13 mm	155°C	Yes	8000 V	>1 x 10⁶ MΩ	7.9 kN/m	33 N/100 mm	✓	✓
Polyester Film Electrical Tape											
5	3M™ Polyester Film Electrical Tape 5	General purpose polyester tape with acrylic adhesive. 0.025 mm film. Clear	0.06 mm	130°C		5500 V	>1 x 10⁶ MΩ	4.4 kN/m	38 N/100 mm	✓	✓
1318-1	3M™ Polyester Film Electrical Tape 1318-1	Acrylic adhesive. 0.025 mm film. Printable. Black or White	0.06 mm	130°C		5500 V	>1 x 10⁶ MΩ	4.4 kN/m	33 N/100 mm	✓	✓
1350F-1	3M™ Polyester Film Electrical Tape 1350F-1	Acrylic adhesive. 0.025 mm film. UL510 flame retardant. Yellow	0.06 mm	130°C	Yes	5500 V	>1 x 10⁶ MΩ	4.4 kN/m	33 N/100 mm	✓	✓
56	3M™ Polyester Film Electrical Tape 56	General purpose polyester tape with thermosetting rubber adhesive. 0.025 mm film. Yellow	0.06 mm	130°C		5500 V	>1 x 10⁶ MΩ	4.4 kN/m	55 N/100 mm	✓	✓
58	3M™ Polyester Film Electrical Tape 58	Thicker, higher dielectric. Thermosetting rubber adhesive. 0.05 mm film. Clear	0.08 mm	130°C		7000 V	>1 x 10⁶ MΩ	8.8 kN/m	65 N/100 mm	✓	✓



### 3M™ Insulating and Conductive Tapes *continued*

Product	Product Description	Features	Total Thickness	Operating Temperature	UL Flame retardant	Dielectric Breakdown	Insulation Resistance	Breaking Strength	Electrical Resistance	Adhesion to Steel	Agency Approvals	
												
Composite Film Tape												
44	3M™ Polyester Film Electrical Tape 44	Economical, general purpose composite film tape. This puncture-resistant tape is tough and conformable with excellent electrical properties. For general purpose insulation, anchoring, and banding in motors and transformers	0.14 mm	130°C		5500 V	>1 x 10 <sup>6</sup> MΩ	7 kN/m		71 N/100 mm	✓	✓
44D-A	3M™ Reinforced Polyester Film Electrical Tape 44D-A	A version of 44 Tape with twice the backing thickness for greater dielectric strength	0.30 mm	130°C		6000 V	>1 x 10 <sup>6</sup> MΩ	7 kN/m		38 N/100 mm	✓	
Polyimide Film Electrical Tape												
92	3M™ Polyimide Film Electrical Tape 92	Silicone adhesive and 0.025 mm film. High temperature, puncture resistant, printable, flame retardant. Stable in coils,harnesses and capacitors that are subjected to high temperatures	0.08 mm	180°C	Yes	7500 V	>1 x 10 <sup>6</sup> MΩ	5.3 kN/m		28 N/100 mm	✓	✓
PTFE Film Electrical Tape												
60	3M™ PTFE Film Electrical Tape 60	Translucent, 0.05 mm PTFE film tape with silicone adhesive. For use on high temperature coils, capacitors and wire harnesses. UL510 flame retardant	0.10 mm	180°C	Yes	9500 V	>1 x 10 <sup>6</sup> MΩ	3.5 kN/m		32 N/100 mm	✓	
61	3M™ PTFE Film Electrical Tape 61	Translucent, thicker (0.127 mm) PTFE film tape with silicone adhesive. For use on high temperature coils, capacitors and wire harnesses where high dielectric and breaking strength are required. UL510 flame retardant	0.18 mm	180°C	Yes	15000 V	>1 x 10 <sup>6</sup> MΩ	7.9 kN/m		38 N/100 mm	✓	
63	3M™ PTFE Film Electrical Tape 63	Translucent, 0.05 mm PTFE film tape with solvent resistant acrylic adhesive. For use on coils, capacitors and wire harnesses. For use where chemical properties are more important than temperature resistance	0.09 mm	155°C	Yes	9500 V	>1 x 10 <sup>6</sup> MΩ	3.5 kN/m		38 N/100 mm	✓	
EMI Shielding Tapes												
1170	3M™ Aluminium Foil Tape with Conductive Adhesive 1170	Conductive acrylic adhesive, 0.05 mm aluminium foil	0.08 mm		Yes			3.5 kN/m	0.01 Ω	38 N/100 mm	✓	
1181	3M™ Copper Foil Tape with Conductive Adhesive 1181	Conductive acrylic adhesive, 0.04 mm copper foil	0.07 mm		Yes			4.4 kN/m	0.005 Ω	38 N/100 mm	✓	
1182	3M™ Copper Foil Tape with Conductive Adhesive on both sides 1182	Conductive acrylic adhesive on both sides, 0.04 mm copper foil	0.09 mm		Yes			4.4 kN/m	0.01 Ω	38 N/100 mm	✓	
1194	3M™ Copper Foil Tape with Nonconductive Adhesive 1194	Nonconductive adhesive, 0.07 mm copper foil	0.08 mm		Yes			4.4 kN/m	n/a	51 N/100 mm	✓	
1245	3M™ Embossed Copper Foil Tape 1245	Conductive acrylic adhesive, embossed 0.04 mm copper foil	0.10 mm		Yes			4.4 kN/m	0.001 Ω	38 N/100 mm	✓	

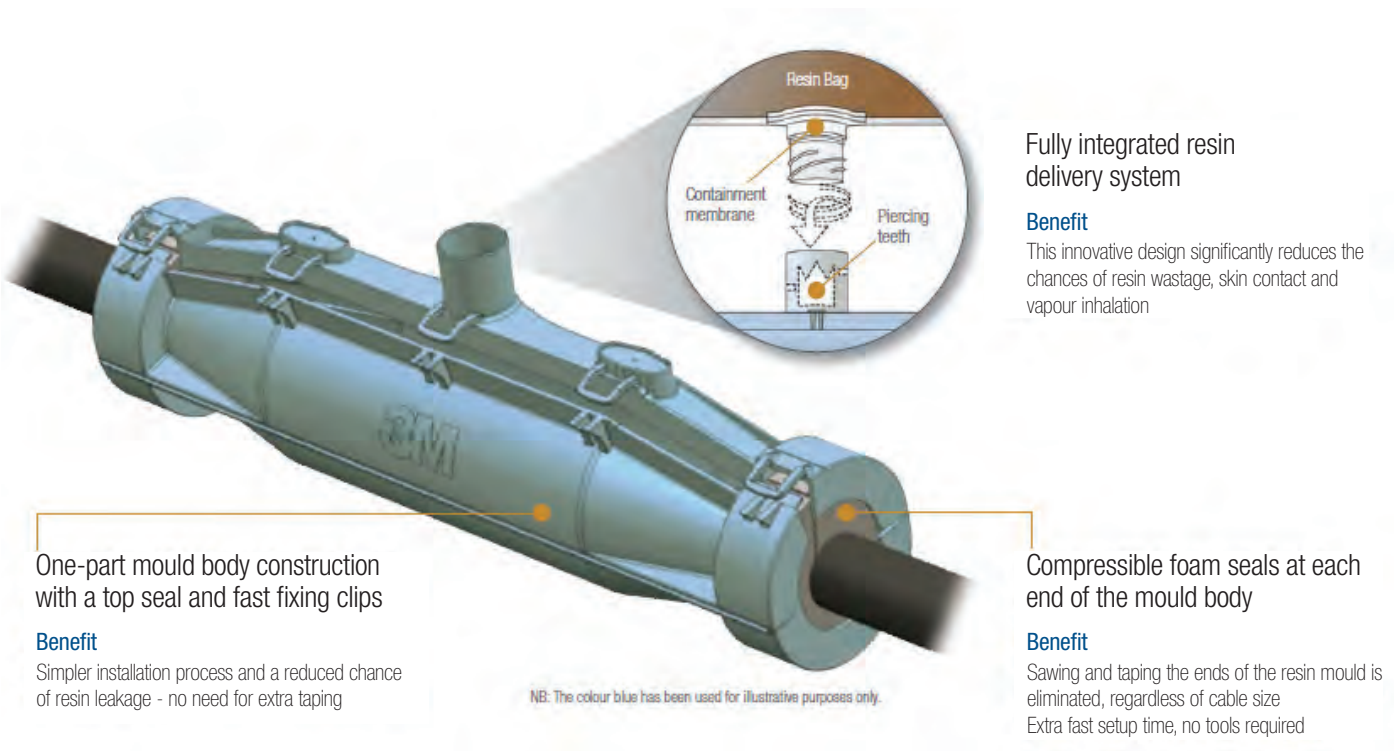


# 3M™ Scotchcast™ Resin Cable Joint Kits

The 3M Scotchcast Resin Cable Joint range is designed to make the installation process faster, safer and more reliable than ever before. The range includes hydrocarbon resistant products specially developed for the oil and gas industries, as well as dedicated products to suit armoured cable types commonly found in mining and industrial environments. The range caters to a broad range of cable sizes and configurations, including inline and branch jointing applications.

## Features available in the new Scotchcast Resin Cable Joint Kit range include:

- “Express” one-part mould body with innovative sealing system requiring no cutting to size or taping, allowing unmatched speed of installation (excludes LVI-3 series, which uses a hydrocarbon resistant two-part mould body, and the 82-A series sold in New Zealand).
- Closed Mix-Pour with integrated resin delivery system. Designed to eliminate almost any chance of skin contact, user safety is increased and wastage from spills is minimized (excludes LVI-3 series and 82-A series).
- High quality 3M resin compounds which offer confidence through renowned reliability, and provide durability to avoid costly re-work and system down time.



The 3M Scotchcast Closed Mix-Pour resin system allows mixing and pouring of the two-part resin without exposure to the user. Further, no tools or mixing containers are required.



Sealed, two part resin bag



Integrated delivery system. Included nozzle accessory used for LVI-3 series



Internal mixing is safe and clean



Resin is released and safely poured in one easy step

### 3M™ Scotchcast™ Resin Cable Joint Kits

Cable Type	Non-Armoured		Armoured
Joint Configuration	Inline	Branch	Inline
Scotchcast™ Joint Kit Hazardous Area Range		92-NBB-U Series	LVI-3 Series
Scotchcast™ Joint Kit Premium Range	92-NBA Series	92-NBB-Series (Y-branch) 92-NBC-Series (T-branch)	LVI-2 Series

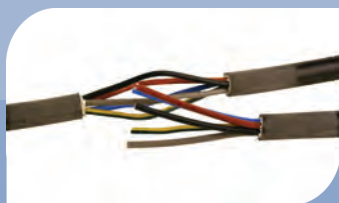
3M™ Scotchcast Resin Cable Joint Kits and Resins

### 3M™ Scotchcast™ Premium Resin Cable Joint Range

3M Scotchcast Premium Resin Cable Joints feature 3M™ Scotchcast™ Electrical Insulating Resin 40, which is a high quality two part polyurethane compound designed for electrical insulation and mechanical protection. Scotchcast Premium Resin Cable Joints are available in a range of sizes and configurations to suit inline, Y-branch, T-branch applications, and joints requiring cable armouring components. All products in this range utilise the “express” one-part mould body, providing time and cost savings through extra fast set up.

**Applications:** Indoor, outdoor, underground and submerged applications

The 3M™ Scotchcast™ “Express” one-part mould body is available in inline, T-branch and Y-branch (pictured) configurations.



Prepare and connect cables



Install mould



Mix and pour resin



Joint complete when resin has completely filled the mould

Product	3M Order Code	Cable Type	Cable Diameter		Joint Configuration	Mould Body
			Main	Branch		
92-NBA0	KE235117568	Non-armoured	6 - 16 mm		Inline	Express one-part
92-NBA1	KE235117576	Non-armoured	10 - 22 mm		Inline	Express one-part
92-NBA2	KE235117584	Non-armoured	12 - 25 mm		Inline	Express one-part
92-NBA3	KE235117592	Non-armoured	13 - 32 mm		Inline	Express one-part
92-NBA4	KE235117600	Non-armoured	18 - 36 mm		Inline	Express one-part
92-NBA5	KE235117618	Non-armoured	19 - 45 mm		Inline	Express one-part
92-NBA6	KE235117626	Non-armoured	27 - 54 mm		Inline	Express one-part
92-NBA7	KE235117634	Non-armoured	29 - 64 mm		Inline	Express one-part
92-NBB0	KE235119358	Non-armoured	8 - 19 mm	8 - 19 mm	Branch (Y Config)	Express one-part
92-NBB1	KE235119366	Non-armoured	11 - 25 mm	11 - 25 mm	Branch (Y Config)	Express one-part
92-NBB2	KE235119374	Non-armoured	16 - 35 mm	16 - 35 mm	Branch (Y Config)	Express one-part
92-NBC2	KE235119408	Non-armoured	16 - 35 mm	16 - 35 mm	Branch (T Config)	Express one-part
LVI-2/2-C*	KE235112288	Armoured	12 - 25 mm		Inline	Express one-part
LVI-2/3-C*	KE235112296	Armoured	13 - 32 mm		Inline	Express one-part
LVI-2/4	KE235112320	Armoured	18 - 36 mm		Inline	Express one-part
LVI-2/5	KE235112338	Armoured	19 - 45 mm		Inline	Express one-part
LVI-2/6	KE235112346	Armoured	27 - 54 mm		Inline	Express one-part
LVI-2/7	KE235112353	Armoured	29 - 64 mm		Inline	Express one-part

\*Connectors (crimp) included

## Selection Table

Inline joint kits for non-armoured cable

Cable Cross Section (mm <sup>2</sup> )	1 Core	2 Cores	3 Cores	4 Cores
1.5	92-NBA0	92-NBA0	92-NBA0	92-NBA0
2.5	92-NBA0	92-NBA0	92-NBA0	92-NBA0
4	92-NBA0	92-NBA0	92-NBA0	92-NBA0
6	92-NBA0	92-NBA0	92-NBA0	92-NBA1
10	92-NBA0	92-NBA1	92-NBA1	92-NBA1
16	92-NBA0	92-NBA1	92-NBA1	92-NBA3
25	92-NBA0	92-NBA3	92-NBA3	92-NBA3
35	92-NBA0	92-NBA3	92-NBA3	92-NBA3
50	92-NBA0	N/A	92-NBA3	92-NBA4
70	92-NBA1	N/A	92-NBA4	92-NBA5
95	92-NBA1	N/A	92-NBA5	92-NBA5
120	92-NBA1	N/A	92-NBA5	92-NBA6
150	92-NBA3	N/A	92-NBA6	92-NBA6
185	92-NBA3	N/A	92-NBA7	92-NBA7

Inline joint kits for armoured cable

Cable Cross Section (mm <sup>2</sup> )	1 Core	2 Cores	3 Cores	4 Cores
1.5	N/A	LVI-2/2-C*	LVI-2/2-C*	LVI-2/2-C*
2.5	N/A	LVI-2/2-C*	LVI-2/2-C*	LVI-2/2-C*
4	N/A	LVI-2/2-C*	LVI-2/2-C*	LVI-2/2-C*
6	N/A	LVI-2/2-C*	LVI-2/2-C*	LVI-2/2-C*
10	N/A	LVI-2/3-C*	LVI-2/3-C*	LVI-2/3-C*
16	N/A	LVI-2/3-C*	LVI-2/4	LVI-2/4
25	N/A	LVI-2/3-C*	LVI-2/4	LVI-2/4
35	N/A	LVI-2/4	LVI-2/5	LVI-2/5
50	LVI-2/3-C*	LVI-2/5	LVI-2/5	LVI-2/5
70	LVI-2/3-C*	LVI-2/5	LVI-2/6	LVI-2/6
95	LVI-2/4	LVI-2/6	LVI-2/6	LVI-2/7
120	LVI-2/4	LVI-2/6	LVI-2/7	LVI-2/7
150	LVI-2/4	LVI-2/6	LVI-2/7	LVI-2/7
185	LVI-2/5	LVI-2/7	LVI-2/7	LVI-2/8

\*Connectors (crimp) included

Note: Final determining factor is the cable diameter

### 3M™ Scotchcast™ Hazardous Area Resin Cable Joint Range

Scotchcast Hazardous Area Resin Cable Joints feature 3M™ Scotchcast™ Insulating Resin 1402FR. Scotchcast 1402FR resin is flame retardant, halogen free, and remains virtually unaffected by immersion in hydrocarbons and chemical solvents. When exposed to petrol, diesel and aggressive solvents, rapid deterioration can be experienced by standard encapsulating resins – especially those commonly found in conventional, low cost resin jointing kits. 1402FR is an ultra-high quality, highly modified resin that demonstrates superior performance compared to other encapsulating resin types. 3M Scotchcast Hazardous Area resin joint kits are recommended for industrial or specialist applications where hydrocarbons are present.



**Applications:** Indoor, outdoor, underground and submerged applications  
For use within Zone 1 and 2 areas

Product	3M Order Code	Cable Type	Cable Diameter		Joint Configuration	Mould Body
			Main	Branch		
LVI-3/2-C*	KE235119523	Armoured	14 - 30 mm		Inline	Flame retardant two-part
LVI-3/3-C*	KE235119531	Armoured	23 - 35 mm		Inline	Flame retardant two-part
LVI-3/4	KE235119549	Armoured	28 - 47 mm		Inline	Flame retardant two-part
LVI-3/5	KE235119556	Armoured	35 - 60 mm		Inline	Flame retardant two-part
LVI-3/6	KE235119564	Armoured	45 - 70 mm		Inline	Flame retardant two-part
LVI-3/7	KE235119572	Armoured	45 - 90 mm		Inline	Flame retardant two-part
LVI-3/8	KE235120810	Armoured	45 - 100 mm		Inline	Flame retardant two-part
LVI-3/2-IC	KE235119580	Instrumentation/Control, Armoured	14 - 30 mm		Inline	Flame retardant two-part
LVI-3/3-IC	KE235119598	Instrumentation/Control, Armoured	23 - 35 mm		Inline	Flame retardant two-part
LVI-3/4-IC	KE235119606	Instrumentation/Control, Armoured	28 - 47 mm		Inline	Flame retardant two-part
LVI-3/5-IC	KE235119614	Instrumentation/Control, Armoured	35 - 60 mm		Inline	Flame retardant two-part
LVI-3/6-IC	KE235119622	Instrumentation/Control, Armoured	45 - 70 mm		Inline	Flame retardant two-part
LVI-3/2-C-TM*	AT019314882	Termite Protection, Armoured	14 - 30 mm		Inline	Flame retardant two-part
LVI-3/3-C-TM*	AT010589193	Termite Protection, Armoured	23 - 35 mm		Inline	Flame retardant two-part
LVI-3/4-TM	AT010589201	Termite Protection, Armoured	28 - 47 mm		Inline	Flame retardant two-part
LVI-3/5-TM	AT010589227	Termite Protection, Armoured	35 - 60 mm		Inline	Flame retardant two-part
LVI-3/8-TM	AT010589235	Termite Protection, Armoured	45 - 100 mm		Inline	Flame retardant two-part
LVI-3/2-IC-TM	AE010590303	Instrumentation/Control, Termite Protection, Armoured	14 - 30 mm		Inline	Flame retardant two-part
LVI-3/3-IC-TM	AE010590311	Instrumentation/Control, Termite Protection, Armoured	23 - 35 mm		Inline	Flame retardant two-part
LVI-3/4-IC-TM	AE010590295	Instrumentation/Control, Termite Protection, Armoured	28 - 47 mm		Inline	Flame retardant two-part
92-NBB1-U	KE235109110	Non Armoured	11 - 23 mm	11 - 23 mm	Branch (Y config)	Express one-part
92-NBB2-U	KE235109128	Non Armoured	16 - 33 mm	16 - 33 mm	Branch (Y config)	Express one-part

\*Connectors (crimp) included



### Selection Table

Inline joint kits for armoured cable in hazardous areas

Cable Cross Section (mm <sup>2</sup> )	1 Core	2 Cores	3 Cores	4 Cores
1.5	N/A	LVI-3/2-C*	LVI-3/2-C*	LVI-3/2-C*
2.5	N/A	LVI-3/2-C*	LVI-3/2-C*	LVI-3/2-C*
4	N/A	LVI-3/2-C*	LVI-3/2-C*	LVI-3/2-C*
6	N/A	LVI-3/2-C*	LVI-3/2-C*	LVI-3/2-C*
10	N/A	LVI-3/3-C*	LVI-3/3-C*	LVI-3/3-C*
16	N/A	LVI-3/3-C*	LVI-3/3-C*	LVI-3/3-C*
25	N/A	LVI-3/3-C*	LVI-3/4	LVI-3/4
35	N/A	LVI-3/4	LVI-3/4	LVI-3/4
50	LVI-3/2-C*	LVI-3/4	LVI-3/4	LVI-3/5
70	LVI-3/3-C*	LVI-3/4	LVI-3/5	LVI-3/5
95	LVI-3/3-C*	LVI-3/5	LVI-3/5	LVI-3/6
120	LVI-3/4	LVI-3/5	LVI-3/6	LVI-3/6
150	LVI-3/4	LVI-3/6	LVI-3/7	LVI-3/7
185	LVI-3/4	LVI-3/6	LVI-3/7	LVI-3/7

\*Connectors (crimp) included

Note: Final determining factor is the cable diameter

### 3M Customised Resin Kit Solutions

The comprehensive 3M Scotchcast Resin Cable Joint range covers a vast array of applications and sizes; however we recognise that many projects require a customised solution to meet specific needs. For customised kit options, including termite and flame protection, please contact 3M with your enquiry.





## Resin Joint Kits

### 3M™ Scotchcast™ Inline Resin Power Cable Splice Kits 82-A Series (available in NZ only)

Use the 3M Scotchcast Inline Resin Splice Kits 82-A Series to insulate and seal single conductor, unshielded cable splices through 5 kV and multiple conductor cables through 1 kV. For use with UL listed connectors only.

**Agency Approvals:** 

**Important:** Use cable or connector diameter for final ordering criteria  
This range is only available in New Zealand

**Applications:** Indoor, outdoor, underground and submerged applications



Product	3M Order Code (NZ only)	Cable Size	Connector Diameter (maximum)	Cable Diameter (maximum)	Joint Configuration	Mould Body
82-A1	80610981567	Up to 30 mm <sup>2</sup>	10 mm	16 mm	Inline	Standard two-part
82-A2	80610981575	35 - 80 mm <sup>2</sup>	16 mm	25 mm	Inline	Standard two-part
82-A3	80610981583	95 - 200 mm <sup>2</sup>	25 mm	40 mm	Inline	Standard two-part

3M™ Scotchcast Resin Cable Joint Kits and Resins

### 3M™ Scotchcast™ Electrical Insulating Resin 1402FR

3M Scotchcast Hazard Area Electrical Insulating Resin 1402FR is a halogen free, flame retardant, two component polyurethane resin. The resin is designed with flame retardant and chemical resistant properties for electrical insulation and mechanical protection of electrical cable joints.

**Applications:** Electrical insulation and mechanical protection of low and medium voltage electrical joints installed for indoor and outdoor, underground and submerged applications in conditions where flame retardancy and/or resistance to chemicals such as hydrocarbons is required



Product	3M Order Code	Size	Viscosity at 23°C (mixed)	Cured Properties			
				Hardness Shore D	Tensile Strength	Elongation at Break	Dielectric Strength
1402FR	KE235108906	C 370 mL	2500 mPas	75	25 MPa	2%	>20 kV/mm

### 3M™ Scotchcast™ Encapsulating and Blocking Compound 4407

3M Scotchcast Encapsulating and Blocking Compound 4407 is a hard encapsulant designed specifically for permanent splice protection and cable blocking applications using telecommunications cables.

**Applications:** Telecommunication applications requiring a hard, non-re-enterable compound with good handling and performance characteristics



Product	3M Order Code	Size	Viscosity at 23°C (mixed)	Cured Properties		
				Hardness Shore A	Tensile Strength	Elongation at Break
4407 Size A	80610060339	89 mL	1200 mPas	70	3.45 Mpa	150%
4407 Size B	80610060347	197 mL	1200 mPas	70	3.45 Mpa	150%
4407 Size C	80610060362	396 mL	1200 mPas	70	3.45 Mpa	150%
4407 Size D	80610060388	637 mL	1200 mPas	70	3.45 Mpa	150%

### 3M™ Scotchcast™ Electrical Insulating Resin 40

3M Scotchcast Premium Electrical Insulating Resin 40 is a high quality two part polyurethane room temperature curing (low exotherm) resin designed for electrical insulation and mechanical protection. Once hardening is complete, the resin provides impact resistance and durability against moisture and atmospheric corrosion. It features a Closed Mix and Pour Delivery System designed to improve user safety and minimise wastage from spills (note - 40 size C without nozzle does not use a closed pour system). Pot life at 23°C is 20 minutes.

**Applications:** Mechanical protection and electrical insulation of low voltage electrical joints installed for indoor and outdoor, underground and submerged applications



Product	3M Order Code	Size	Viscosity at 23°C (mixed)	Cured Properties			
				Hardness Shore D	Tensile Strength	Elongation at Break	Dielectric Strength
40 Size A	KE235117667	A 90 mL (100 g)	900 mPas	57	15 MPa	50%	>20 kV/mm
40 Size B	KE235117675	B 200 mL (225 g)	900 mPas	57	15 MPa	50%	>20 kV/mm
40 Size C	KE235117683	C 370 mL (420 g)	900 mPas	57	15 MPa	50%	>20 kV/mm
40 Size C no nozzle*	KE235117741	C 370 mL (420 g) without nozzle	900 mPas	57	15 MPa	50%	>20 kV/mm

\*No nozzle format is recommended for resin pressure method (RPM) applications

### 3M™ Scotchcast™ Re-enterable Resin 48FR

3M Scotchcast Re-enterable Resin 48FR can be used on either temporary or permanent cable joints. It is designed for easy removal, enabling further work or the recovery of parts, and can be removed with a simple plastic knife - no other tools, heat or solvents are required. It was developed to satisfy the requirements of the coal mining industry, where re-entry into joints and couplers is necessary. Flame retardant and semi-flexible. Gel time 15 minutes.

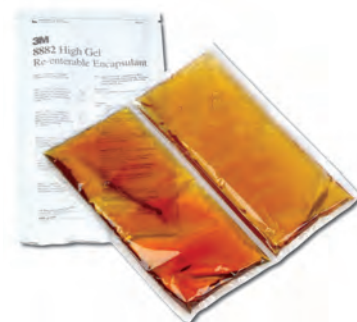
**Applications:** To provide secondary insulation and moisture sealing in joints and couplers where re-entry into that joint or coupler may be necessary

Product	3M Order Code	Size	Viscosity at 23°C (mixed)	Cured Properties			
				Hardness Shore D	Tensile Strength	Elongation at Break	Dielectric Strength
48FR	UE555571905	4 L	1500 mPas	12	0.24 MPa	120%	>5 kV/mm
48FR	UE444457951	2 L	1500 mPas	12	0.24 MPa	120%	>5 kV/mm

### 3M™ High Gel Re-enterable Encapsulant 8882

3M High Gel Re-enterable Encapsulant 8882 is a two-part non-urethane encapsulating compound. The encapsulant aggressively adheres to filled cable and is compatible with common plastics used in telephone splice connectors. The encapsulant permits easy cable splice re-entry for future changes and maintenance.

**Applications:** Encapsulating, sealing, potting, insulating and shock damping



Product	3M Order Code	Size	Viscosity at 23°C (mixed)	Cured Properties
				Elongation at Break
8882-A	80611166036	90 ml Guard Bag	670 mPas	300%
8882-C	80611166044	385 ml Guard Bag	670 mPas	300%
8882-D	80611166051	659 ml Guard Bag	670 mPas	300%
8882-8000C*	80611166143	8333 ml Pouch and Pail	670 mPas	300%

\*Pouch and pail packaging contains bucket, lid, stirrer and disposable gloves

# 3M™ Cold Shrink Low Voltage Insulators and Kits

3M Cold Shrink Insulators offer a safe, easy to install method of insulating, sealing and protecting connectors, cable, hoses, fittings and conduit. They are well suited for in-field applications because they require no special tools or heat to install.

The unique 3M cold shrink delivery system ensures consistent installation and long term reliability. With 3M cold shrink insulators and accessories you get a water resistant seal without heat, torches or adhesive; simply unwind the core to install. It's that simple.

## Why move to 3M Cold Shrink Technology?

- No flame required
- Less chance of damaging cable material
- No cooling time needed before energising
- Constant radial pressure for optimised environmental performance
- Easier to use in enclosed areas
- No special site permits needed
- Fast, straightforward installation



## 3M™ Cold Shrink Wireless Weatherproofing Kit CXS Series

3M™ Cold Shrink Sealing Kits CXS Series use a cold shrink EPDM rubber tube, in conjunction with a closed cell foam strip, to seal connections and terminations on coaxial cables with Type N or 7/16 DIN connectors. 3M Cold Shrink tubes form a reliable water-resistant seal as well as providing excellent protection in tough environments, including resistance to UV, acids, alkalis, fungus, ozone, abrasion and vibration. Due to no adhesive needed to create the seal, the cold shrink tubes can be easily removed as required for system maintenance, inspection and repair.



Kit Number	3M Part Number	Sealing Application Sizes for DIN or Type N Coax Cable Connectors
CXS-1	80611207673	6.4 mm (1/4") – 22 mm (7/8") Cable to 6.4 mm (1/4") – 22 mm Cable (7/8")
CXS-2	80611207681	6.4 mm (1/4") – 41 mm (1 5/8") Cable to 32 mm (1 1/4") – 41 mm Cable (1 5/8") 32 mm (1 1/4") – 41 mm (1 5/8") Cable to Antenna or Surge Arrestor
CXS-3	80611207699	6.4 mm (1/4") – 57 mm (2 1/4") Cable to 32 mm (1 1/4") – 57 mm Cable (2 1/4") 32 mm (1 1/4") – 57mm (2 1/4") Cable to Antenna or Surge Arrestor
CXS-4	80611207707	6.4 mm (1/4") – 22 mm (7/8") Cable to Antenna or Surge Arrestor



### 3M™ Cold Shrink Connector Insulators 8420 and 8430 Series

3M Cold Shrink Connector Insulators 8420 and 8430 Series are designed using 3M's unique cold shrink delivery system. Products are supplied prestretched on a removable core for efficiency and ease of installation. Removal of the core (unwinding) after positioning the splice allows the product to shrink into position forming a moisture-tight seal. The live memory action of the specially formulated EPDM material promotes a permanent, durable environmental seal and insulation, with a typical operating temperature range from -40 to 90°C.

**Important:** Use cable insulation/jacket diameters and connector outer diameter for final sizing confirmation

**Applications:** Primary electrical insulation for all solid dielectric (rubber and plastic) insulated wire and cable splicing rated to 1000 V

Good for repairs and environmental sealing for communication and other non-electrical applications



Product	3M Order Code	Typical Cable Size	Minimum Cable Diameter for Seal	Maximum Diameter (Cable or Connector)	Maximum Connector Length	Relaxed Tube Length
8423-6	80610839484	14 - 16 mm <sup>2</sup>	7.8 mm	14 mm	51 mm	152 mm
8424-8**	80610921928	6 - 50 mm <sup>2</sup>	2.5 mm	21 mm	76 mm	203 mm
8425-8	80610921936	35 - 50 mm <sup>2</sup>	10.1 mm	21 mm	76 mm	203 mm
8426-9	80610927669	70 - 125 mm <sup>2</sup>	13.9 mm	30 mm	127 mm	229 mm
8426-11	80610927677	70 - 125 mm <sup>2</sup>	13.9 mm	30 mm	178 mm	279 mm
8427-6*	80610456164	-	16.8 mm	35 mm	51 mm	152 mm
8427-12	80610134035	125 - 200 mm <sup>2</sup>	16.8 mm	35 mm	203 mm	305 mm
8427-16	80610134043	125 - 200 mm <sup>2</sup>	16.8 mm	35 mm	305 mm	406 mm
8428-6*	80610456172	-	24.1 mm	49 mm	51 mm	152 mm
8428-8	80611230212	300 - 400 mm <sup>2</sup>	24.1 mm	49 mm	76 mm	203 mm
8428-12	80610154603	300 - 400 mm <sup>2</sup>	24.1 mm	49 mm	203 mm	305 mm
8428-18	80610134050	300 - 400 mm <sup>2</sup>	24.1 mm	49 mm	356 mm	457 mm
8429-6*	80610456180	-	32.2 mm	68 mm	51 mm	152 mm
8429-9*	80610456313	500 mm <sup>2</sup>	32.2 mm	68 mm	127 mm	229 mm
8429-12	80610921910	500 mm <sup>2</sup>	32.2 mm	68 mm	203 mm	305 mm
8429-15	80610970446	500 mm <sup>2</sup>	32.2 mm	68 mm	280 mm	381 mm
8429-18	80610134068	500 mm <sup>2</sup>	32.2 mm	68 mm	356 mm	457 mm
8430-9*	80610839492	630 - 1000 mm <sup>2</sup>	42.6 mm	94 mm	127 mm	229 mm
8430-18	80610921902	630 - 1000 mm <sup>2</sup>	42.6 mm	94 mm	356 mm	457 mm

\*These sizes are not designed to be used as primary insulation. These shorter length tubes are for conduit sealing and breakouts.

\*\*8424-8 contains range-extending adapters (without adapters, 8424-8 and 8425-8 products are identical).

Note: Insulation, connector and/or jacket can be overwrapped with Scotch® Rubber Mastic Tape 2228 to build up diameter if required.



For 8420 and 8430 Series Cold Shrink Tubes continuously exposed to high levels of UV radiation, 3M recommends overwrapping with Scotch® Super 33+ Vinyl Electrical Tape or Scotch® Self Fusing Silicone Rubber Tape 70. See pages 2 and 5.

Other sizes of cold shrink tubes are available on request - please contact 3M.

### 3M™ Low Voltage Inline Joint Kits 5732-5735 Series

These kits are suitable for indoor and outdoor installations, including direct burial, aerial and submersible applications. For use with three core armoured cable up to 1000 V. Connectors are not included, pre-insulated crimp connectors preferred.

Product	3M Order Code	Cable Size	Cable Diameter
5732	80610981740	35 - 50 mm <sup>2</sup>	24 - 61 mm
5733	80610981757	70 - 120 mm <sup>2</sup>	29 - 84 mm
5734	80610981765	120 - 240 mm <sup>2</sup>	39 - 102 mm
5735	80610981773	240 - 400 mm <sup>2</sup>	39 - 102 mm



**Note:** If increased structural integrity is required, the joint can be overwrapped with two-half lapped layers of 3M™ Armorcast Structural Material (purchased separately). For 3 metre long rolls use the following number of rolls per kit: 5732 (2 rolls), 5733 & 5734 (3 rolls) and 5735 (5 rolls). See page 12 for ordering details.

### 3M™ Cold Shrink Cable Abandonment Kits CSEAK

3M Cold Shrink Cable Abandonment Kits are a complete solution to abandon low voltage polymeric cables either temporarily or permanently. Environmental sealing and mechanical protection is provided using 3M Cold Shrink technology, eliminating the need for heat and special tools, making a quick, simple and reliable installation.

- Kit Contents:**
- Cold shrink end cap
  - Cold shrink tube
  - Self amalgamating insulating tape
  - Armour/earth connection components
  - Full installation Instructions

**Applications:** Single and multi core low voltage polymeric power cables up to and including 1.9/3.3 kV (with or without lead sheath and/or armour)



Product	3M Order Code	Cable Diameter
CSEAK/1	TE100048780	12 - 18 mm
CSEAK/2	TE100048798	18 - 25 mm
CSEAK/3	TE100048806	25 - 42 mm
CSEAK/4	TE100048814	42 - 55 mm
CSEAK/5	TE100048822	56 - 81 mm



Cold Shrink End Caps

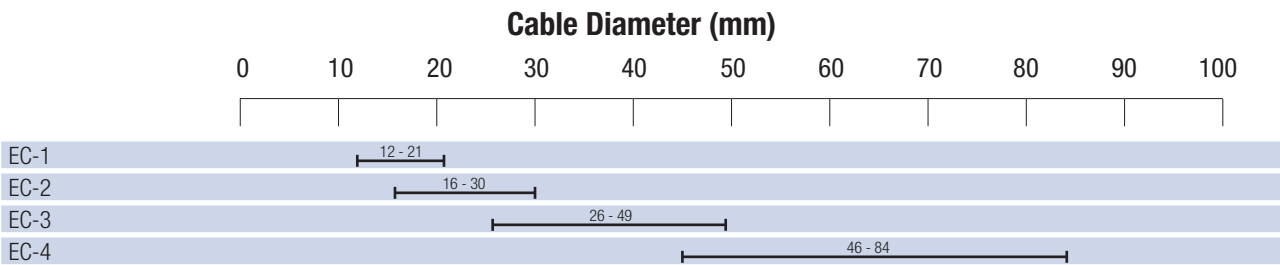
3M™ Cold Shrink End Caps EC-Series

3M Cold Shrink End Caps EC-Series are close-ended, tubular rubber sleeves that are factory expanded and loaded onto a removable core. When positioned over the end of a cable or other cylindrical object, the core is removed to provide a reliable environmental seal. Four different end caps are available to accommodate a wide range of sizes. They are easily installed and can be removed cleanly.



**Applications:** Environmentally seal and mechanically protect exposed cable ends using no tools, mastics or tapes  
Protect cables and pipes from exposure to moisture, contamination, corrosion, ozone, ultra-violet radiation and other environmental hazards

Product	3M Order Code	Colour	Cable Diameter
EC-1	XA003895001	Black	12 - 21 mm
EC-2	XA003895019	Black	16 - 30 mm
EC-3	XA003895027	Black	26 - 49 mm
EC-4	XA003895035	Black	46 - 84 mm
















3M™ Cold Shrink Low Voltage Insulators and Joint Kits

# 3M™ Heat Shrink Tubing

3M Heat Shrink Tubing products provide an effective means of applying skin tight insulating and protective coverings for a wide variety of electrical, electronic and mechanical applications. 3M heat shrink products offer the important advantages of simple installation, improved performance and long term reliability. They are abrasion resistant, and withstand heat, corrosion, moisture and other hostile environments whilst offering superior dielectric properties.





Typical Properties	FP-221VW	FP-301	EPS-300	IMCSN	ITCSN
					
Adhesive Lined?	No	No	Yes	Yes	Yes
Operating Temperature Range	-55°C to 135°C	-55°C to 135°C	-55 to 110°C	-55 to 110°C	-55 to 110°C
Shrink Temperature (Minimum)	100°C	100°C	121°C	121°C	121°C
Shrink Ratio	2:1	2:1	3:1	3:1	up to 4:1
Standard Sizes Expanded Diameter	1.5 - 50 mm	1.2 - 25.4 mm	4.8 - 38 mm	10 - 109 mm	10 - 152 mm
Dielectric Strength	35.4 kV/mm	35.4 kV/mm	27.6 kV/mm	19.7 kV/mm	19.7 kV/mm
Volume Resistivity	10 <sup>15</sup> Ω-cm	10 <sup>15</sup> Ω-cm	10 <sup>14</sup> Ω-cm	10 <sup>14</sup> Ω-cm	10 <sup>14</sup> Ω-cm
Tensile Strength	16.5 N/mm <sup>2</sup>	16.5 N/mm <sup>2</sup>	14.4 N/mm <sup>2</sup>	16.5 N/mm <sup>2</sup>	16.5 N/mm <sup>2</sup>
Elongation	400%	400%	450%	450%	475%
Longitudinal Change	+1,-10%	+/- 5%	+1,-15%	+1,-10%	+1,-10%
Flammability	Self-Extinguish meets UL 224 VW-1	Self-Extinguish meets UL 224 All-Tubing Flame Test (except clear)	Self-Extinguish meets UL224 All-Tubing Flame Test (jacket)	n/a	n/a
Corrosive Effective	Non-corrosive	Non-corrosive	Non-corrosive	Non-corrosive	Non-corrosive
Abrasion Resistance	Good	Good	Good	Good	Good
Fuel and Oil Resistance	Good	Good	Good	Good	Good
Solvent Resistance	Excellent	Excellent	Good	Good	Good
Resistance to Acids and Alkalis	Excellent	Excellent	Excellent	Excellent	Excellent
Agency Approvals	UL  SP 	UL  SP 	UL  SP 		UL  SP 

### 3M™ Heat Shrink Thin Wall Tubing FP-221VW

3M Heat Shrink Tubing FP-221VW offers a simple and reliable method to apply insulation, protection, or covering for a wide variety of electrical, electronic, and mechanical applications.

FP-221VW Tubing has a 2:1 shrink ratio. When freely recovered, the tubing will shrink to 50% of its as supplied internal diameter. FP-221VW is highly flame resistant and meets UL 224 VW-1.

**Format:** 1.2 m lengths  
**Voltage:** 600 V  
**Operating Temperature:** -55°C to 135°C  
**Shrink Temperature:** 100°C  
**Agency Approvals:**    
**Applications:** Fire-resistant coverings of components and flammable wire assemblies



**Note:** Always order the largest size that will shrink snugly over the item to be covered

Product	3M Order Code	Colour	Expanded Inner Diameter	Recovered Inner Diameter	Expanded Wall Thickness as Supplied	Maximum Recovered Wall Thickness*
FP-221VW Black 1.5 mm	XA003859007	Black	1.5 mm	0.75 mm	0.2 +/- 0.05 mm	0.4 +/- 0.05 mm
FP-221VW Black 3 mm	XA003859015	Black	3 mm	1.5 mm	0.25 +/- 0.05 mm	0.45 + 0.1 mm
FP-221VW Black 5 mm	XA003859023	Black	5 mm	2.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW Black 7 mm	XA003859031	Black	7 mm	3.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW Black 10 mm	XA003859049	Black	10 mm	5 mm	0.35 +/- 0.1 mm	0.60 + 0.1 mm
FP-221VW Black 13 mm	XA003859056	Black	13 mm	6.5 mm	0.35 +/- 0.15 mm	0.70 + 0.1 mm
FP-221VW Black 20 mm	XA003859064	Black	20 mm	10 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW Black 25 mm	XA003859072	Black	25 mm	12.5 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW Black 40 mm	XA003859080	Black	40 mm	20 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm
FP-221VW Black 50 mm	XA003859098	Black	50 mm	25 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm
FP-221VW Blue 1.5 mm	XA003859304	Blue	1.5 mm	0.75 mm	0.2 +/- 0.05 mm	0.4 +/- 0.05 mm
FP-221VW Blue 3 mm	XA003859312	Blue	3 mm	1.5 mm	0.25 +/- 0.05 mm	0.45 + 0.1 mm
FP-221VW Blue 5 mm	XA003859320	Blue	5 mm	2.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW Blue 7 mm	XA003859338	Blue	7 mm	3.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW Blue 10 mm	XA003859346	Blue	10 mm	5 mm	0.35 +/- 0.1 mm	0.60 + 0.1 mm
FP-221VW Blue 13 mm	XA003859353	Blue	13 mm	6.5 mm	0.35 +/- 0.15 mm	0.70 + 0.1 mm
FP-221VW Blue 20 mm	XA003859361	Blue	20 mm	10 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW Blue 25 mm	XA003859379	Blue	25 mm	12.5 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW Blue 40 mm	XA003859387	Blue	40 mm	20 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm
FP-221VW Blue 50 mm	XA003859395	Blue	50 mm	25 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm
FP-221VW Green/Yellow 3 mm	XA003859411	Green/Yellow	3 mm	1.5 mm	0.25 +/- 0.05 mm	0.45 + 0.1 mm
FP-221VW Green/Yellow 5 mm	XA003859429	Green/Yellow	5 mm	2.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW Green/Yellow 7 mm	XA003859437	Green/Yellow	7 mm	3.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW Green/Yellow 10 mm	XA003859445	Green/Yellow	10 mm	5 mm	0.35 +/- 0.1 mm	0.60 + 0.1 mm
FP-221VW Green/Yellow 13 mm	XA003859452	Green/Yellow	13 mm	6.5 mm	0.35 +/- 0.15 mm	0.70 + 0.1 mm
FP-221VW Green/Yellow 20 mm	XA003859460	Green/Yellow	20 mm	10 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW Green/Yellow 25 mm	XA003859478	Green/Yellow	25 mm	12.5 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW Green/Yellow 40 mm	XA003859486	Green/Yellow	40 mm	20 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm
FP-221VW Green/Yellow 50 mm	XA003859494	Green/Yellow	50 mm	25 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm
FP-221VW Red 1.5 mm	XA003859106	Red	1.5 mm	0.75 mm	0.2 +/- 0.05 mm	0.4 +/- 0.05 mm
FP-221VW Red 3 mm	XA003859114	Red	3 mm	1.5 mm	0.25 +/- 0.05 mm	0.45 + 0.1 mm
FP-221VW Red 5 mm	XA003859122	Red	5 mm	2.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW Red 7 mm	XA003859130	Red	7 mm	3.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW Red 10 mm	XA003859148	Red	10 mm	5 mm	0.35 +/- 0.1 mm	0.60 + 0.1 mm
FP-221VW Red 13 mm	XA003859155	Red	13 mm	6.5 mm	0.35 +/- 0.15 mm	0.70 + 0.1 mm
FP-221VW Red 20 mm	XA003859163	Red	20 mm	10 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW Red 25 mm	XA003859171	Red	25 mm	12.5 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW Red 40 mm	XA003859189	Red	40 mm	20 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm
FP-221VW Red 50 mm	XA003859197	Red	50 mm	25 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm
FP-221VW White 1.5 mm	XA003859205	White	1.5 mm	0.75 mm	0.2 +/- 0.05 mm	0.4 +/- 0.05 mm
FP-221VW White 3 mm	XA003859213	White	3 mm	1.5 mm	0.25 +/- 0.05 mm	0.45 + 0.1 mm
FP-221VW White 5 mm	XA003859221	White	5 mm	2.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW White 7 mm	XA003859239	White	7 mm	3.5 mm	0.35 +/- 0.1 mm	0.55 + 0.1 mm
FP-221VW White 10 mm	XA003859247	White	10 mm	5 mm	0.35 +/- 0.1 mm	0.60 + 0.1 mm
FP-221VW White 13 mm	XA003859254	White	13 mm	6.5 mm	0.35 +/- 0.15 mm	0.70 + 0.1 mm
FP-221VW White 20 mm	XA003859262	White	20 mm	10 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW White 25 mm	XA003859270	White	25 mm	12.5 mm	0.5 +/- 0.15 mm	0.90 + 0.1 mm
FP-221VW White 40 mm	XA003859288	White	40 mm	20 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm
FP-221VW White 50 mm	XA003859296	White	50 mm	25 mm	0.55 +/- 0.2 mm	1.00 + 0.2 mm

\* Note: Wall thickness will be less if tubing recovery is restricted during shrinkage.



### 3M™ Heat Shrink Medium-Wall Cable Sleeves IMCSN

Adhesive lined, medium wall polyolefin tubing with a 3:1 shrink ratio. Split resistant tubing designed to provide reliable performance for electrical splices, connections, and terminations as well as mechanical and environmental protection. Rated to 1000 V.



<b>Format:</b>	1.2 m lengths
<b>Voltage:</b>	1000 V
<b>Operating Temperature:</b>	-55 to 110°C
<b>Shrink Temperature:</b>	121°C
<b>Applications:</b>	Protection and sealing of 1 kV joints, connections and terminations in indoor and outdoor applications



Product	3M Order Code	Colour	Cable Size	Cable Diameter (maximum - minimum)	Expanded Inner Diameter	Recovered Inner Diameter
IMCSN-0400-48A	80610677603	Black	4 - 10 mm <sup>2</sup>	8.8 - 3.8 mm	10 mm	3.8 mm
IMCSN-0800-48A	80610677611	Black	10 - 25 mm <sup>2</sup>	18 - 5.6 mm	20 mm	5.6 mm
IMCSN-1100-48A	AE010581880	Black	35 - 60 mm <sup>2</sup>	24 - 9.4 mm	28 mm	9.4 mm
IMCSN-1500-48A	AE010582920	Black	60 - 120 mm <sup>2</sup>	33 - 13 mm	38 mm	13 mm
IMCSN-2000-48A	80610677645	Black	185 - 250 mm <sup>2</sup>	44 - 19 mm	51 mm	19 mm
IMCSN-3000-48A	80610677652	Black	325 - 625 mm <sup>2</sup>	63 - 25 mm	76 mm	25 mm
IMCSN-4300-48A	80610677595	Black	625 - 1000 mm <sup>2</sup>	91 - 38 mm	109 mm	38 mm

### 3M™ Heat Shrink Heavy-Wall Cable Sleeves ITCSN

Adhesive lined, thick wall polyolefin tubing with a shrink ratio as high as 4:1. Split resistant tubing designed to provide reliable performance for electrical splices, connections and terminations, as well as mechanical and abrasion resistance. Rated to 1000 V.

<b>Format:</b>	1.2 m lengths
<b>Voltage:</b>	1000 V
<b>Operating Temperature:</b>	-55 to 110°C
<b>Shrink Temperature:</b>	121°C
<b>Agency Approvals:</b>	UL  
<b>Applications:</b>	Protection and sealing of 1 kV joints, connections and terminations in indoor and outdoor applications



Product	3M Order Code	Colour	Cable Size	Cable Diameter (maximum - minimum)	Expanded Inner Diameter	Recovered Inner Diameter
ITCSN-0400 48A	80610229611	Black	4 - 10 mm <sup>2</sup>	8.9 - 4.3 mm	10 mm	3.8 mm
ITCSN-0400 48A Bulk	80008007181	Black	4 - 10 mm <sup>2</sup>	8.9 - 4.3 mm	10 mm	3.8 mm
ITCSN-0800 48A	80610229629	Black	10 - 15 mm <sup>2</sup>	17 - 6.1 mm	20 mm	5.1 mm
ITCSN-0800 48A Bulk	80008007223	Black	10 - 15 mm <sup>2</sup>	17 - 6.1 mm	20 mm	5.1 mm
ITCSN-1100 48A	80610229637	Black	35 - 95 mm <sup>2</sup>	22 - 10 mm	28 mm	9.4 mm
ITCSN-1100 48A Bulk	80008007264	Black	35 - 95 mm <sup>2</sup>	22 - 10 mm	28 mm	9.4 mm
ITCSN-1500 48A	80610229645	Black	95 - 185 mm <sup>2</sup>	30 - 15 mm	38 mm	13 mm
ITCSN-2000 48A	80610229652	Black	150 - 300 mm <sup>2</sup>	41 - 19 mm	51 mm	17 mm
ITCSN-2000 48A Bulk	80008007322	Black	150 - 300 mm <sup>2</sup>	41 - 19 mm	51 mm	17 mm
ITCSN-3000 48A	80610229660	Black	400 - 625 mm <sup>2</sup>	57 - 31 mm	76 mm	25 mm
ITCSN-3000 48A Bulk	80008007348	Black	400 - 625 mm <sup>2</sup>	57 - 31 mm	76 mm	25 mm
ITCSN-4500 48A	80610858716	Black	800 - 1000 mm <sup>2</sup>	102 - 38 mm	114 mm	38 mm
ITCSN-6000 48A Bulk	80008007363	Black		140 - 46 mm	152 mm	46 mm

### 3M™ Heat Shrink Wraparound Cable Repair Wrap Sleeve HDCW

3M Wraparound Heat Shrink Cable Repair Sleeve HDCW is designed to repair damaged cable sheaths. It is also suitable for use with cable joints and as additional corrosion protection on undamaged cables. Quick and easy to apply, it provides maximum protection against mechanical stress, even in the most aggressive environments. The inner wall of the sleeve is coated with hot melt adhesive to achieve a safe and watertight bond with the cable and give a perfect seal when heat is applied, while a corrosion proof metal clip is used to fully close the sleeve.

**Applications:** Quickly and safely repair damaged cable sheaths  
Additional corrosion protection on joints or undamaged cables



Product	3M Order Code	Cable Diameter (maximum - minimum)	Length	Expanded Inner Diameter	Recovered Inner Diameter	Minimum Recovered Wall Thickness
HDCW 35/10-250	DE272920799	35 - 10 mm	250 mm	50 mm	8 mm	2.0 mm
HDCW 35/10-500	DE272920781	35 - 10 mm	500 mm	50 mm	8 mm	2.0 mm
HDCW 35/10-750	DE272920773	35 - 10 mm	750 mm	50 mm	8 mm	2.0 mm
HDCW 35/10-1000	DE272920765	35 - 10 mm	1000 mm	50 mm	8 mm	2.0 mm
HDCW 55/15-250	DE272909834	55 - 15 mm	250 mm	75 mm	13 mm	2.0 mm
HDCW 55/15-500	DE272909842	55 - 15 mm	500 mm	75 mm	13 mm	2.0 mm
HDCW 55/15-750	DE272909859	55 - 15 mm	750 mm	75 mm	13 mm	2.0 mm
HDCW 55/15-1000	DE272909867	55 - 15 mm	1000 mm	75 mm	13 mm	2.0 mm
HDCW 80/25-250	DE272909883	80 - 25 mm	250 mm	100 mm	23 mm	2.0 mm
HDCW 80/25-500	DE272909891	80 - 25 mm	500 mm	100 mm	23 mm	2.0 mm
HDCW 80/25-750	DE272909909	80 - 25 mm	750 mm	100 mm	23 mm	2.0 mm
HDCW 80/25-1000	DE272909917	80 - 25 mm	1000 mm	100 mm	23 mm	2.0 mm
HDCW 110/30-500	DE272909941	110 - 30 mm	500 mm	132 mm	25 mm	2.0 mm
HDCW 110/30-1000	DE272909966	110 - 30 mm	1000 mm	132 mm	25 mm	2.0 mm
HDCW 140/40-250	DE272909982	140 - 40 mm	250 mm	145 mm	32 mm	1.8 mm
HDCW 140/40-500	DE272909990	140 - 40 mm	500 mm	145 mm	32 mm	1.8 mm
HDCW 140/40-1000	DE272910014	140 - 40 mm	1000 mm	145 mm	32 mm	1.8 mm

### 3M™ Heat Shrink Thin-Wall Tubing FP-301 Assorted Sizes Kits

The 3M Heat Shrink Thin-Wall Tubing FP-301 Kits are a versatile assortment of flexible polyolefin heat shrink tubing, and are available in black or assorted colours. These rugged plastic kits include product and installation information on the cover and allow an engineer, designer or technician to have a complete selection of popular sizes and colours for small projects and product development programs. FP-301 tubing has a 2:1 shrink ratio and is rated for continuous operation from -55 to 135°C.

**Voltage:** 600 V

**Operating Temperature:** -55°C to 135°C

**Shrink Temperature:** 100°C

**Agency Approvals**  

**Applications:** Electrical insulation over cable splices and terminations

Lightweight wire harness covering, wire marking, wire bundling, component packaging and fire resistant covering



Product	3M Order Code	Description	Colour(s)	Sizes	Format
FP-301 Kit Assorted Colours	80610855779	133 pieces/kit, 7 colours and 6 sizes	Black, red, white, yellow, blue, green, and clear	2.4, 3.2, 4.8, 6.4, 9.5, 12.7 mm	152 mm long pieces
FP-301 Kit Black	80610906317	102 pieces/kit, 6 sizes	Black	4.8, 6.4, 9.5, 12.7, 19.1, 25.4 mm	152 mm long pieces

### 3M™ Thin-Wall Adhesive Lined Tubing EPS-300

Flexible, adhesive lined thin wall polyolefin with a 3:1 shrink ratio. For insulation, strain relief and environmental protection of wire bundles and splices. Rated to 110°C (black).

**Format:** 1.2 m lengths

**Voltage:** 600 V

**Operating Temperature:** -55 to 110°C

**Shrink Temperature:** 121°C

**Agency Approvals**  

**Applications:** Environmental protection of components, splices, wire bundles and wire harness breakouts



Product	3M Order Code	Colour	Expanded Inner Diameter	Recovered Inner Diameter	Total Recovered Wall Thickness	Melted Recovered Wall Thickness
EPS-300 Black 4.8 mm	80611473895	Black	4.8 mm	1.6 mm	1.0 mm	0.5 mm
EPS-300 Black 6.4 mm	80611473903	Black	6.4 mm	2.0 mm	1.0 mm	0.5 mm
EPS-300 Black 6.4 mm Bulk	80611601792	Black	6.4 mm	2.0 mm	1.0 mm	0.5 mm
EPS-300 Black 9.5 mm	80611473911	Black	9.5 mm	3.1 mm	1.4 mm	0.6 mm
EPS-300 Black 12.7 mm	80611473929	Black	12.7 mm	4.1 mm	1.8 mm	0.8 mm
EPS-300 Black 19.1 mm	80611473937	Black	19.1 mm	6.4 mm	2.2 mm	0.9 mm
EPS-300 Black 19.1 mm Bulk	80611601826	Black	19.1 mm	6.4 mm	2.2 mm	0.9 mm
EPS-300 Black 25.4 mm	80611473945	Black	25.4 mm	8.1 mm	2.5 mm	1.0 mm
EPS-300 Black 25.4 mm Bulk	80611601834	Black	25.4 mm	8.1 mm	2.5 mm	1.0 mm
EPS-300 Black 38.1 mm	80611601842	Black	38.1 mm	13.0 mm	2.5 mm	1.0 mm
EPS-300 Red 12.7 mm	80611600232	Red	12.7 mm	4.1 mm	1.8 mm	0.8 mm
EPS-300 Red 19.1 mm	80611600240	Red	19.1 mm	6.4 mm	2.2 mm	0.9 mm

### 3M™ Heat Shrink Heavy Duty End Caps SKE

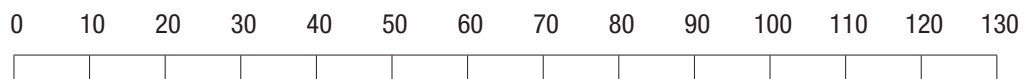
3M Heat Shrink End Caps provide a reliable and easy method of sealing cables for both indoor and outdoor applications whilst offering excellent electrical and mechanical protection. Internal adhesive helps to form a watertight seal. The materials used are halogen free.

**Applications:** Insulating/sealing of cable ends for indoor and outdoor applications



Product	3M Order Code	Cable Diameter	Expanded Diameter	Fully Recovered Dimensions		
				Diameter	Length	Wall Thickness
SKE 4/10	DE272919635	4 - 8 mm	10 mm	4 mm	40 mm	2.5 mm
SKE 8/20	DE272919643	8 - 16 mm	20 mm	8 mm	65 mm	2.5 mm
SKE 15/40	DE272919718	15 - 32 mm	40 mm	15 mm	105 mm	3.0 mm
SKE 25/63	DE272919650	25 - 51 mm	63 mm	25 mm	160 mm	4.5 mm
SKE 30/76	DE272919668	30 - 61 mm	76 mm	30 mm	140 mm	4.5 mm
SKE 45/100	DE272919676	45 - 80 mm	100 mm	45 mm	160 mm	4.0 mm
SKE 61/158	DE272919767	61 - 126 mm	158 mm	63 mm	190 mm	4.0 mm

Cable Diameter (mm)



#### Heat Shrink Part Numbers

SKE 4/10	4 - 8
SKE 8/20	8 - 16
SKE 15/40	15 - 32
SKE 25/63	25 - 51
SKE 30/76	30 - 61
SKE 45/100	45 - 80
SKE 61/158	61 - 126

### 3M™ Heat Shrink Cable Breakouts

3M Heat Shrink Cable Breakouts are designed for quick and easy insulation and sealing of cable breakout areas, and provide resistance to abrasion, weathering and chemical attack. The parts are made from semi-rigid, cross-linked modified polyolefin material that is coated internally with hot melt adhesive. The materials used are halogen free. On application of heat the adhesive melts and the part shrinks forming a watertight seal.

**Applications:** Cable breakout area sealing



Product	3M Order Code	Description	Conductor Size Range (LV cable)	Neck Expanded Diameter	Neck Recovered Diameter	Finger Expanded Diameter	Finger Recovered Diameter	Recovered Length	Neck Recovered Wall Thickness	Finger Recovered Wall Thickness
SKE-3F/1-1.5	DE272919734	3 way outlet	6 - 16 mm <sup>2</sup>	25 mm	9 mm	9 mm	3 mm	70 mm	2.5 mm	1.8 mm
SKE-3F/2	DE272919577	3 way outlet	10 - 50 mm <sup>2</sup>	35 mm	15 mm	13 mm	4 mm	100 mm	2.5 mm	1.8 mm
SKE-3F/4	DE272919684	3 way outlet	50 - 150 mm <sup>2</sup>	55 mm	23 mm	30 mm	8 mm	170 mm	3.5 mm	2.7 mm
SKE-3F/5	DE272919783	3 way outlet	185 - 400 mm <sup>2</sup>	110 mm	35 mm	50 mm	17 mm	215 mm	3.5 mm	3.5 mm
SKE-3F/6	DE272919817	4 way outlet	-	110 mm	35 mm	50 mm	17 mm	215 mm	3.5 mm	3.5 mm
SKE-4F/1+2	DE272919528	4 way outlet	4 - 35 mm <sup>2</sup>	35 mm	15 mm	15 mm	4 mm	100 mm	3.8 mm	1.8 mm
SKE-4F/3+4	DE272919536	4 way outlet	25 - 150 mm <sup>2</sup>	57 mm	23 mm	30 mm	6 mm	170 mm	4.0 mm	3.0 mm
SKE-4F/5	DE272919601	4 way outlet	120 - 400 mm <sup>2</sup>	95 mm	36 mm	38 mm	14 mm	220 mm	3.5 mm	2.5 mm

### 3M™ Constant Force Springs

3M Constant Force Springs are a range of solderless connections for earthing or grounding use on:

- Lead and aluminium cable sheaths
- Cable screening tapes or wires
- Steel or aluminium armour wires

The spring is easily applied by rolling onto the cable core or outside diameter, whereupon it continues to exert a constant radial pressure.

**Applications:** For power, control or telecom cables  
For use on lead or aluminium sheaths and copper screened cables



Product	3M Order Code	Application Range	Country Availability
CFS 1	78801595196	12 - 20 mm	AU
CFS 2	78801595170	17 - 32 mm	AU
CFS 3	78801595188	20 - 37 mm	AU
CFS 4	78801899465	25 - 56 mm	AU
CFS 5	78801899820	38 - 74 mm	AU
CFS 6	78801899838	45 - 107 mm	AU
P59	DE713059009	4 - 10 mm	AU
P60	DE713060007	9 - 15 mm	NZ
P61	DE713061005	14 - 22 mm	NZ
P62	DE713062003	18.5 - 29 mm	AU, NZ
P63	DE713063001	23.5 - 37 mm	NZ
P64	DE713064009	31 - 50 mm	NZ
P65	DE713065006	44 - 70 mm	NZ
P66	DE713066004	58 - 94 mm	NZ



### 3M™ Cable Cleaning System CC Series

3M Cable Cleaning System CC Series cleans cable insulation, metal, electrical and mechanical parts. CC series solvent is suitable for use on transformers, generators, motors and metal parts of all sorts. It can be used for PCB cleanup and in parts cleaners for degreasing. It removes surface oils, tars and heavy greases. Use of solvent on carbon-containing semiconductive surfaces such as cable insulation shields is not recommended. 3M Cable Cleaning System CC Series solvent can effectively replace 1,1,1- trichloroethane and other hazardous solvents.



Product	3M Order Code	Description	Kit Contents
CC-2	80610592992	Cable Cleaning Preparation Kit	3 x solvent saturated cable cleaning pads 1 x Non-conductive grit abrasive cloth
CC-3	80610593008	Cable Cleaning Pad Kit	3 x solvent saturated pads
CC-4	AE010587481	Cable Cleaning Solvent	940 mL

### 3M™ Cable Cleaning/Degreasing Wipes

3M Cable Cleaning/Degreasing Wipes are designed specifically to remove contaminants such as grease, oil, sealants and cable gel from switchgear and cables. The product will even remove heavy or old deposits without hazard to the substrate or insulation materials.

**Applications:** Cable cleaning prior to jointing  
Removal of protective greases and gel from switchgear



Product	3M Order Code	Description	Kit Contents
Cleaning Wipes 1 L	GE700027966	1 L pail	75 wipes
Cleaning Wipes 3 L	GE700027974	3 L pail	250 wipes

### 3M™ Wire Pulling Lubricant Gel

3M Wire Pulling Lubricant is a clear, colourless, slow-drying, easy-to-apply gel which is an excellent lubricant for everyday pulling of both electrical and communication cable. The clear formula makes this an ideal choice where cleanliness is a concern. 3M Wire Pulling Lubricant has a low residue (less than 5% solids).

**Agency Approvals:** 

**Applications:** For pulling a wide variety of cable types, such as power, control, instrumentation and communication cables, including coaxial and fibre optic cables



Product	3M Order Code	Size	Colour	Temperature Use Range
WL-QT	80610736623	950 mL	Clear	-6 to 43°C

### 3M™ Scotchkote™ Electrical Coating FD

3M Scotchkote Electrical Coating FD is designed as a fast-drying sealant and bonding agent intended for use on joints wrapped with vinyl electrical tape. For direct burial, direct water immersion or above-ground applications. A brush-on, fast drying sealant with self contained applicator for quick and easy application.

**Applications:** Provides vinyl tapes with an extra oil, moisture and corrosion-resistant layer of flexible coating for problem areas



Product	3M Order Code	Size
Scotchkote	80611604135	440 mL




# 3M™ Connectors and 3M™ Scotchlok™ Connectors & Tools

3M Connectors and 3M Scotchlok Connectors offer the quick installation and reliability that contractors demand. They come in a variety of shapes and sizes with different properties to fit a wide range of applications and cable sizes. See page 40 for details of recommended 3M™ Scotchlok™ Crimping Tools.

## Electrical Wire Connectors

### Spring Connectors - 3M™ Performance Plus Wire Connectors

Because of their increased wire range, just three 3M™ Performance Plus Wire Connectors do the work of eight standard connectors and are suitable for commercial, residential, industrial and maintenance applications. The rounded wings make 3M wire connectors exceptionally easy to handle. The flexible skirt covers over-strips yet conforms to whatever space is available in a box. Inside, the unique spring grips quickly and bites into conductors for solid, secure connections.

Product	B/G+B0X	O/B+B0X	R/Y+B0X
			
3M Order Code	80610984330	80610984298	80610984314
Colour	Blue/Grey	Orange/Blue	Red/Yellow
Conductor Size Combinations*	3 x 2.5 mm <sup>2</sup> to 2 x 10 mm <sup>2</sup> Solid/Stranded	2 x 0.5 mm <sup>2</sup> Solid/Stranded to 3 x 2.5 mm <sup>2</sup> Solid	2 x 1.0 mm <sup>2</sup> to 2 x 6 mm <sup>2</sup> Solid/Stranded
Connector Style	Twist On	Twist On	Twist On
Flame Retardant	Yes	Yes	Yes
Maximum Voltage Rating	600 V (1000 V in signs, lighting fixtures and luminaries)	600 V (1000 V in signs, lighting fixtures and luminaries)	600 V (1000 V in signs, lighting fixtures and luminaries)
Maximum Operating Temperature	105°C	105°C	105°C

\* See data sheet for all combinations

## Insulation Displacement Connectors and Tools for Electrical Applications

### 3M™ Scotchlok™ IDC Electrical Double Run or Tap Connectors 560, 560B and 564

3M Scotchlok IDC Electrical Connectors 560 and 560B electrically connect a (tap) wire end to a through (run) wire and insulates the connection. 3M Scotchlok IDC Electrical Connector 564 electrically connects two through (run) wires and insulates the connection.

Product	560	560B	564
			
3M Order Code	80610031058	80610052773	80601103031
Colour	Light Blue	Blue	White
Conductor Size	0.75 - 1.0 mm <sup>2</sup> Solid/Stranded 1.5 mm <sup>2</sup> Stranded	0.75 - 1.0 mm <sup>2</sup> Solid/Stranded 1.5 mm <sup>2</sup> Stranded	0.75 - 1.5 mm <sup>2</sup> Solid/Stranded
Connector Style	Insulation Displacement (IDC)	Insulation Displacement (IDC)	Insulation Displacement (IDC)
Maximum Insulation Diameter	3.7 mm	3.7 mm	3.7 mm
Flame Retardant	Yes	Yes	No
Maximum Voltage Rating	600 V (1000 V in signs, lighting fixtures and luminaries)	600 V (1000 V in signs, lighting fixtures and luminaries)	32 V
Maximum Operating Temperature	105°C	90°C	90°C
Recommended Installation Tools	3M Crimping Tool E-9BM Linesman Pliers	3M Crimping Tool E-9BM Linesman Pliers	3M Crimping Tool E-9BM Linesman Pliers Multigrip (Slip Joint) Pliers



## Insulation Displacement Connectors and Tools for Electrical Applications

### 3M™ Scotchlok™ IDC Run and Tap Connectors 558 and 567

Electrically connects a (tap) wire end to a through (run) wire and insulates the connection. Designed for control circuit wiring, fixture wiring, appliance wiring, signal and PA systems, and automotive, boat or recreational vehicle wiring. Flame retardant.

Agency Approvals:




Product	558	567
		
3M Order Code	80014000808	80610031439
Colour	Red	Brown
Conductor Size	0.5 - 1.5 mm <sup>2</sup> Solid/Stranded	Tap: 0.75 - 1.5 mm <sup>2</sup> Run: 3.0 - 4.0 mm <sup>2</sup> Solid/Stranded
Connector Style	Insulation Displacement (IDC)	Insulation Displacement (IDC)
Maximum Insulation Diameter	3.0 mm	Tap: 3.7 mm Run: 4.8 mm
Flame Retardant	Yes	Yes
Maximum Voltage Rating	600 V (1000 V in signs, lighting fixtures and luminaries)	600 V (1000 V in signs, lighting fixtures and luminaries)
Operating Temperature	105°C	105°C
Recommended Installation Tools	3M Crimping Tool E-9BM Linesman Pliers	3M Crimping Tool E-9BM Linesman Pliers

### 3M™ Scotchlok™ Fuse Holder 972

The 3M Scotchlok Fuse Holder 972 is used to install a blade-type automotive fuse between power source and device.

Recommended installation tool: Multigrip (Slip Joint) Pliers

Product	972
	
3M Order Code	80611441579
Colour	Blue
Conductor Size	0.75 - 1.5 mm <sup>2</sup>
Connector Style	Insulation Displacement (IDC)
Maximum Insulation Diameter	3.8 mm
Flame Retardant	No
Operating Temperature	105°C

## Communication Connectors

### 3M™ Scotchlok™ IDC Butt Connectors UR2 and UY2

3M Scotchlok IDC Butt Connectors employ a specially designed, wire insulation displacement contact to make a reliable electrical connection to each wire. A “live-spring” joint is made by driving the wire down into the “U” contact connector. This simple process displaces the insulation and grasps all conductors with a firm, resilient pressure, all in one motion. No stripping of wire insulation is required. Scotchlok butt connectors include a factory-installed sealant to protect against corrosion and seal out moisture.

#### 3M™ Scotchlok™ Butt Connector UR2

The UR2 connector accepts two or three solid copper conductors for butt splicing. The connector is filled with a sealant to provide moisture resistance.

**Recommended installation tool:** 3M Crimping Tools E-9BM, E-9J or E-9Y

**Agency Approvals:**



Product	3M Order Code	Connector Type	Colour	Conductor Size	Maximum Insulation Diameter
UR2 100/pk AU	AE010419032	Butt, 2 or 3 Conductor, IDC	Red (top)	0.4 - 0.9 mm	2.1 mm
UR2 500/jar AU	80611326747	Butt, 2 or 3 Conductor, IDC	Red (top)	0.4 - 0.9 mm	2.1 mm
UR2 100/box NZ	80611327596	Butt, 2 or 3 Conductor, IDC	Red (top)	0.4 - 0.9 mm	2.1 mm
UR2 500/jar NZ	80611327653	Butt, 2 or 3 Conductor, IDC	Red (top)	0.4 - 0.9 mm	2.1 mm

#### 3M™ Scotchlok™ Butt Connector UY2

The small size of the UY2 connector reduces the splicing bundle size to a minimum. The connector's two ports accept two solid copper conductors. The connector is filled with a sealant to provide moisture resistance.

**Recommended installation tool:** 3M Crimping Tools E-9BM, E-9J or E-9Y

**Agency Approvals:**



Product	3M Order Code	Connector Type	Colour	Conductor Size	Maximum Insulation Diameter
UY2 100/pk AU	AE010419024	Butt, 2 Conductor, IDC	Yellow (top)	0.4 - 0.9 mm	2.1 mm
UY2 100/box NZ	80611326796	Butt, 2 Conductor, IDC	Yellow (top)	0.4 - 0.9 mm	2.1 mm
UY2 500/jar	80611326762	Butt, 2 Conductor, IDC	Yellow (top)	0.4 - 0.9 mm	2.1 mm

### 3M™ Scotchlok™ Self Stripping Dropwire Connector 557-TG2

Use the 557-TG2 aerial dropwire connector to electrically connect two solid copper conductors, insulate the connection and provide moisture protection. Flame retardant. Available in NZ only.

**Recommended installation tool:** 3M Crimping Tools E-9BM or E-9J



Product	557-TG2 100/Jar	557-TG2 500/Box	Conductor Size	Maximum Insulation Diameter
557-TG2	XE000700049	80611322076	0.6 - 1.3 mm	3.0 mm

### 3M™ Scotchlok™ Trim-out Connector 211

The 3M Scotchlok Trim-out Connector 211 is a moisture-resistant, self-stripping insulation displacement connector with a built-in cut-off blade and a test port. Wires are positioned in the connector from the sides, allowing the 211 connector to be used without interrupting service. The 211 connector may also be used for standard two-wire butt type splicing operations. For interruption free butt splice replacement.

**Recommended installation tool:** 3M Crimping Tools E-9BM, E-9J or E-9Y

**Agency Approvals:**



Product	3M Order Code	Conductor Size	Maximum Insulation Diameter
211	80611327430	0.4 - 0.9 mm	2.1 mm

### 3M™ Scotchlok™ Inline Connectors U1R and U1B

The U1R and U1B connectors are sealed moisture-resistant four-wire (1 full pair) inline connectors for larger gauge solid copper conductors.

**Recommended installation tool:** 3M Crimping Tool E-9BM



Product	3M Order Code	Colour	Wire Range	Maximum Insulation Diameter
U1R	FQ100057535	Red (top)	0.5 - 0.9 mm	3.2 mm
U1B	FQ100057527	Blue (top)	0.9 - 1.3 mm	3.2 mm

### 3M™ Scotchlok™ Tap Connector UB2A

By positioning the 3M Scotchlok IDC Tap Connector UB2A on the conductor and pre-crimping, the conductor is prevented from slipping out of the connector before the crimp is completed. The UB2A permits tapping directly onto an existing conductor without interrupting service. In ready access closures, the UB2A eliminates cutting cable pairs, opening pairs, and piecing out wires. The conductors joined can be different sizes.

**Recommended installation tool:** 3M Crimping Tools E-9BM, E-9J or E-9Y

**Agency Approvals:**



Product	3M Order Code	Conductor Size	Maximum Insulation Diameter
UB2A	80611327471	0.4 - 0.9 mm	2.1 mm



### 3M™ Scotchlok™ Moisture Guard Connector (MGC)

The 3M Scotchlok Moisture Guard Connector MGC provides a convenient way to connect wires for landscape irrigation and lighting applications. Just press the MGC cap and a metal element inside pushes through the wire insulation to make a secure, reliable connection. The grease in the MGC protects against moisture while the MGC housing is UV resistant for above-ground applications.

**Recommended installation tool:** Multigrip (Slip Joint) Pliers  
**Applications:** Residential and commercial landscape lighting  
Irrigation applications

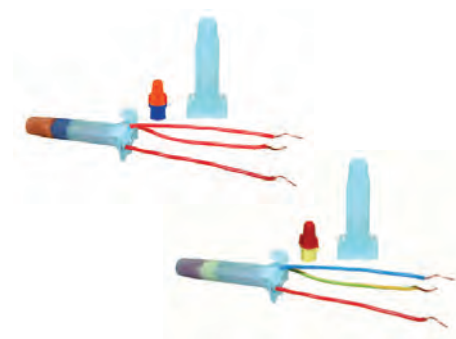


Product name	3M Order Code	Connector Style	Outside port		Inside port		Flame Retardant	Maximum Voltage Rating	Maximum Operating Temperature
			Wire Range	Insulation Diameter	Wire Range	Insulation Diameter			
MGC (25/Bag)	80611434152	Insulation Displacement (IDC)	1.0 mm <sup>2</sup> - 2.5 mm <sup>2</sup> Solid/Stranded	5.3 mm	0.5 mm <sup>2</sup> Stranded, 0.75 mm <sup>2</sup> Solid/Stranded	3.8 mm	Yes	600 V (1000 V in signs, lighting fixtures and luminaries)	105°C
MGC (100/Jar)	80611434160	Insulation Displacement (IDC)	1.0 mm <sup>2</sup> - 2.5 mm <sup>2</sup> Solid/Stranded	5.3 mm	0.5 mm <sup>2</sup> Stranded, 0.75 mm <sup>2</sup> Solid/Stranded	3.8 mm	Yes	600 V (1000 V in signs, lighting fixtures and luminaries)	105°C

### 3M™ Direct Bury Splice Kits DBO/B-6 and DBR/Y-6

The 3M Direct Bury Splice Kits DBO/B-6 and DBR/Y-6 are used to electrically connect two or more pre-stripped copper wires and moisture seal the connection for direct burial. The DBO/B-6 kit includes a 3M Performance Plus Wire Connector O/B+ and a high impact, UV-resistant polypropylene tube prefilled with moisture-resistant grease and is flame retardant. The DBR/Y-6 kit includes a 3M Performance Plus Wire Connector R/Y+ and a high impact, UV-resistant polypropylene tube prefilled with moisture-resistant grease. Flame retardant.

**Applications:** Wiring up to 600 V in water-intensive applications such as golf courses, irrigation controls and outdoor lighting



Product name	3M Order Code	Conductor Size	Connector Style	Common Wire Combinations (Copper only)*	Flame Retardant	Maximum Voltage Rating	Maximum Operating Temperature
DBO/B-6 BULK	80611467293	0.75 mm <sup>2</sup> - 2.5 mm <sup>2</sup>	Direct Bury	2 x 1.0 mm <sup>2</sup> to 3 x 2.5 mm <sup>2</sup>	Yes	600 V	105°C
DBR/Y-6 BULK	80611457195	1.0 mm <sup>2</sup> - 6.0 mm <sup>2</sup>	Direct Bury	2 x 1.0 mm <sup>2</sup> to 3 x 4.0 mm <sup>2</sup>	Yes	600 V	105°C

\* See data sheet for all combinations

### 3M™ Scotchlok™ Moisture Resistant Connectors 314 and 316IR

3M Scotchlok Connectors 314 and 316IR are used to electrically connect two or three wire ends, insulate the connection, and provide a moisture resistant seal. 316-IR is recommended for use with low energy underground circuit wires, sprinkler systems, landscape lighting or other moisture-resistant applications less than 30 volts.



**Recommended installation tool:** 3M™ Scotchlok™ Crimp Tool E-9BM or Multigrip (Slip Joint) Pliers

Product	3M Order Code	Colour	Conductor Size	Maximum Insulation Diameter	Flame Retardant	Maximum Voltage Rating	Maximum Operating Temperature
314	80610253660	Blue Cap, White Body	0.5 - 1.5 mm <sup>2</sup> Solid/Stranded	3.8 mm	Yes	600 V	105°C
314 (bulk)	80610253678	Blue Cap, White Body	0.5 - 1.5 mm <sup>2</sup> Solid/Stranded	3.8 mm	Yes	600 V	105°C
316IR	80610734537	Black Cap, White Body	0.5 - 1.0 mm <sup>2</sup> Solid/Stranded	3.9 mm	Yes	30 V	105°C

### 3M™ Scotchlok™ Butt Connector UAL

The UAL connector is a sealed, moisture resistant two or three wire insulation displacement connector. Outside ports accept solid copper, aluminium or a combination of both.






**Recommended installation tool:** 3M™ Scotchlok™ Crimp Tool E-9BM, E-9J or E-9Y

Product	3M Order Code	Colour	Conductor Size	Maximum Insulation Diameter	Flame Retardant	Maximum Operating Temperature
UAL	80611327463	Clear	0.5 - 1.2 mm	Outside port: 2.1 mm Centre port: 1.9 mm	No	140°C

### 3M™ Scotchlok™ Crimping Tools

3M recommends the use of 3M Scotchlok Crimping Tools when installing 3M Scotchlok IDC Connectors. These tools ensure repeated fast, reliable connections. In projects where large numbers of connectors are being used, the high mechanical advantage designed into the tool will ensure minimal operator fatigue.

Product	E-9BM	E-9J	E-9Y-P
			
3M Order Code	80611141294	80611314065	80611323645
Product name	3M™ Scotchlok™ Hand Crimping Tool E-9BM	3M™ Scotchlok™ Hand Crimping Tool E-9J	3M™ Scotchlok™ Hand Crimping Tool E-9Y-P
Description	This heavy duty tool is capable of crimping all Scotchlok connectors. Its closing action and adjustable jaws provide a 10 to 1 mechanical advantage, allowing it to handle all wire gauges.	The E-9J tool is a lightweight, handheld tool featuring a single stroke, with a work-saving 10 to 1 mechanical advantage over applied hand force. For use with Scotchlok butt and tap connectors.	The E-9Y tool has stepped jaws and a long nose and side wire cutter which provides crimping action for two or three conductor splicing. The E-9Y tool is not recommended for 0.9 mm and larger conductors.

# 3M™ Medium Voltage Cold Shrink

## Cable Terminations & Joints up to 33 kV

Since the conception of 3M Cold Shrink more than 30 years ago, 3M Cold Shrink technology has been found to be a safer, more reliable and easier to install solution for medium and high voltage jointing and terminating versus conventional heat shrink alternatives. It is a preferred solution for power utilities, private power network operators and electrical specifiers globally.

### Medium and High Voltage Cable Accessories

After many years of developing our 3M cold shrink product range, with our customers' needs in mind, we are proud to offer contractors a wide range of time and money saving joints and terminations to fit almost any application.

#### Why move to 3M Cold Shrink?

- Fast, straightforward installation
- No flame required
- No special site permits needed
- No cooling time needed before energising
- Easier to use in enclosed areas
- Constant radial pressure for optimised environmental performance
- Less chance of damaging XLPE cable material
- Extensive quality and factory testing programmes



3M cold shrink products  
installed and trusted worldwide  
for over **40 years**

### 3M™ Cold Shrink Cable Termination Products

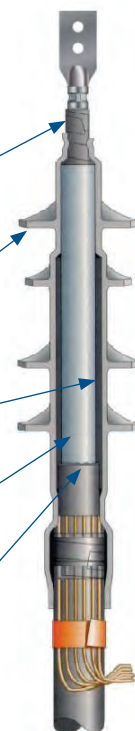
#### Premium 3M™ Cold Shrink Terminations Fully Integrated: Quick Term III (QT-III)

This fully integrated premium cable termination offers the greatest simplicity and flexibility in our range. Our premium QT-III termination covers a wide range of cable sizes and types as well as accommodating voltages up to 69 kV. Shorter installation length enables this product to fit into a wide range of boxes, and fewer installation steps reduce the risk of error.

#### Standard 3M™ Cold Shrink Terminations Part Integrated: Quick Term II (QT-II)

Our part integrated Cold Shrink termination offers a viable cost-based alternative to heat shrink cable terminating technology. Additional process steps to our QT-III premium range mean that comparative time savings are less but the benefits of not having to use heat or extra tooling still apply. This range covers many of the most common cable configurations and size ranges.

QT-III	QT-II
<b>Moisture Blocking Mastic</b>	
Integrated into termination	Applied separately
<b>Outer Insulator</b>	
Very good track resistance	Good track resistance
<b>Stress Control Tube</b>	
Integrated into termination	Integrated into termination
<b>Silicone Grease - Stress Relief</b>	
No - Integrated mastic is sufficient	Yes - Applied separately
<b>Stress Control Mastic</b>	
Integrated into termination	No - Requires silicone grease



### The simple application of a 3M™ Cold Shrink Cable Termination



1 Prepare the cable as normal and clean with 3M™ Cable Wipes



2 Place the 3M™ Cold Shrink Termination Body over the cable end and position at the correct point on the cable



3 Begin to remove the inner core, allowing the termination to shrink down onto the cable



4 Once the inner core has been fully removed, the termination installation is complete!

## Medium Voltage Cold Shrink Cable Termination Kits (Australia)

### 3M™ Cold Shrink QT-III Termination Kits for Single Core Cable (AU)

3M Cold Shrink QT-III Terminations offer easy and safe installation, and reliable, consistent performance when terminating indoor and outdoor medium voltage cable. No flame is required for installation. The silicone rubber body provides UV stability, track and erosion resistance, high creepage and BIL, hydrophobicity and constant radial pressure, resulting in maximum performance and durability. Kits are designed for use with crimp lugs. For use with mechanical lugs please contact 3M.

#### 3M Cold Shrink QT-III Termination Kits / Single Core Cable - 3.3 kV, 6.6 kV, 11 kV

**Cable:** Polymeric Insulation, Copper Wire Screened\*, Non-Armoured or Armoured

**Contents:** Each kit will make three single core terminations. Lugs not included.

Termination kits for single and three core cable are specifically designed and optimised for Australian conditions, and meet or exceed the requirements of IEC 60502 and IEEE Standard 48.

Voltage	Description	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	BIL kV	NON-ARMoured CABLE			ARMoured CABLE		
						Jacket Diameter Range mm	3M Kit	3M Order Code	Jacket Diameter Range mm	3M Kit	3M Order Code
3.3 kV	Indoor	1	25	8.2 - 15.0	95	13 - 20	<b>7620-T-95-AU</b>	AE010591541	14 - 24	<b>7620-T-95-AR-AU</b>	AE010591731
			35 - 95	11.2 - 22.7	95	17 - 27	<b>7621-T-95-AU</b>	AE010591558	23 - 41	<b>7621-T-95-AR-AU</b>	AE010591749
			120 - 185	16.3 - 27.4	110	25 - 38	<b>7642-T-110-AU</b>	AE010591566	25 - 41	<b>7642-T-110-AR-AU</b>	AE010591756
			240 - 400	21.1 - 38.9	110	28 - 48	<b>7644-T-110-AU</b>	AE010591574	33 - 56	<b>7644-T-110-AR-AU</b>	AE010591764
			500 - 630	26.7 - 45.7	110	35 - 61	<b>7645-T-110-AU</b>	AE010591582	42 - 79	<b>7645-T-110-AR-AU</b>	AE010591772
			800 - 1000	38.9 - 58.9	110	47 - 71	<b>7646-T-110-AU</b>	AE010591590	47 - 79	<b>7646-T-110-AR-AU</b>	AE010591780
	Outdoor	1	25	8.2 - 15.0	95	13 - 20	<b>7620-S-2-AU</b>	AE010591632	14 - 24	<b>7620-S-2-AR-AU</b>	AE010591863
			35 - 95	11.2 - 22.7	95	17 - 27	<b>7621-S-2-AU</b>	AE010591640	23 - 41	<b>7621-S-2-AR-AU</b>	AE010591871
			120 - 185	16.3 - 27.4	150	25 - 38	<b>7652-S-4-AU</b>	AE010591657	25 - 41	<b>7652-S-4-AR-AU</b>	AE010591889
			240 - 400	21.1 - 38.9	150	28 - 48	<b>7654-S-4-AU</b>	AE010591665	33 - 56	<b>7654-S-4-AR-AU</b>	AE010591897
			500 - 630	26.7 - 45.7	150	35 - 61	<b>7655-S-4-AU</b>	AE010591673	42 - 79	<b>7655-S-4-AR-AU</b>	AE010591905
			800 - 1000	38.9 - 58.9	150	47 - 71	<b>7656-S-4-AU</b>	AE010591681	47 - 79	<b>7656-S-4-AR-AU</b>	AE010591913
6.6 kV	Indoor	1	16 - 25	8.2 - 15.0	95	13 - 20	<b>7620-T-95-AU</b>	AE010591541	14 - 24	<b>7620-T-95-AR-AU</b>	AE010591731
			35 - 70	11.2 - 22.7	95	17 - 27	<b>7621-T-95-AU</b>	AE010591558	23 - 41	<b>7621-T-95-AR-AU</b>	AE010591749
			95 - 150	16.3 - 27.4	110	25 - 38	<b>7642-T-110-AU</b>	AE010591566	25 - 41	<b>7642-T-110-AR-AU</b>	AE010591756
			185 - 240	21.1 - 38.9	110	28 - 48	<b>7644-T-110-AU</b>	AE010591574	33 - 56	<b>7644-T-110-AR-AU</b>	AE010591764
			300 - 500	26.7 - 45.7	110	35 - 61	<b>7645-T-110-AU</b>	AE010591582	42 - 79	<b>7645-T-110-AR-AU</b>	AE010591772
			630 - 1000	38.9 - 58.9	110	47 - 71	<b>7646-T-110-AU</b>	AE010591590	47 - 79	<b>7646-T-110-AR-AU</b>	AE010591780
	Outdoor	1	16 - 25	8.2 - 15.0	95	13 - 20	<b>7620-S-2-AU</b>	AE010591632	14 - 24	<b>7620-S-2-AR-AU</b>	AE010591863
			35 - 70	11.2 - 22.7	95	17 - 27	<b>7621-S-2-AU</b>	AE010591640	23 - 41	<b>7621-S-2-AR-AU</b>	AE010591871
			95 - 150	16.3 - 27.4	150	25 - 38	<b>7652-S-4-AU</b>	AE010591657	25 - 41	<b>7652-S-4-AR-AU</b>	AE010591889
			185 - 240	21.1 - 38.9	150	28 - 48	<b>7654-S-4-AU</b>	AE010591665	33 - 56	<b>7654-S-4-AR-AU</b>	AE010591897
			300 - 500	26.7 - 45.7	150	35 - 61	<b>7655-S-4-AU</b>	AE010591673	42 - 79	<b>7655-S-4-AR-AU</b>	AE010591905
			630 - 1000	38.9 - 58.9	150	47 - 71	<b>7656-S-4-AU</b>	AE010591681	47 - 79	<b>7656-S-4-AR-AU</b>	AE010591913
11 kV	Indoor	1	16	8.2 - 15.0	95	13 - 20	<b>7620-T-95-AU</b>	AE010591541	14 - 24	<b>7620-T-95-AR-AU</b>	AE010591731
			25 - 70	11.2 - 22.7	95	17 - 27	<b>7621-T-95-AU</b>	AE010591558	23 - 41	<b>7621-T-95-AR-AU</b>	AE010591749
			95 - 150	16.3 - 27.4	110	25 - 38	<b>7642-T-110-AU</b>	AE010591566	25 - 41	<b>7642-T-110-AR-AU</b>	AE010591756
			185 - 240	21.1 - 38.9	110	28 - 48	<b>7644-T-110-AU</b>	AE010591574	33 - 56	<b>7644-T-110-AR-AU</b>	AE010591764
			300 - 500	26.7 - 45.7	110	35 - 61	<b>7645-T-110-AU</b>	AE010591582	42 - 79	<b>7645-T-110-AR-AU</b>	AE010591772
			630 - 1000	38.9 - 58.9	110	47 - 71	<b>7646-T-110-AU</b>	AE010591590	47 - 79	<b>7646-T-110-AR-AU</b>	AE010591780
	Outdoor	1	16	8.2 - 15.0	95	13 - 20	<b>7620-S-2-AU</b>	AE010591632	14 - 24	<b>7620-S-2-AR-AU</b>	AE010591863
			25 - 70	11.2 - 22.7	95	17 - 27	<b>7621-S-2-AU</b>	AE010591640	23 - 41	<b>7621-S-2-AR-AU</b>	AE010591871
			95 - 150	16.3 - 27.4	150	25 - 38	<b>7652-S-4-AU</b>	AE010591657	25 - 41	<b>7652-S-4-AR-AU</b>	AE010591889
			185 - 240	21.1 - 38.9	150	28 - 48	<b>7654-S-4-AU</b>	AE010591665	33 - 56	<b>7654-S-4-AR-AU</b>	AE010591897
			300 - 500	26.7 - 45.7	150	35 - 61	<b>7655-S-4-AU</b>	AE010591673	42 - 79	<b>7655-S-4-AR-AU</b>	AE010591905
			630 - 1000	38.9 - 58.9	150	47 - 71	<b>7656-S-4-AU</b>	AE010591681	47 - 79	<b>7656-S-4-AR-AU</b>	AE010591913

Final determining factors are cable jacket and insulation diameters.

\* Kits for copper tape screened cable available on request



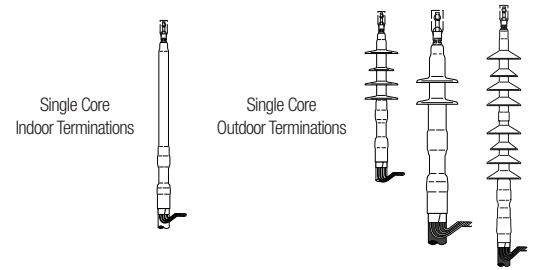
## Medium Voltage Cold Shrink Cable Termination Kits (Australia)

### Cold Shrink QT-III Termination Kits for Single Core Cable (AU)

#### 3M Cold Shrink QT-III Termination Kits Single Core Cable - 15 kV, 22 kV, 33 kV

**Cable:** Polymeric Insulation, Copper Wire Screened\*\*, Non-Armoured or Armoured

**Contents:** Each kit will make three single core terminations. Lugs not included.



Voltage	Description	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	BIL kV	NON-ARMoured CABLE			ARMoured CABLE		
						Jacket Diameter Range mm	3M Kit	3M Order Code	Jacket Diameter Range mm	3M Kit	3M Order Code
15 kV	Indoor	1	16	8.2 - 15.0	95	13 - 20	<b>7620-T-95-AU</b>	AE010591541	14 - 24	<b>7620-T-95-AR-AU</b>	AE010591731
			25	11.2 - 22.7	95	17 - 27	<b>7621-T-95-AU</b>	AE010591558	23 - 41	<b>7621-T-95-AR-AU</b>	AE010591749
			35 - 120	16.3 - 27.4	110	25 - 38	<b>7642-T-110-AU</b>	AE010591566	25 - 41	<b>7642-T-110-AR-AU</b>	AE010591756
			120 - 240	21.1 - 38.9	110	28 - 48	<b>7644-T-110-AU</b>	AE010591574	33 - 56	<b>7644-T-110-AR-AU</b>	AE010591764
			70 - 150	18.3 - 32.8	150	26 - 41	<b>7653-T-150-AU</b>	AE010591608	33 - 56	<b>7653-T-150-AR-AU</b>	AE010591798
			240 - 500	26.7 - 45.7	110	35 - 61	<b>7645-T-110-AU</b>	AE010591582	42 - 79	<b>7645-T-110-AR-AU</b>	AE010591772
					150		<b>7655-T-150-AU</b>	AE010591616		<b>7655-T-150-AR-AU</b>	AE010591806
	Outdoor	1	500 - 1000	38.9 - 58.9	110	47 - 71	<b>7646-T-110-AU</b>	AE010591590	47 - 79	<b>7646-T-110-AR-AU</b>	AE010591780
					150		<b>7656-T-150-AU</b>	AE010591624		<b>7656-T-150-AR-AU</b>	AE010591814
			16	8.2 - 15.0	95	13 - 20	<b>7620-S-2-AU</b>	AE010591632	14 - 24	<b>7620-S-2-AR-AU</b>	AE010591863
			25	11.2 - 22.7	95	17 - 27	<b>7621-S-2-AU</b>	AE010591640	23 - 41	<b>7621-S-2-AR-AU</b>	AE010591871
			35 - 120	16.3 - 27.4	150	25 - 38	<b>7652-S-4-AU</b>	AE010591657	25 - 41	<b>7652-S-4-AR-AU</b>	AE010591889
			120 - 240	21.1 - 38.9	150	28 - 48	<b>7654-S-4-AU</b>	AE010591665	33 - 56	<b>7654-S-4-AR-AU</b>	AE010591897
			240 - 500	26.7 - 45.7	150	35 - 61	<b>7655-S-4-AU</b>	AE010591673	42 - 79	<b>7655-S-4-AR-AU</b>	AE010591905
			630 - 1000	38.9 - 58.9	150	47 - 71	<b>7656-S-4-AU</b>	AE010591681	47 - 79	<b>7656-S-4-AR-AU</b>	AE010591913
22 kV	Indoor	1	35 - 150	18.3 - 32.8	150	26 - 41	<b>7653-T-150-AU</b>	AE010591608	33 - 56	<b>7653-T-150-AR-AU</b>	AE010591798
			185 - 400	26.7 - 45.7	150	35 - 61	<b>7655-T-150-AU</b>	AE010591616	42 - 79	<b>7655-T-150-AR-AU</b>	AE010591806
			500 - 800	38.9 - 58.9	150	47 - 71	<b>7656-T-150-AU</b>	AE010591624	47 - 79	<b>7656-T-150-AR-AU</b>	AE010591814
	Outdoor	1	35 - 120	16.3 - 27.4	150	25 - 38	<b>7652-S-4-AU</b>	AE010591657	25 - 41	<b>7652-S-4-AR-AU</b>	AE010591889
			70 - 150	21.1 - 38.9	150	28 - 48	<b>7654-S-4-AU</b>	AE010591665	33 - 56	<b>7654-S-4-AR-AU</b>	AE010591897
			150 - 400	26.7 - 45.7	150	35 - 61	<b>7655-S-4-AU</b>	AE010591673	42 - 79	<b>7655-S-4-AR-AU</b>	AE010591905
			500 - 800	38.9 - 58.9	150	47 - 71	<b>7656-S-4-AU</b>	AE010591681	47 - 79	<b>7656-S-4-AR-AU</b>	AE010591913
33 kV	Indoor	1	35 - 70	18.3 - 32.8	200	26 - 41	<b>7663-S-8-AU*</b>	AE010591699	33 - 56	<b>7663-S-8-AR-AU*</b>	AE010591822
			35 - 120	21.1 - 38.9	200	28 - 48	<b>7664-S-8-AU*</b>	AE010591707	33 - 56	<b>7664-S-8-AR-AU*</b>	AE010591830
			95 - 300	26.7 - 45.7	200	35 - 61	<b>7665-S-8-AU*</b>	AE010591715	42 - 79	<b>7665-S-8-AR-AU*</b>	AE010591848
			400 - 800	38.9 - 58.9	200	47 - 71	<b>7666-S-8-AU*</b>	AE010591723	47 - 79	<b>7666-S-8-AR-AU*</b>	AE010591855
	Outdoor	1	35 - 70	18.3 - 32.8	200	26 - 41	<b>7663-S-8-AU</b>	AE010591699	33 - 56	<b>7663-S-8-AR-AU</b>	AE010591822
			35 - 120	21.1 - 38.9	200	28 - 48	<b>7664-S-8-AU</b>	AE010591707	33 - 56	<b>7664-S-8-AR-AU</b>	AE010591830
			95 - 300	26.7 - 45.7	200	35 - 61	<b>7665-S-8-AU</b>	AE010591715	42 - 79	<b>7665-S-8-AR-AU</b>	AE010591848
			400 - 800	38.9 - 58.9	200	47 - 71	<b>7666-S-8-AU</b>	AE010591723	47 - 79	<b>7666-S-8-AR-AU</b>	AE010591855

\* Suitable for indoor & outdoor terminations.

\*\* Kits for copper tape screened cable available on request

Final determining factors are cable jacket and insulation diameters.



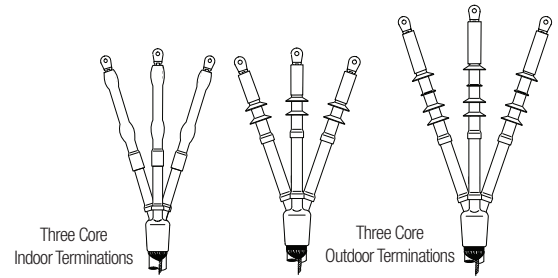
## Cold Shrink QT-III Termination Kits for Three Core Cable (AU)

### 3M Cold Shrink QT-III Termination Kits

#### Three Core Cable - 3.3 kV, 6.6 kV, 11 kV

**Cable:** Polymeric Insulation, Copper Wire Screened\*, Non-Armoured or Armoured

**Contents:** Each kit will make one three core termination. Lugs not included.



Voltage	Description	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	Jacket Diameter Range mm	BIL kV	NON-ARMoured or ARMoured CABLE	
							3M Kit	3M Order Code
3.3 kV	Indoor	3	16 - 35	8.4 - 12.7	33 - 49	95	<b>7620-T-95-3W-AU</b>	AE010592309
			50 - 95	12.7 - 17.8	37 - 68	95	<b>7621-T-95-3W-AU</b>	AE010592317
			120 - 185	17.8 - 23.4	49 - 79	110	<b>7622-T-110-3W-AU</b>	AE010592333
			240 - 300	23.4 - 30.0	64 - 110	110	<b>7624-T-110-3W-AU</b>	AE010592341
			400 - 500	30.0 - 38.6	66 - 119	110	<b>7625-T-110-3W-AU</b>	AE010592358
	Outdoor	3	16 - 35	8.4 - 12.7	33 - 49	95	<b>7620-S-2-3W-AU</b>	AE010592408
			50 - 95	12.7 - 17.8	37 - 68	95	<b>7621-S-2-3W-AU</b>	AE010591178
			120 - 185	17.8 - 23.4	49 - 79	150	<b>7692-S-4-3W-AU</b>	AE010591525
			240 - 300	23.4 - 30.0	64 - 110	150	<b>7693-S-4-3W-AU</b>	AE010592440
			400 - 500	30.0 - 38.6	66 - 119	150	<b>7695-S-4-3W-AU</b>	AE010592457
6.6 kV	Indoor	3	16 - 25	8.4 - 12.7	33 - 49	95	<b>7620-T-95-3W-AU</b>	AE010592309
			35 - 70	12.7 - 17.8	37 - 68	95	<b>7621-T-95-3W-AU</b>	AE010592317
			95 - 150	17.8 - 23.4	49 - 79	110	<b>7622-T-110-3W-AU</b>	AE010592333
			185 - 300	23.4 - 30.0	64 - 110	110	<b>7624-T-110-3W-AU</b>	AE010592341
			400 - 500	30.0 - 38.6	66 - 119	110	<b>7625-T-110-3W-AU</b>	AE010592358
	Outdoor	3	16 - 25	8.4 - 12.7	33 - 49	95	<b>7620-S-2-3W-AU</b>	AE010592408
			35 - 70	12.7 - 17.8	37 - 68	95	<b>7621-S-2-3W-AU</b>	AE010591178
			95 - 150	17.8 - 23.4	49 - 79	150	<b>7692-S-4-3W-AU</b>	AE010591525
			185 - 300	23.4 - 30.0	64 - 110	150	<b>7693-S-4-3W-AU</b>	AE010592440
			400 - 500	30.0 - 38.6	66 - 119	150	<b>7695-S-4-3W-AU</b>	AE010592457
11 kV	Indoor	3	10 - 50	12.7 - 17.8	37 - 68	95	<b>7621-T-95-3W-AU</b>	AE010592317
			70 - 150	17.8 - 23.4	49 - 79	110	<b>7622-T-110-3W-AU</b>	AE010592333
			185 - 300	23.4 - 30.0	64 - 110	110	<b>7624-T-110-3W-AU</b>	AE010592341
			400 - 500	30.0 - 38.6	66 - 119	110	<b>7625-T-110-3W-AU</b>	AE010592358
	Outdoor	3	10 - 50	12.7 - 17.8	37 - 68	150	<b>7691-S-4-3W-AU</b>	AE010592424
			70 - 150	17.8 - 23.4	49 - 79	150	<b>7692-S-4-3W-AU</b>	AE010591525
			185 - 300	23.4 - 30.0	64 - 110	150	<b>7693-S-4-3W-AU</b>	AE010592440
			400 - 500	30.0 - 38.6	66 - 119	150	<b>7695-S-4-3W-AU</b>	AE010592457

Final determining factors are cable jacket and insulation diameters.

\* Kits for copper tape screened cable available on request

## Cold Shrink QT-III Termination Kits for Three Core Cable (AU)

### 3M Cold Shrink QT-III Termination Kits Three Core Cable - 15 kV, 22 kV, 33 kV

**Cable:** Polymeric Insulation, Copper Wire Screened\*\*, Non-Armoured or Armoured

**Contents:** Each kit will make one three core termination. Lugs not included.



Voltage	Description	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	Jacket Diameter Range mm	BIL kV	NON-ARMoured or ARMoured CABLE	
							3M Kit	3M Order Code
15 kV	Indoor	3	16 - 25	12.7-17.8	37 - 68	110	<b>7621-T-110-3W-AU</b>	AE010592325
			35 - 95	17.8 - 23.4	49 - 79	110	<b>7622-T-110-3W-AU</b>	AE010592333
						150	<b>7693-T-150-3W-AU</b>	AE010592366
			120 - 185	23.4 - 30.0	64 - 110	110	<b>7624-T-110-3W-AU</b>	AE010592341
	Outdoor	3				150	<b>7694-T-150-3W-AU</b>	AE010592374
			240 - 300	30.0 - 38.6	66 - 119	110	<b>7625-T-110-3W-AU</b>	AE010592358
						150	<b>7695-T-150-3W-AU</b>	AE010592382
						150	<b>7691-S-4-3W-AU</b>	AE010592424
22 kV	Indoor	3	16 - 25	12.7 - 17.8	37 - 68	150	<b>7692-S-4-3W-AU</b>	AE010591525
			35 - 95	17.8 - 23.4	49 - 79	150	<b>7693-S-4-3W-AU</b>	AE010592440
			120 - 185	23.4 - 30.0	64 - 110	150	<b>7695-S-4-3W-AU</b>	AE010592457
			240 - 300	30.0 - 38.6	66 - 119	150	<b>7693-T-150-3W-AU</b>	AE010592366
	Outdoor	3	25 - 70	17.8 - 23.4	49 - 79	150	<b>7694-T-150-3W-AU</b>	AE010592374
			95 - 185	23.4 - 30.0	64 - 110	150	<b>7695-T-150-3W-AU</b>	AE010592382
			240 - 300	30.0 - 38.6	66 - 119	150	<b>7692-S-4-3W-AU</b>	AE010591525
						150	<b>7693-S-4-3W-AU</b>	AE010592440
33 kV	Indoor	3	95 - 240	30.0 - 38.6	66 - 119	200	<b>7695-S-4-3W-AU</b>	AE010592457
	Outdoor	3	95 - 240	30.0 - 38.6	66 - 119	200	<b>7685-S-8-3W-AU*</b>	AE010592390
							<b>7685-S-8-3W-AU*</b>	AE010592390

\* Suitable for indoor & outdoor terminations.

\*\* Kits for copper tape screened cable available on request

Final determining factors are cable jacket and insulation diameters.

## Cold Shrink QT-II Termination Kits for Single Core Cable (AU)

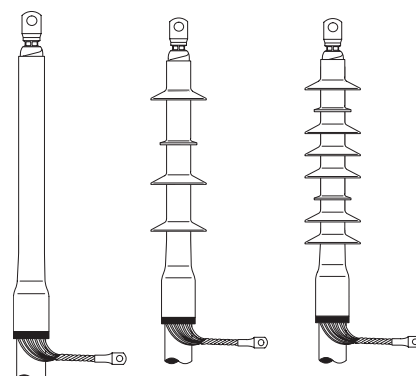
3M Cold Shrink QT-II terminations provide easy installation for a broad spectrum of indoor and outdoor applications. The Cold Shrink QT-II is based on specially formulated, track-resistant silicone rubber insulators with built-in Hi-K stress relief. Once applied this provides a void-free, flexible seal without the need for special tools or torches. Kits are designed for use with crimp lugs. For use with mechanical lugs please contact 3M.

Termination kits for single and three core cable are specifically designed and optimised for Australian conditions, and meet or exceed the requirements of IEC 60502-4 and IEEE Standard 48.

## 3M Cold Shrink QT-III Termination Kits Three Core Cable - 15 kV, 22 kV, 33 kV

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured or Armoured

**Contents:** Each kit will make one three core termination. Lugs not included.



Voltage	Description	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	BIL kV	NON-ARMoured CABLE			ARMoured CABLE		
						Jacket Diameter Range mm	3M Kit	3M Order Code	Jacket Diameter Range mm	3M Kit	3M Order Code
3.3 kV	Indoor	1	25 - 70	11.2 - 16.5	95	Max. 23	<b>92-EB 60-1-AU</b>	AE010591962	14 - 24	<b>92-EB 60-1-AR-AU</b>	AE010592135
			70 - 185	14.2 - 22.1	95	Max. 28	<b>92-EB 61-1-AU</b>	AE010591970	23 - 41	<b>92-EB 61-1-AR-AU</b>	AE010592143
			95 - 300	15.9 - 30.0	95	18 - 37	<b>92-EB 62-1-AU</b>	AE010591988	23 - 41	<b>92-EB 62-1-AR-AU</b>	AE010592150
			240 - 500	22.6 - 41.4	95	25 - 50	<b>92-EB 63-1-AU</b>	AE010591996	33 - 56	<b>92-EB 63-1-AR-AU</b>	AE010592168
			400 - 630	27.3 - 49.3	95	29 - 61	<b>92-EB 64-1-AU</b>	AE010592002	42 - 79	<b>92-EB 64-1-AR-AU</b>	AE010592176
	Outdoor	1	500 - 1000	31.5 - 61.5	95	34 - 74	<b>92-EB 65-1-AU</b>	AE010592010	42 - 79	<b>92-EB 65-1-AR-AU</b>	AE010592184
			95 - 300	16.0 - 28.5	125	23 - 35	<b>93-EB 62-1-AU</b>	AE010592028	23 - 41	<b>93-EB 62-1-AR-AU</b>	AE010592192
			240 - 500	21.3 - 35.0	125	30 - 44	<b>93-EB 63-1-AU</b>	AE010592036	33 - 56	<b>93-EB 63-1-AR-AU</b>	AE010592200
			400 - 630	27.0 - 45.7	125	35 - 52	<b>93-EB 64-1-AU</b>	AE010592044	35 - 56	<b>93-EB 64-1-AR-AU</b>	AE010592218
			500 - 1000	33.0 - 53.3	125	41 - 65	<b>93-EB 65-1-AU</b>	AE010592051	42 - 79	<b>93-EB 65-1-AR-AU</b>	AE010592226
6.6 kV	Indoor	1	25 - 50	11.2 - 16.5	95	Max. 23	<b>92-EB 60-1-AU</b>	AE010591962	14 - 24	<b>92-EB 60-1-AR-AU</b>	AE010592135
			70 - 150	14.2 - 22.1	95	Max. 28	<b>92-EB 61-1-AU</b>	AE010591970	23 - 41	<b>92-EB 61-1-AR-AU</b>	AE010592143
			95 - 300	15.9 - 30.0	95	18 - 37	<b>92-EB 62-1-AU</b>	AE010591988	23 - 41	<b>92-EB 62-1-AR-AU</b>	AE010592150
			240 - 500	22.6 - 41.4	95	25 - 50	<b>92-EB 63-1-AU</b>	AE010591996	33 - 56	<b>92-EB 63-1-AR-AU</b>	AE010592168
			400 - 630	27.3 - 49.3	95	29 - 61	<b>92-EB 64-1-AU</b>	AE010592002	42 - 79	<b>92-EB 64-1-AR-AU</b>	AE010592176
	Outdoor	1	500 - 1000	31.5 - 61.5	95	34 - 74	<b>92-EB 65-1-AU</b>	AE010592010	42 - 79	<b>92-EB 65-1-AR-AU</b>	AE010592184
			95 - 240	16.0 - 28.5	125	23 - 35	<b>93-EB 62-1-AU</b>	AE010592028	23 - 41	<b>93-EB 62-1-AR-AU</b>	AE010592192
			240 - 400	21.3 - 35.0	125	30 - 44	<b>93-EB 63-1-AU</b>	AE010592036	33 - 56	<b>93-EB 63-1-AR-AU</b>	AE010592200
			400 - 630	27.0 - 45.7	125	35 - 52	<b>93-EB 64-1-AU</b>	AE010592044	35 - 56	<b>93-EB 64-1-AR-AU</b>	AE010592218
			500 - 1000	33.0 - 53.3	125	41 - 65	<b>93-EB 65-1-AU</b>	AE010592051	42 - 79	<b>93-EB 65-1-AR-AU</b>	AE010592226

Final determining factors are cable jacket and insulation diameters.

3M™ Medium Voltage Solutions  
up to 33 kV

Total fire ban?  
No hot work permit?

No worries.  
3M™ Cold Shrink Cable Accessories.

## Cold Shrink QT-II Termination Kits for Single Core Cable (AU)

### 3M Cold Shrink QT-II Termination Kits Single Core Cable - 11kV, 15 kV, 22 kV, 33 kV

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured or Armoured

**Contents:** Each kit will make three single core terminations. Lugs not included.



Voltage	Description	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	BIL kV	NON-ARMoured CABLE			ARMoured CABLE		
						Jacket Diameter Range mm	3M Kit	3M Order Code	Jacket Diameter Range mm	3M Kit	3M Order Code
11 kV	Indoor	1	16 - 25	11.2 - 16.5	95	Max. 23	<b>92-EB 60-1-AU</b>	AE010591962	14 - 24	<b>92-EB 60-1-AR-AU</b>	AE010592135
			35	14.2 - 22.1	95	Max. 28	<b>92-EB 61-1-AU</b>	AE010591970	23 - 41	<b>92-EB 61-1-AR-AU</b>	AE010592143
			50 - 150	15.9 - 30.0	95	18 - 37	<b>92-EB 62-1-AU</b>	AE010591988	23 - 41	<b>92-EB 62-1-AR-AU</b>	AE010592150
			185 - 500	22.6 - 41.4	95	25 - 50	<b>92-EB 63-1-AU</b>	AE010591996	33 - 56	<b>92-EB 63-1-AR-AU</b>	AE010592168
			300 - 630	27.3 - 49.3	95	29 - 61	<b>92-EB 64-1-AU</b>	AE010592002	42 - 79	<b>92-EB 64-1-AR-AU</b>	AE010592176
			500 - 1000	31.5 - 61.5	95	34 - 74	<b>92-EB 65-1-AU</b>	AE010592010	42 - 79	<b>92-EB 65-1-AR-AU</b>	AE010592184
	Outdoor	1	50 - 150	16.0 - 28.5	125	23 - 35	<b>93-EB 62-1-AU</b>	AE010592028	23 - 41	<b>93-EB 62-1-AR-AU</b>	AE010592192
			150 - 300	21.3 - 35.0	125	30 - 44	<b>93-EB 63-1-AU</b>	AE010592036	33 - 56	<b>93-EB 63-1-AR-AU</b>	AE010592200
			300 - 630	27.0 - 45.7	125	35 - 52	<b>93-EB 64-1-AU</b>	AE010592044	35 - 56	<b>93-EB 64-1-AR-AU</b>	AE010592218
15 kV	Indoor	1	25	14.2 - 22.1	95	Max. 28	<b>92-EB 61-1-AU</b>	AE010591970	23 - 41	<b>92-EB 61-1-AR-AU</b>	AE010592143
			35 - 120	15.9 - 30.0	95	18 - 37	<b>92-EB 62-1-AU</b>	AE010591988	23 - 41	<b>92-EB 62-1-AR-AU</b>	AE010592150
			150 - 400	22.6 - 41.4	95	25 - 50	<b>92-EB 63-1-AU</b>	AE010591996	33 - 56	<b>92-EB 63-1-AR-AU</b>	AE010592168
			240 - 500	27.3 - 49.3	95	29 - 61	<b>92-EB 64-1-AU</b>	AE010592002	42 - 79	<b>92-EB 64-1-AR-AU</b>	AE010592176
			400 - 800	31.5 - 61.5	95	34 - 74	<b>92-EB 65-1-AU</b>	AE010592010	42 - 79	<b>92-EB 65-1-AR-AU</b>	AE010592184
	Outdoor	1	35 - 120	16.0 - 28.5	125	23 - 35	<b>93-EB 62-1-AU</b>	AE010592028	23 - 41	<b>93-EB 62-1-AR-AU</b>	AE010592192
			120 - 240	21.3 - 35.0	125	30 - 44	<b>93-EB 63-1-AU</b>	AE010592036	33 - 56	<b>93-EB 63-1-AR-AU</b>	AE010592200
			240 - 500	27.0 - 45.7	125	35 - 52	<b>93-EB 64-1-AU</b>	AE010592044	35 - 56	<b>93-EB 64-1-AR-AU</b>	AE010592218
22 kV	Indoor	1	25 - 95	16.0 - 28.5	125	23 - 35	<b>93-EB 62-1-AU</b>	AE010592028	23 - 41	<b>93-EB 62-1-AR-AU</b>	AE010592192
			70 - 240	21.3 - 35.0	125	30 - 44	<b>93-EB 63-1-AU</b>	AE010592036	33 - 56	<b>93-EB 63-1-AR-AU</b>	AE010592200
			185 - 500	27.0 - 45.7	125	35 - 52	<b>93-EB 64-1-AU</b>	AE010592044	35 - 56	<b>93-EB 64-1-AR-AU</b>	AE010592218
			400 - 1000	33.0 - 53.3	125	41 - 65	<b>93-EB 65-1-AU</b>	AE010592051	42 - 79	<b>93-EB 65-1-AR-AU</b>	AE010592226
	Outdoor	1	25 - 95	16.2 - 28.5	170	23 - 35	<b>94-EB 62-1-AU</b>	AE010592069	23 - 41	<b>94-EB 62-1-AR-AU</b>	AE010592234
			70 - 240	21.3 - 35.0	170	30 - 44	<b>94-EB 63-1-AU</b>	AE010592077	33 - 56	<b>94-EB 63-1-AR-AU</b>	AE010592242
			185 - 500	27.4 - 45.7	170	35 - 52	<b>94-EB 64-1-AU</b>	AE010592085	35 - 56	<b>94-EB 64-1-AR-AU</b>	AE010592259
			400 - 1000	33.3 - 53.3	170	41 - 65	<b>94-EB 65-1-AU</b>	AE010592093	42 - 79	<b>94-EB 65-1-AR-AU</b>	AE010592267
33 kV	Indoor	1	25 - 50	16.2 - 28.5	170	23 - 35	<b>94-EB 62-1-AU</b>	AE010592069	23 - 41	<b>94-EB 62-1-AR-AU</b>	AE010592234
			50 - 150	21.3 - 35.0	170	30 - 44	<b>94-EB 63-1-AU</b>	AE010592077	33 - 56	<b>94-EB 63-1-AR-AU</b>	AE010592242
			120 - 300	27.4 - 45.7	170	35 - 52	<b>94-EB 64-1-AU</b>	AE010592085	35 - 56	<b>94-EB 64-1-AR-AU</b>	AE010592259
			240 - 500	33.3 - 53.3	170	41 - 65	<b>94-EB 65-1-AU</b>	AE010592093	42 - 79	<b>94-EB 65-1-AR-AU</b>	AE010592267
	Outdoor	1	50 - 150	21.3 - 35.0	170	30 - 44	<b>94-EB 62-2-AU</b>	AE010592101	33 - 56	<b>94-EB 62-2-AR-AU</b>	AE010592275
			120 - 240	27.0 - 45.7	170	34 - 52	<b>94-EB 63-2-AU</b>	AE010592119	34 - 56	<b>94-EB 63-2-AR-AU</b>	AE010592283
			240 - 630	33.3 - 53.3	170	41 - 65	<b>94-EB 64-2-AU</b>	AE010592127	42 - 79	<b>94-EB 64-2-AR-AU</b>	AE010592291

Final determining factors are cable jacket and insulation diameters.

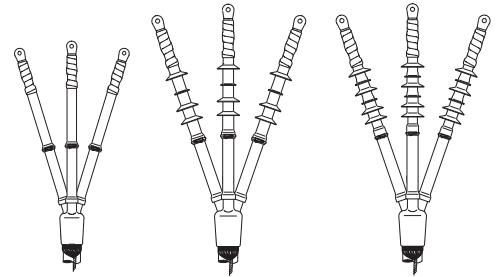


## Cold Shrink QT-II Termination Kits for Three Core Cable (AU)

### 3M Cold Shrink QT-II Termination Kits Three Core Cable - 3.3 kV to 33 kV

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured or Armoured

**Contents:** Each kit will make one three core termination. Lugs not included.



Voltage	Description	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	Jacket Diameter Range mm	BIL kV	NON-ARMoured or ARMoured CABLE	
							3M Kit	3M Order Code
3.3 kV	Indoor	3	25 - 70	11.2 - 16.5	36 - 61	95	92-EB 60-3-AU	AE010592473
			70 - 185	14.2 - 22.1	36 - 61	95	92-EB 61-3-AU	AE010592481
			95 - 185	16.5 - 22.1	49 - 79	95	92-EB 62-3-AU	AE010592499
			185 - 400	19.8 - 33.0	49 - 79	95	92-EB 63-3-AU	AE010592507
			240 - 400	22.0 - 33.0	64 - 110	95	92-EB 64-3-AU	AE010592515
	Outdoor	3	50 - 150	14.2 - 22.1	36 - 61	125	93-EB 60-3-AU	AE010592523
			95 - 150	16.0 - 28.4	36 - 61	125	93-EB 61-3-AU	AE010592531
			185 - 300	16.0 - 28.4	49 - 79	125	93-EB 62-3-AU	AE010592549
			400 - 500	21.3 - 35.0	64 - 110	125	93-EB 63-3-AU	AE010592556
			25 - 70	11.2 - 16.5	36 - 61	95	92-EB 60-3-AU	AE010592473
6.6 kV	Indoor	3	70 - 150	14.2 - 22.1	36 - 61	95	92-EB 61-3-AU	AE010592481
			95 - 150	16.5 - 22.1	49 - 79	95	92-EB 62-3-AU	AE010592499
			185 - 300	19.8 - 33.0	49 - 79	95	92-EB 63-3-AU	AE010592507
			240 - 400	22.0 - 33.0	64 - 110	95	92-EB 64-3-AU	AE010592515
			50 - 150	14.2 - 22.1	36 - 61	125	93-EB 60-3-AU	AE010592523
	Outdoor	3	95 - 150	16.0 - 28.4	36 - 61	125	93-EB 61-3-AU	AE010592531
			185 - 300	16.0 - 28.4	49 - 79	125	93-EB 62-3-AU	AE010592549
			400 - 500	21.3 - 35.0	64 - 110	125	93-EB 63-3-AU	AE010592556
			25 - 70	11.2 - 16.5	36 - 61	95	92-EB 60-3-AU	AE010592473
			35 - 70	14.2 - 22.1	36 - 61	95	92-EB 61-3-AU	AE010592481
11 kV	Indoor	3	70 - 95	16.5 - 22.1	49 - 79	95	92-EB 62-3-AU	AE010592499
			120 - 150	19.8 - 33.0	49 - 79	95	92-EB 63-3-AU	AE010592507
			185 - 300	22.0 - 33.0	64 - 110	95	92-EB 64-3-AU	AE010592515
			35	14.2 - 22.1	36 - 61	125	93-EB 60-3-AU	AE010592523
			50 - 70	16.0 - 28.4	36 - 61	125	93-EB 61-3-AU	AE010592531
	Outdoor	3	95 - 150	16.0 - 28.4	49 - 79	125	93-EB 62-3-AU	AE010592549
			185 - 300	21.3 - 35.0	64 - 110	125	93-EB 63-3-AU	AE010592556
			25 - 50	14.2 - 22.1	36 - 61	95	92-EB 61-3-AU	AE010592481
			50 - 70	16.5 - 22.1	49 - 79	95	92-EB 62-3-AU	AE010592499
			95 - 120	19.8 - 33.0	49 - 79	95	92-EB 63-3-AU	AE010592507
15 kV	Indoor	3	150 - 240	22.0 - 33.0	64 - 110	95	92-EB 64-3-AU	AE010592515
			25	14.2 - 22.1	36 - 61	125	93-EB 60-3-AU	AE010592523
			35 - 50	16.0 - 28.4	36 - 61	125	93-EB 61-3-AU	AE010592531
			70 - 120	16.0 - 28.4	49 - 79	125	93-EB 62-3-AU	AE010592549
			150 - 240	21.3 - 35.0	64 - 110	125	93-EB 63-3-AU	AE010592556
	Outdoor	3	10 - 16	14.2 - 22.1	36 - 61	125	93-EB 60-3-AU	AE010592523
			25 - 35	16.0 - 28.4	36 - 61	125	93-EB 61-3-AU	AE010592531
			50 - 120	16.0 - 28.4	49 - 79	125	93-EB 62-3-AU	AE010592549
			120 - 240	21.3 - 35.0	64 - 110	125	93-EB 63-3-AU	AE010592556
			25 - 35	16.2 - 24.4	36 - 61	170	94-EB 61-3-AU	AE010592564
22 kV	Indoor	3	50 - 120	16.0 - 28.4	49 - 79	125	93-EB 62-3-AU	AE010592549
			120 - 240	21.3 - 35.0	64 - 110	125	93-EB 63-3-AU	AE010592556
			25 - 35	16.2 - 24.4	36 - 61	170	94-EB 61-3-AU	AE010592564
			50 - 120	16.2 - 28.4	49 - 79	170	94-EB 62-3-AU	AE010592572
			120 - 240	21.3 - 35.0	64 - 110	170	94-EB 63-3-AU	AE010592580
	Outdoor	3	25 - 50	16.2 - 28.4	49 - 79	170	94-EB 62-3-AU	AE010592572
			25 - 150	21.3 - 35.0	64 - 110	170	94-EB 63-3-AU	AE010592580
			95 - 240	27.4 - 45.7	64 - 110	170	94-EB 64-3-AU	AE010592598
			25 - 150	21.3 - 35.0	64 - 110	170	94-EB 63-4-AU	AE010592606
			95 - 240	27.4 - 45.7	64 - 110	170	94-EB 64-4-AU	AE010592614
33 kV	Indoor	3	25 - 50	16.2 - 28.4	49 - 79	170	94-EB 62-3-AU	AE010592572
			25 - 150	21.3 - 35.0	64 - 110	170	94-EB 63-3-AU	AE010592580
			95 - 240	27.4 - 45.7	64 - 110	170	94-EB 64-3-AU	AE010592598
	Outdoor	3	25 - 150	21.3 - 35.0	64 - 110	170	94-EB 63-4-AU	AE010592606
			95 - 240	27.4 - 45.7	64 - 110	170	94-EB 64-4-AU	AE010592614

Final determining factors are cable jacket and insulation diameters.



### 3M™ Cold Shrink Trifurcating Kits - Above Ground

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured

**Contents:** Each kit contains components for three cores.

For converting three core cables to three single cores.

**Note** that 3M termination kits for three core cables already include trifurcating components.

Trifurcation kits will make each core up to 4 m in length.

Cable Size mm <sup>2</sup>						Jacket Diameter Range mm	Phase Diameter Range mm	3M Kit	3M Order Code
3.3 kV	6.6 kV	11 kV	15 kV	22 kV	33 kV				
50 - 150	35 - 120	25 - 50	25 - 35	-	-	37 - 68	15 - 21	RJK-1-AU	AE019309515
185 - 240	150 - 185	70 - 150	50 - 120	35 - 70	-	49 - 79	21 - 26	RJK-2-AU	AE019309523
300 - 400	240 - 400	185 - 240	150 - 185	95 - 185	50 - 120	64 - 110	26 - 33	RJK-3-AU	AE019309531
-	-	300 - 400	240 - 400	240 - 400	150 - 240	66 - 119	33 - 41	RJK-4-AU	AE019309549

Final determining factors are cable jacket and phase diameters.

### 3M™ Cold Shrink Trifurcating Kits - Direct Bury

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured

**Contents:** Each kit contains components for three cores

For converting three core cables to three single cores. Kits contain EPDM components.

Trifurcation kits will make each core up to 4 m in length.

Cable Size mm <sup>2</sup>						Jacket Diameter Range mm	Phase Diameter Range mm	3M Kit	3M Order Code
3.3 kV	6.6 kV	11 kV	15 kV	22 kV	33 kV				
50 - 150	35 - 120	25 - 50	25 - 35	-	-	37 - 61	15 - 24	RJK-DB-1-AU	AE019311495
185 - 240	150 - 185	70 - 150	50 - 120	35 - 70	-	49 - 78	21 - 35	RJK-DB-2-AU	AE019311503
300 - 400	240 - 400	185 - 300	150 - 185	95 - 185	50 - 120	64 - 110	26 - 41	RJK-DB-3-AU	AE019311511
-	-	300 - 400	240 - 400	240 - 400	150 - 240	66 - 120	27 - 49	RJK-DB-4-AU	AE019311529

Final determining factors are cable jacket and phase diameters.

## 3M™ Cold Shrink QT-III Termination Kits for Single Core Cable

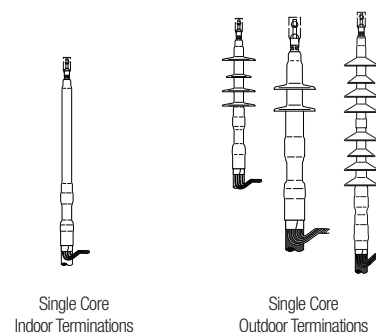
3M Cold Shrink QT-III Terminations offer easy and safe installation, and reliable, consistent performance when terminating indoor and outdoor medium voltage cable. No flame is required for installation. The silicone rubber body provides UV stability, track and erosion resistance, hydrophobicity and constant radial pressure, resulting in maximum performance and durability.

Termination kits for single and three core cable are specifically designed and optimised for New Zealand conditions, and meet or exceed the requirements of IEC 60502-4 and IEEE Standard 48.

### 3M Cold Shrink QT-III Termination Kits Single Core Cable - 11 kV, 22 kV, 33 kV

**Cable:** Polymeric Insulation, Copper Wire Screened\*, Non-Armoured

**Contents:** Each kit will make three single core terminations and is supplied with mechanical lugs



Voltage	Description	No. Cores	Cable Size mm <sup>2</sup>	Insulation Diameter mm	BIL kV	3M Kit
11 kV	Indoor	1	25 - 50	11.2 - 22.7	95	7621-T-95-NZ-1
			70 - 95	16.3 - 27.4	110	7642-T-110-NZ-1
				18.3 - 32.8	150	7653-T-150-NZ-1
			120 - 150	21.1 - 38.9	110	7644-T-110-NZ-2
				18.3 - 32.8	150	7653-T-150-NZ-2
			185 - 240	21.1 - 38.9	110	7644-T-110-NZ-3
				18.3 - 32.8	150	7653-T-150-NZ-3
			300	26.7 - 45.7	110	7645-T-110-NZ-4
	Outdoor	1		26.7 - 45.7	150	7655-T-150-NZ-4
			400	26.7 - 45.7	110	7645-T-110-NZ-5
				26.7 - 45.7	150	7655-T-150-NZ-5
			500	26.7 - 45.7	110	7645-T-110-NZ-6
				26.7 - 45.7	150	7655-T-150-NZ-6
			630	38.9 - 58.9	110	7646-T-110-NZ-6
				38.9 - 58.9	150	7656-T-150-NZ-6
			25 - 50	11.2 - 22.7	95	7621-S-2-NZ-1
22 kV	Indoor	1	70 - 95	18.3 - 32.8	150	7653-S-4-NZ-1
			120 - 150	18.3 - 32.8	150	7653-S-4-NZ-2
			185 - 240	18.3 - 32.8	150	7653-S-4-NZ-3
			300	26.7 - 45.7	150	7655-S-4-NZ-4
			400	26.7 - 45.7	150	7655-S-4-NZ-5
			500	26.7 - 45.7	150	7655-S-4-NZ-6
			630	38.9 - 58.9	150	7656-S-4-NZ-6
	Outdoor	1	35 - 95	18.3 - 32.8	150	7653-T-150-NZ-1
			120 - 150	18.3 - 32.8	150	7653-T-150-NZ-2
			185 - 240	26.7 - 45.7	150	7655-T-150-NZ-3
			300	26.7 - 45.7	150	7655-T-150-NZ-4
			400	26.7 - 45.7	150	7655-T-150-NZ-5
			500 - 630	38.9 - 58.9	150	7656-T-150-NZ-6
			500 - 800	40.4 - 55.9	150	7695-T-150(S)-NZ-7
			800 - 1200	46.0 - 64.8	150	7696-T-150(S)-NZ-7
33 kV	Indoor	1	35 - 95	18.3 - 32.8	150	7653-S-4-NZ-1
			120 - 150	18.3 - 32.8	150	7653-S-4-NZ-2
			185 - 240	26.7 - 45.7	150	7655-S-4-NZ-3
			300	26.7 - 45.7	150	7655-S-4-NZ-4
			400	26.7 - 45.7	150	7655-S-4-NZ-5
	Outdoor	1	500 - 630	38.9 - 58.9	150	7656-S-4-NZ-6
			500 - 800	40.4 - 55.9	200	7695-S-4(S)-NZ-7
			800 - 1200	46.0 - 64.8	200	7696-S-4(S)-NZ-7
			50	21.1 - 38.9	200	7664-S-8-NZ-1**
			70 - 240	26.7 - 45.7	200	7665-S-8-NZ-3**
			300 - 630	38.9 - 58.9	200	7666-S-8-NZ-6**
			400 - 800	40.4 - 55.9	200	7695-S-4(S)-NZ-7**
			500 - 1000	46.0 - 64.8	200	7696-S-4(S)-NZ-7**
	Outdoor	1	50	21.1 - 38.9	200	7664-S-8-NZ-1
			70 - 240	26.7 - 45.7	200	7665-S-8-NZ-3
			300 - 630	38.9 - 58.9	200	7666-S-8-NZ-6

\*Kits for copper tape screened cable available on request.

\*\*Suitable for indoor and outdoor terminations

For information on using higher voltage terminations for lower voltage applications please contact 3M.

Final determining factors are cable jacket and insulation diameters.

### 3M™ Cold Shrink QT-III Termination Kits for Three Core Cable

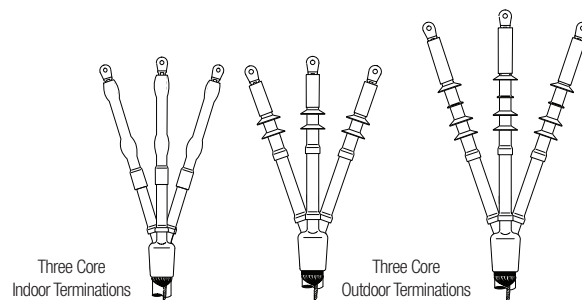
Kits include all components required to terminate a pre-prepared cable including trifurcation standard tail lengths of one metre. Other lengths are available on request.

#### 3MTM Cold Shrink QTIII Termination Kits - Three Core Cable

##### Three Core Cable - 11 kV, 22 kV

**Cable:** Polymeric Insulation, Copper Wire Screened\*, Non-Armoured

**Contents:** Each kit will make one three core termination and is supplied with mechanical lugs



Voltage	Description	No. Cores	Cable Size mm²	Insulation Diameter mm	BIL kV	3M Kit				
11 kV	Indoor	3	25 - 50	12.7 - 17.8	95	7621-T-95-3W-NZ-1				
			70 - 95	17.8 - 21.1	110	7642-T-110-3W-NZ-1				
				17.8 - 23.4	150	7653-T-150-3W-NZ-1				
			120 - 150	21.1 - 23.4	110	7643-T-110-3W-NZ-2				
				17.8 - 23.4	150	7653-T-150-3W-NZ-2				
			185	23.4 - 26.1	110	7644-T-110-3WS-NZ-3				
			185 - 240	23.4 - 30.0	110	7644-T-110-3W-NZ-3				
				23.4 - 30.0	150	7654-T-150-3W-NZ-3				
	Outdoor	3	300	30.0 - 38.6	110	7645-T-110-3W-NZ-4				
				30.0 - 38.6	150	7655-T-150-3W-NZ-4				
			400	30.0 - 38.6	110	7645-T-110-3W-NZ-5				
				30.0 - 38.6	150	7655-T-150-3W-NZ-5				
			25 - 50	12.7 - 17.8	95	7621-S-2-3W-NZ-1				
			70 - 95	17.8 - 23.4	150	7653-S-4-3W-NZ-1				
			120 - 150	17.8 - 23.4	150	7653-S-4-3W-NZ-2				
			185	23.4 - 26.1	150	7654-S-4-3WS-NZ-3				
22 kV	Indoor	3	35 - 70	17.8 - 23.4	150	7653-T-150-3W-NZ-1				
			95	23.4 - 26.1	150	7654-T-150-3WS-NZ-1				
			120 - 150	23.4 - 30.3	150	7654-T-150-3W-NZ-2				
			185	23.4 - 30.3	150	7654-T-150-3W-NZ-3				
			240 - 400	30.0 - 38.6	150	7655-T-150-3W-NZ-5				
	Outdoor	3	35 - 70	17.8 - 23.4	150	7653-S-4-3W-NZ-1				
			95	23.4 - 26.1	150	7654-S-4-3WS-NZ-1				
			120 - 150	23.4 - 30.3	150	7654-S-4-3W-NZ-2				
			185	23.4 - 30.3	150	7654-S-4-3W-NZ-3				
			240 - 400	30.0 - 38.6	150	7655-S-4-3W-NZ-5				
			33 kV		Indoor	3	50 - 120	23.4 - 30.0	200	7684-S-8-3W-NZ-2**
							150 - 300	30.0 - 42.0	200	7685-S-8-3W-NZ-4**
	Outdoor	3	50 - 120	23.4 - 30.0	200	7684-S-8-3W-NZ-2**				
			150 - 300	30.0 - 42.0	200	7685-S-8-3W-NZ-4**				

\*Kits for copper tape screen cable available on request.

\*\* Suitable for indoor and outdoor terminations

For information on using higher voltage terminations for lower voltage applications please contact 3M.

Final determining factors are cable jacket and insulation diameters.

### 3M™ Cold Shrink Trifurcating Kits - Above Ground

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured

**Contents:** Each kit contains components for three cores.

For converting three core cables to three single cores.

**Note** that kits listed previously for three core cables already include trifurcating components.

Trifurcation kits will make each core up to 4 m in length (specify required length when ordering).

Cable Size mm <sup>2</sup>		Jacket Diameter Range mm	Phase Diameter Range mm	3M Kit
11 kV	22 kV			
25 - 70	-	37 - 68	15 - 21	RJK-1-NZ
95 - 185	35 - 95	49 - 79	21 - 26	RJK-2-NZ
240 - 300	120 - 240	64 - 110	26 - 33	RJK-3-NZ
400	300 - 400	66 - 120	33 - 41	RJK-4-NZ

Final determining factors are cable jacket and phase diameters.

### 3M™ Cold Shrink Trifurcating Kits - Direct Bury

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured

**Contents:** Each kit contains components for three cores.

For converting three core cables to three single cores. Kits contain EPDM components.

Trifurcation kits will make each core up to 3 m in length (specify required length when ordering).

Cable Size mm <sup>2</sup>		Jacket Diameter Range mm	Phase Diameter Range mm	3M Kit
11 kV	22 kV			
25 - 70	-	37 - 61	15 - 24	RJK-DB-1-NZ
95 - 185	35 - 95	49 - 78	21 - 35	RJK-DB-2-NZ
240 - 300	120 - 240	64 - 110	26 - 41	RJK-DB-3-NZ
400	300 - 400	66 - 120	27 - 49	RJK-DB-4-NZ

Final determining factors are cable jacket and phase diameters.

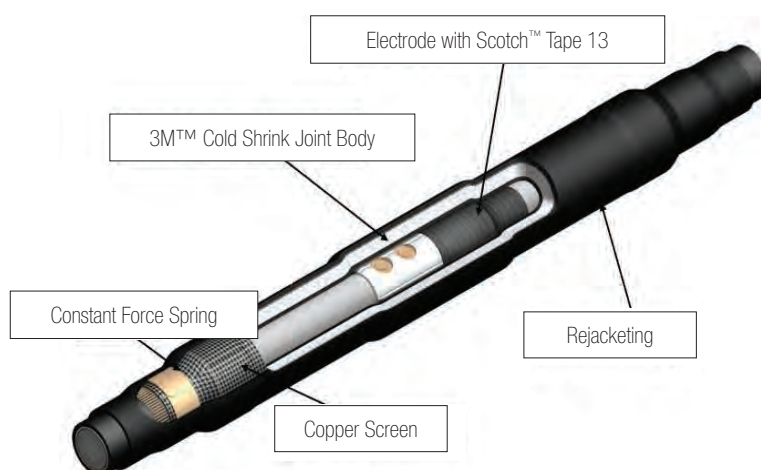
# 3M™ Medium Voltage Cold Shrink Cable Joints up to 33 kV

## 3M™ Cold Shrink QS2000E Cable Jointing Kits

All 3M cold shrink products include built in components to ensure excellent insulation and stress control. With peace of mind and reliability top of our agenda; unlike heat shrink alternatives, a molecular permanent set ensures constant radial pressure is exerted on the cable for the duration of the cable joints' life. Additionally, many of the joint bodies are comprehensively factory tested before release - something simply not possible with heat shrink due to its material nature. Finally, as a result of continuous development and refinement over more than 40 years, only 3M can offer you such a choice in cold shrink technology in terms of product cost and flexibility in its application.

## Standard 3M Cold Shrink Joints with Taped Electrode

The 3M cold shrink taped electrode splice offers a viable cost-based alternative to heat shrink cable jointing technology. The range covers many of the most common cable configurations and size ranges. The electrode in this case is built up by the joiner using Scotch™ Electrical Semi-Conducting Tape 13 and the 3M cold shrink joint does the rest - still no heat or tools needed at all!



## The simple application of a 3M™ Cold Shrink Cable Joint



1 Park the 3M™ Cold Shrink Joint Body onto the prepared cable, connect the cores and clean thoroughly



2 Overtape the connector with two layers of Scotch® Tape 13. Grease the splice area



3 Once in position, begin to remove the inner coil from the joint body



4 For extra peace of mind, take advantage of the fact that splice body position is easily checked



5 Place the earth stocking over the splice body. Ground and secure with 3M™ Constant Force Springs



6 Insulate the constant force springs with Scotch® Rubber Splicing Tape 23 and then overlay with Scotch® Rubber Mastic Tape 2228



7 Position the pre-parked 3M™ Cold Shrink Outer Protection Tube over the stocking and begin to remove the inner supporting core



8 Continue to remove the inner core until the outer tube is fully shrunk, completing the cable joint



## Medium Voltage Cold Shrink Cable Jointing Kits (Australia)

### 3M™ Cold Shrink QS2000E Cable Jointing Kits

- Simple installation - easier to use in enclosed areas
- Safe installation - no torches or heat required
- Extensive quality and factory testing programme

Joints for single and three core cables are specifically designed and optimised for Australian conditions, and meet or exceed the requirements of IEC 60502-4 and CENELEC HD 629.1

### 3M Cold Shrink QS2000E Cable Jointing Kits Single Core Cable

**Cable:** Polymeric Insulation, Copper Wire Screened<sup>®</sup>, Non-Armoured or Armoured

**Contents:** Each kit contains components for one single core cable. Connectors not included. See data sheet for connector compatibility details.



Voltage	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	Jacket Diameter Range Max. mm	Connector Dimensions		BIL kV	NON-ARMoured CABLE		ARMoured CABLE	
					Diameter Max. mm	Length Max. mm		3M Kit	3M Order Code	3M Kit	3M Order Code
6.6 kV	1	70 - 185	14.6 - 25.2	36	28	135	95	92-AS 610-1-AU**	AE010595203	92-AS 610-1-AR-AU**	AE010595328
		240 - 400	19.1 - 36.8	46	38	230	95	92-AS 620-1-AU**	AE010595211	92-AS 620-1-AR-AU**	AE010595336
11 kV	1	25* - 150	14.6 - 25.2	36	28	135	95	92-AS 610-1-AU**	AE010595203	92-AS 610-1-AR-AU**	AE010595328
		185 - 400	19.1 - 36.8	46	38	230	95	92-AS 620-1-AU**	AE010595211	92-AS 620-1-AR-AU**	AE010595336
		500 - 800	33.4 - 67.6	74	60	300	95	92-AS 630-1-AU**	AE010595229	92-AS 630-1-AR-AU**	AE010595344
22 kV	1	35 - 300	19.1 - 36.8	46	38	170	125	93-AS 620-1-AU***	AE010595237	93-AS 620-1-AR-AU***	AE010595351
		400 - 630	33.4 - 67.6	74	60	270	125	93-AS 630-1-AU***	AE010595245	93-AS 630-1-AR-AU***	AE010595369
33 kV	1	50 - 240	20.6 - 36.8	46	38	150	194	94-AS 620-1-AU	AE010595252	94-AS 620-1-AR-AU	AE010595377
		300 - 630	35.9 - 67.6	74	60	250	194	94-AS 630-1-AU	AE010595260	94-AS 630-1-AR-AU	AE010595385

### 3M Cold Shrink QS2000E Cable Jointing Kits Three Core Cable

**Cable:** Polymeric Insulation, Copper Wire Screened<sup>®</sup>, Non-Armoured or Armoured

**Contents:** Each kit contains components for three cores. Connectors not included. See data sheet for connector compatibility details.

Voltage	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	Connector Dimensions		BIL kV	NON-ARMoured CABLE		ARMoured CABLE	
				Diameter Max. mm	Length Max. mm		3M Kit	3M Order Code	3M Kit	3M Order Code
6.6 kV	3	70 - 185	14.6 - 25.2	28	135	95	92-AS 610-3-AU**	AE010595278	92-AS 610-3-AR-AU**	AE010595393
		240 - 400	19.1 - 36.8	38	230	95	92-AS 620-3-AU**	AE010595286	92-AS 620-3-AR-AU**	AE010595401
11 kV	3	25* - 150	14.6 - 25.2	28	135	95	92-AS 610-3-AU**	AE010595278	92-AS 610-3-AR-AU**	AE010595393
		185 - 400	19.1 - 36.8	38	230	95	92-AS 620-3-AU**	AE010595286	92-AS 620-3-AR-AU**	AE010595401
22 kV	3	35 - 300	19.1 - 36.8	38	170	125	93-AS 620-3-AU***	AE010595294	93-AS 620-3-AR-AU***	AE010595419

\*With adaptor kit 92-PG 610-1-AU (1 kit per core)/92-PG 610-3-AU (1 kit per set of three cores).

\*\*Kits for copper tape screened cable available on request.

\*\*Note: These joints are also suitable for 3.3 kV cables. Please select the right kit based on the jacket and insulation diameter ranges.

\*\*\*Note: These joints are also suitable for 15 kV cables. Please select the right kit based on the jacket and insulation diameter ranges.

Final determining factors are cable size and cable insulation diameters.

3M™ Medium Voltage Solutions  
up to 33 kV

## 3M™ Cold Shrink QS2000E Cable Jointing Kits

Joints for single and three core cables are specifically designed and optimised for New Zealand conditions, and meet or exceed the requirements of IEC 60502-4 and CENELEC HD 629.1

- Simple installation - easier to use in enclosed areas
- Safe installation - no torches or heat required
- Extensive quality and factory testing programme

### 3M™ Cold Shrink QS2000E Cable Jointing Kits

#### Single Core Cable - 11 kV, 22 kV, 33 kV

**Cable:** Polymeric Insulation, Copper Wire Screened<sup>®</sup>, Non-Armoured

**Contents:** Each kit will make three single core joints and is supplied with mechanical connectors



Voltage	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	BIL kV	3M Kit
11 kV	1	25** - 95	14.6 - 25.2	95	92-AS 610-1-NZ-1
		50 - 120	14.6 - 25.2	95	92-AS 610-1-NZ-2
		95 - 300	19.1 - 36.8	95	92-AS 620-1-NZ-4
		500 - 630	33.4 - 67.6	95	92-AS 630-1-NZ-6
22 kV	1	35 - 95	19.1 - 36.8	125	93-AS 620-1-NZ-1
		50 - 150	19.1 - 36.8	125	93-AS 620-1-NZ-2
		95 - 300	19.1 - 36.8	125	93-AS 620-1-NZ-4
		400 - 630	33.4 - 67.6	125	93-AS 630-1-NZ-6
33 kV	1	50 - 150	20.6 - 36.8	194	94-AS 620-1-NZ-2
		120 - 240	20.6 - 36.8	194	94-AS 620-1-NZ-4
		300 - 630*	35.9 - 67.6	194	94-AS 630-1-NZ-6

\*Maximum cable size for this kit is 630 mm<sup>2</sup>

### 3M™ Cold Shrink QS2000E Cable Jointing Kits

#### Three Core Cable - 11 kV, 22 kV

**Cable:** Polymeric Insulation, Copper Wire Screened<sup>®</sup>, Non-Armoured

**Contents:** Each kit will make one three core joint and is supplied with mechanical connectors

Voltage	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	BIL kV	3M Kit
11 kV	3	25** - 95	14.6 - 25.2	95	92-AS 610-3-NZ-1
		50 - 120	14.6 - 25.2	95	92-AS 610-3-NZ-2
		95 - 300	19.1 - 36.8	95	92-AS 620-3-NZ-4
22 kV	3	35 - 95	19.1 - 36.8	125	93-AS 620-3-NZ-1
		50 - 150	19.1 - 36.8	125	93-AS 620-3-NZ-2
		120 - 300	19.1 - 36.8	125	93-AS 620-3-NZ-4

∞Kits for copper tape screened cable available on request.

\*\*Adaptor kit required (not included in kit)

Final determining factors are cable jacket and insulation diameters.

### 3M™ Cold Shrink QS2000E Cross-Bond Cable Jointing Kits

#### Single Core Cable - 33 kV

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured

**Contents:** Each kits contains components for three single core cables and is supplied with mechanical connectors

Voltage	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm	Jacket Diameter Range Max. mm	Connector Dimensions Diameter Max. mm	Length Max. mm	BIL kV	3M Kit
33 kV	1	50 - 150	20.6 - 36.8	46	38	150	194	94-AS 620-1-XB-NZ-2
		95 - 240	20.6 - 36.8	46	38	150	194	94-AS 620-1-XB-NZ-3
		300 - 630	35.9 - 67.6	60	60	250	194	94-AS 620-1-XB-NZ-6

### 3M™ Adaptor Kits

#### For use with 3M™ Cold Shrink QS2000E Straight Joint Kits

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured

**Contents:** 92-PGE 610-1-NZ and 92-PGE 620-1-NZ kits contain components for one core

92-PGE 610-3-NZ and 92-PGE 620-3-NZ kits contain components for three cores

Cable Size mm <sup>2</sup>		Cable Insulation Range mm	3M Kit
11kV	22kV		
25 - 120	35 - 50	10.1 - 21.0	92-PGE 610-1-NZ
25 - 120	35 - 50	10.1 - 21.0	92-PGE 610-3-NZ
25 - 120	35 - 50	13.7 - 20.4	92-PG 610-1-NZ
25 - 120	35 - 50	13.7 - 20.4	92-PG 610-3-NZ
35 - 300	35 - 240	13.9 - 30.0	92-PGE 620-1-NZ
35 - 300	35 - 240	13.9 - 30.0	92-PGE 620-3-NZ

### 3M™ Transition Joint Kits

Joints are specifically designed and optimised for New Zealand conditions, and meet or exceed the requirements of IEC 60502-4.

#### 3M™ QS2000E Three Core Transition Straight Joint Kit 11 kV Cable

**Cable:** Three core armoured PILC to Three Single Core XLPE (Polymeric Insulation, Copper Wire Screened<sup>®</sup>, Non-Armoured)

**Contents:** Each kit contains components to joint three cores and is supplied with mechanical connectors

Voltage	Paper Insulated Cable			Polymeric Insulated Cable			BIL kV	3M Kit
	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range Min. mm	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm		
11 kV	3	16 - 95	8 - 12	1	25* - 95	14.6 - 25.2	95	92-FS 213-3-1-NZ
		95 - 300	17.4		95**	18 - 36.8	95	92-FS 233-3-1S-NZ
		95 - 300	17.4		185 - 300	19.1 - 36.8	95	92-FS 233-3-1-NZ

\*Adaptor tubes (included in kit) required for 25 mm<sup>2</sup> polymeric insulated cable

\*\*Adaptor tubes (included in kit) required for 95 mm<sup>2</sup> polymeric insulated cable

**Cable:** Three core armoured PILC to Three Core XLPE (Polymeric Insulation, Copper Wire Screened<sup>®</sup>, Non-Armoured)

**Contents:** Each kit contains components to joint three cores and is supplied with mechanical connectors

Voltage	Paper Insulated Cable			Polymeric Insulated Cable			BIL kV	3M Kit
	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range Min. mm	No. Cores	Cable Size mm <sup>2</sup>	Cable Insulation Range mm		
11 kV	3	16 - 95	8 - 12	3	25* - 95	14.6 - 25.2	95	92-FS 213-3-3-NZ
		95 - 300	17.4		95** - 300	19.1 - 36.8	95	92-FS 233-3-3-NZ

\*Adaptor tubes (included in kit) required for 25 mm<sup>2</sup> polymeric insulated cable

\*\*Adaptor tubes (included in kit) required for 95 mm<sup>2</sup> polymeric insulated cable

#### 3M™ Cold Shrink QS2000E Three Core Trifurcating Cable Jointing Kits Single Core Cable - 11 kV

**Cable:** Polymeric Insulation, Copper Wire Screened, Non-Armoured **Contents:** Each kit contains components for three cores

Cable Size mm <sup>2</sup>		Cable Insulation Range Min. mm	BIL kV	3M Kit
11 kV / 3 core	11 kV / 1 core			
25* - 95	25* - 95	14.6 - 25.2	95	92-AS 610-3-1-NZ-1
95* - 300	95* - 185	19.1 - 36.8	95	92-AS 620-3-1S-NZ-4
95* - 300	185 - 300	19.1 - 36.8	95	92-AS 620-3-1-NZ-4

\*Adaptor kits required (not included in kits)

### 3M™ Termination Barrier Boots

3M Barrier Boots are suitable for both cold shrink and heat shrink medium voltage terminations and cover a wide range of cable sizes.



Product	3M Order Code	Description	Features	Application Range	Voltage Rating	Availability
92-EE 717-1	TE100052030	15 kV Inline or Right Angle Barrier Boot (3 cores/kit)	<ul style="list-style-type: none"> <li>One piece push on EPDM boot</li> <li>Suitable for straight and right angle application</li> <li>Easy installation</li> </ul>	50 - 300 mm <sup>2</sup>	up to 15 kV	AU, NZ
MB63-NZ		11 kV Inline Cold Shrink Barrier Boot (3 cores/kit)	<ul style="list-style-type: none"> <li>Cold shrink technology</li> <li>Easy installation</li> <li>Track resistant EPDM material</li> </ul>	up to 630 mm <sup>2</sup>	up to 11 kV	NZ
MB61-NZ		11 kV Universal Taped System (3 cores/kit)	<ul style="list-style-type: none"> <li>Versatile taped barrier boot system</li> <li>Inline and right angle application</li> </ul>	up to 1000 mm <sup>2</sup>	up to 11 kV	NZ

### 3M™ Electrostatic Animal Guard

This is a patented electrostatic barrier that attaches to energised electrical insulators/bushings rated up to 35 kV. The 3M Electrostatic Animal Guard consists of rugged plastic with metal spokes radiating outward. When an animal touches the spokes, it receives an electric shock, similar to those generated by electrified livestock fences. The animal is not injured and power service is not interrupted.



Product	3M Order Code	Insulator Neck Diameter Range	Voltage
GG-1525	80610981120	38 - 64 mm	Up to 35 kV
GG-2545	80610981138	64 - 114 mm	Up to 35 kV
GG-4565	80610981146	114 - 165 mm	Up to 35 kV

**Note:** Insulator neck diameter range is defined as the diameter of the insulator in between the skirts



# 3M™ Aluminium Conductor Composite Reinforced (ACCR)

**More amps, more confidence  
For your most challenging applications**

**Higher capacity, lower costs, less installation time and fewer environmental impacts compared to conventional upgrade options**

## Benefits

- Two to three times the ampacity, using existing towers and clearances
- Reduced total project costs
- Proven performance in numerous field installations, several years field experience around the world and extensive testing
- Avoid the environmental impact of towers and ROW
- Shorter permitting and installation times
- Fully documented installation procedures, design and implementation support, and a complete range of accessories optimised for 3M ACCR
- Peace of mind from using a technology backed by the technical, financial and manufacturing resources of 3M

## Technology

**Advanced aluminium and ceramic fiber composite core wrapped in high temperature, hardened aluminium outer strands results in:**

- Core strength comparable to steel and eight times that of aluminium
- Core weight less than half that of steel
- Core conductivity approximately four times that of steel and half that of aluminium
- Thermal expansion of the core approximately one-fourth that of aluminium and half that of steel
- Rated for 210°C/240°C emergency, 1,000 hours cumulative
- Creep lower than steel
- Core stiffness three times aluminium
- Excellent fatigue resistance
- No degradation through corrosion and other environmental factors
- Standard sizes, round or trapezoidal constructions for more energy efficiency

## Applications

- Thermal upgrades, such as transmission bottlenecks or high load growth areas
- Difficult or environmentally sensitive areas, such as mountains, wetlands, parks and wildlife refuges, or densely populated areas
- Long span, high strength applications, such as river, canyon or lake crossings
- Corrosive or challenging environments, such as coastal, desert or cold regions



# Solutions for your most difficult challenges

## High capacity solution

We produce 3M™ Aluminium Conductor Composite Reinforced (ACCR) with a highly advanced aluminium alloy. Each strand of 3M ACCR core wire is reinforced with thousands of ultra high strength, high purity aluminium oxide fibers. The result is a solution specifically designed for high temperature operation – providing dramatic ampacity gains with significantly less sag than standard options.

## Reliable solution

3M is a global leader in power utility solutions and in the development and commercialisation of innovative advanced materials. 3M ACCR is operating in commercial installations around the world, including extreme environmental and operating conditions. 3M ACCR has delivered superior performance and has a track record of 100% successful installations.

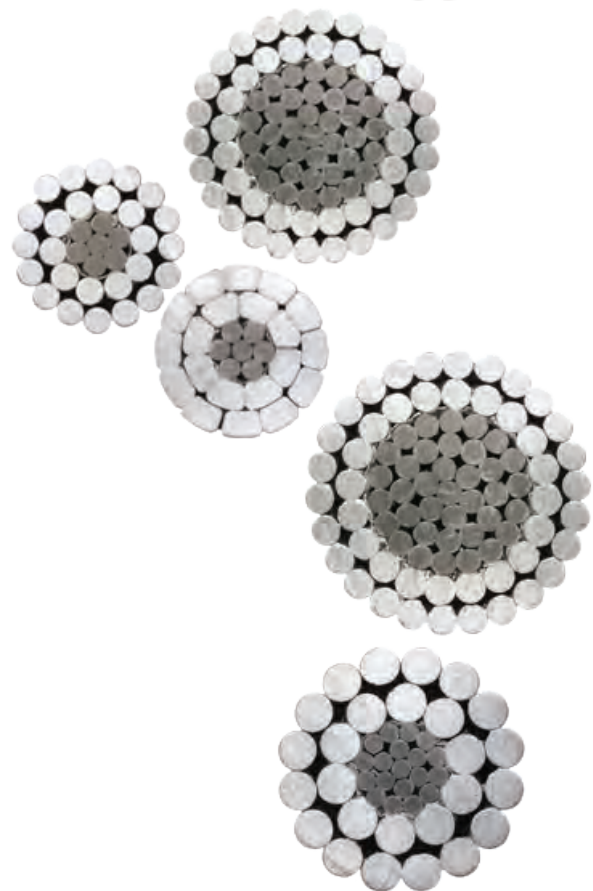
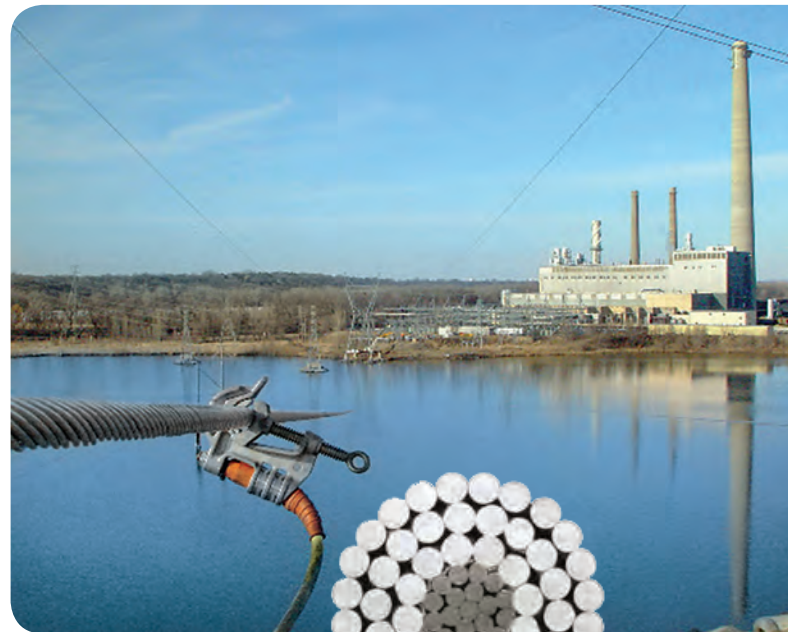
## Environmental solution

In many areas of the world, building new transmission lines means building towers in environmentally sensitive, protected or densely populated areas. 3M ACCR can substantially increase the capacity of existing lines simply by replacing existing conductors on the existing towers, often avoiding years of environmental impact analyses and debate. Installation is quick, the ampacity gains are large, and the outstanding strength-to-weight ratio and low thermal expansion enables long spans across rivers and other areas. We also offer a trapwire design that can help you improve the energy efficiency of your line.

## Total solution

3M has partnered with industrial leaders to provide the total solution, from finished conductor to a full line of accessories and hardware. Our qualified engineers are ready to assist you with design and installation support. By providing us with some key information about your application, we can quickly provide feedback on the performance gains for you to review.

For more information, please visit us at [www.3M.com/ACCR](http://www.3M.com/ACCR) or contact us on 136 136 (AU) or 0800 474 787 (NZ)





# 3M™ Identification Systems

3M Identification Systems help you quickly and easily create highly visible and durable identification for wires, panels, terminal blocks, devices and other components.

The **3M Portable Labeller and Refill Cartridge** portfolio (pages 60 to 63) offers rugged portable labellers paired with convenient cartridge format labels in various materials including heat shrink tubing and adhesive backed flexible nylon, polyester and vinyl.

The **3M Portable Labeller Embosser** tool (page 61) is used with rolls of aluminium or stainless steel to create durable embossed tags for harsh environments.

The **3M Scotchcode™ Wire Marker System** (page 64) features handy and portable pre-printed or write-on materials to label components and cable.

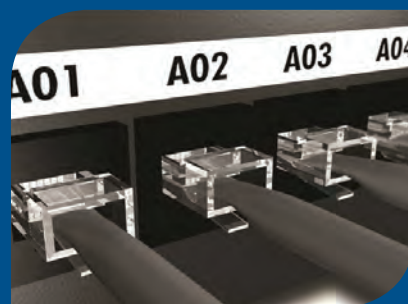
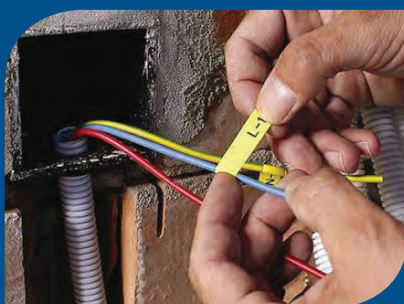
## 3M™ Portable Labellers

3M Portable Labellers are rugged, powerful and lightweight labellers for industrial applications. All units feature exclusive one-touch hot keys that provide shortcuts for common formatting tasks. The chart below highlights the key features of each machine. See next pages for more details.

3M Portable Labellers PL200 and PL300 are also available in a hard case kit format (PL200K and PL300K).



	PL150	PL200K/PL200	PL300K/PL300
			
Hot Keys	✓	✓	✓
PC Connectivity			✓
Backlit LCD	✓	✓	✓
Power Cutter			✓
Rubber protective bumper	✓	✓	✓
Symbol library terms	80	122	150
Bar code capability	✓	✓	✓
Label storage	25	100+	1000+
Prints on heat shrink	✓	✓	✓
Maximum label width	19 mm	19 mm	24 mm
Offered as a kit		✓	✓
AC adaptor		PL200K - included	✓
Rechargeable battery		PL200K - included	PL300K - included



### 3M™ Portable Labeller PL300K/PL300

The 3M Portable Labeller PL300 is a revolutionary printer with excellent ease-of-use, ideal functionality and PC connectivity. The 3M Portable Labeller PL300 printer features exclusive one-touch “hot keys” for quick and easy creation of commonly used label types. Utilising the 3M Portable Labeller Software, the installer can create labels before reaching the worksite or create and edit labels on site.

**Tape Widths:** 6 mm to 24 mm

**Tape Types:** All (PLFN, PLHS, PLP, PLV, PLSL)



Product	3M Order Code	Kit Includes	Power	Product Dimensions (H x W x D)	Unit Weight
PL300K	AE010585246	<ul style="list-style-type: none"> <li>3M Portable Labeller PL300</li> <li>3M Portable Labeller Software</li> <li>Durable hard carry case</li> <li>Refill cartridge 19 mm black on white vinyl (PLV-WHT-3/4)</li> <li>Refill cartridge 12 mm black on white polyester (PLP-WHT-1/2)</li> <li>3M Rechargeable Lithium-Ion Battery Pack PL300-BAT</li> <li>3M AC Adaptor PL-ACPS</li> <li>USB cable</li> <li>Quick Reference Guide</li> <li>User Guide on CD</li> <li>Limited one-year warranty</li> </ul>	Lithium-ion rechargeable battery with AC adaptor (included) or optional 6 “AA” batteries (not included)	349 x 445 x 102 mm (kit)	2.3 kg (kit)
PL300	AE010585238	<ul style="list-style-type: none"> <li>3M Portable Labeller PL300</li> <li>User Guide on CD</li> <li>Quick Reference Guide</li> <li>1 refill cartridge 19 mm black on white vinyl (PLV-WHT-3/4)</li> <li>AC Adaptor PL-ACPS</li> <li>Limited one-year warranty</li> </ul>	6 “AA” batteries (not included)	246 x 137 x 64 mm	1.8 kg

### 3M™ Portable Labeller PL200K/PL200

The 3M Portable Labeller PL200 is an excellent portable labelling tool for high-end electrical, MRO, datacom and construction professionals. The 3M Portable Labeller PL200 is the advanced, easy-to-use labelling system that saves time and helps deliver a professional result. Used in real-world jobsite conditions, the rugged, powerful and lightweight 3M Portable Labeller PL200 offers features and functionality to save time and money.

**Tape Widths:** 6 mm to 19 mm

**Tape Types:** PLFN, PLHS, PLP, PLV



Product	3M Order Code	Kit Includes	Power	Product Dimensions (H x W x D)	Unit Weight
PL200K	AE010585279	<ul style="list-style-type: none"> <li>3M Portable Labeller PL200</li> <li>Durable hard carry case</li> <li>Refill cartridge 19 mm black on white vinyl (PLV-WHT-3/4)</li> <li>Refill cartridge 12 mm black on white polyester (PLP-WHT-1/2)</li> <li>Rechargeable lithium-ion battery pack PL200-BAT</li> <li>AC Adaptor PL-ACPS</li> <li>Quick Reference Guide</li> <li>User Guide on CD</li> <li>Limited one-year warranty</li> </ul>	Lithium-ion rechargeable battery with AC adaptor (included) or optional 6 “AA” batteries (not included)	349 x 368 x 119 mm (kit)	2.5 kg (kit)
PL200	AE010585261	<ul style="list-style-type: none"> <li>3M Portable Labeller PL200</li> <li>User Guide on CD</li> <li>Quick Reference Guide</li> <li>Refill cartridge 19 mm black on white vinyl (PLV-WHT-3/4)</li> <li>Limited one-year warranty</li> </ul>	6 “AA” batteries (not included)	234 x 125 x 64 mm	0.9 kg

### 3M™ Portable Labeller PL150

The 3M Portable Labeller PL150 features the same keyboard layout as a standard PC or device (QWERTY), along with one-touch hot keys that allow the quick creation of wire/cable wraps, flags, Code 39 and Code 128 barcodes, fixed-length labels, breaker labels and more. Print labels up to 19 mm wide in flexible nylon, permanent polyester and durable vinyl materials – plus print directly on heat shrink tubes. Save even more time with great new features like the “Favourites” and “Custom” keys which provide single-key access to commonly used labels, symbols and terms and eliminate repeated steps by saving customised settings.

**Tape Widths:** 6 mm to 19 mm  
**Tape Types:** PLFN, PLHS, PLP, PLV



Product	3M Order Code	Kit Includes	Power	Product Dimensions (H x W x D)	Unit Weight
PL150	AE010587937	<ul style="list-style-type: none"> <li>3M Portable Labeller PL150</li> <li>Refill cartridge 12 mm black on white vinyl (PLV-WHT-1/2)</li> <li>Quick Reference Guide</li> <li>Limited one-year warranty</li> </ul>	6 “AA” batteries (not included)	178 x 117 x 57 mm	0.9 kg

### 3M™ Portable Labeller Embosser PLE & Tapes

The 3M Portable Labeller Embosser PLE is tough enough to accompany you in the field and is easy to use. Since it can make labels on site that are capable of weathering harsh conditions, there's no need for time-consuming trips to an engraving shop. Simply type, cut and attach. Features front scissor cut-off for fast and easy label application, and built-in hole punches for easy label attachment using cable ties or screws or wire



Product	3M Order Code	Contents/Description	Width	Length
PLE	80611467681	<ul style="list-style-type: none"> <li>3M Portable Labeller Embosser PLE</li> <li>Reverse image wheel</li> <li>Roll 12 mm x 4.8 m aluminium tape without adhesive (PLE-ALNA-1/2)</li> <li>Roll 12 mm x 6.4 m stainless steel tape without adhesive (PLE-SSNA-1/2)</li> <li>Carrying case</li> <li>Instruction manual</li> </ul>	-	-
PLE-ALNA-1/2	80611467640	Non-adhesive aluminium embossing tape	12 mm	4.8 m
PLE-SSNA-1/2	80611467657	Non-adhesive stainless steel embossing tape	12 mm	6.4 m

### 3M™ Portable Labeller Refill Cartridges

3M Portable Labeller Refill Cartridges are industrial grade labels for a variety of surfaces and environments. Cartridges are interchangeable and are easy to load, print and peel. There is less tape waste between labels which means more labels per cartridge. Cartridges are available in a variety of materials, including heat shrink.



The chart below shows the properties and formats available. See the next page for more details.

#### High Performance Label Options for the 3M™ Portable Labeller Family

Labels	Length		Vinyl	Nylon	Polyester	Heat Shrink	Self-Laminating
	Width		5.5m	3.5m	5.5m	1.5m	5.5m
	Colour		9mm, 12mm, 19mm, 24mm	12mm, 19mm, 24mm	6mm, 9mm, 12mm, 19mm, 24mm	6mm, 9mm, 12mm, 19mm	24mm
	Outdoor		White, Black	White, Yellow	White, Clear, Metallic	White, Yellow	White
Surfaces	Flat		✓		✓		
	Wiring		✓	✓		✓	✓
	Flag		✓	✓			
	Textured		✓	✓	✓		
Resistance	UV		✓		✓	✓	✓
	Water		✓		✓	✓	✓
	Chemicals		✓		✓	✓	✓
	Oils		✓		✓	✓	✓
	Temperature (maximum recommended)		90°C	120°C	120°C	135°C	90°C

### 3M™ Portable Labeller Refill Cartridges

3M Portable Labeller Refill Cartridges are available in a variety of materials, including heat shrink, for a variety of surfaces and environments. The label cartridges are interchangeable, easy to install, and have less waste.

**Applications:** Labelling panels, cabinets and racks  
Cable wraps and flags  
Equipment and asset labelling



Product	3M Order Code	Width	Length	Print & Label Colour	Labeller Compatibility
<b>Flexible Nylon</b>					
PLFN-WHT-1/2	80611456452	12 mm	3.5 m	Black on White	PL150, PL200, PL300
PLFN-WHT-3/4	80611456460	19 mm	3.5 m	Black on White	PL150, PL200, PL300
PLFN-WHT-1	80611456478	24 mm	3.5 m	Black on White	PL300
PLFN-YEL-1/2	80611456486	12 mm	3.5 m	Black on Yellow	PL150, PL200, PL300
PLFN-YEL-3/4	80611456494	19 mm	3.5 m	Black on Yellow	PL150, PL200, PL300
PLFN-YEL-1	80611456502	24 mm	3.5 m	Black on Yellow	PL300
<b>Heat Shrink</b>					
PLHS-WHT-1/4	80611456197	6 mm	1.5 m	Black on White	PL150, PL200, PL300
PLHS-WHT-3/8	80611456114	9 mm	1.5 m	Black on White	PL150, PL200, PL300
PLHS-WHT-1/2	80611456122	12 mm	1.5 m	Black on White	PL150, PL200, PL300
PLHS-WHT-3/4	80611456130	19 mm	1.5 m	Black on White	PL150, PL200, PL300
PLHS-YEL-1/4	80611456205	6 mm	1.5 m	Black on Yellow	PL150, PL200, PL300
PLHS-YEL-3/8	80611456148	9 mm	1.5 m	Black on Yellow	PL150, PL200, PL300
PLHS-YEL-1/2	80611456155	12 mm	1.5 m	Black on Yellow	PL150, PL200, PL300
PLHS-YEL-3/4	80611456163	19 mm	1.5 m	Black on Yellow	PL150, PL200, PL300
<b>Polyester</b>					
PLP-BLK-WHT-1/4	80611470420	6 mm	5.5 m	Black on White	PL150, PL200, PL300
PLP-WHT-3/8	80611456213	9 mm	5.5 m	Black on White	PL150, PL200, PL300
PLP-WHT-1/2	80611456221	12 mm	5.5 m	Black on White	PL150, PL200, PL300
PLP-WHT-3/4	80611456239	19 mm	5.5 m	Black on White	PL150, PL200, PL300
PLP-WHT-1	80611456247	24 mm	5.5 m	Black on White	PL300
PLP-BLK-CLR-1/4	80611470412	6 mm	5.5 m	Black on Clear	PL150, PL200, PL300
PLP-CLR-3/8	80611456254	9 mm	5.5 m	Black on Clear	PL150, PL200, PL300
PLP-CLR-1/2	80611456429	12 mm	5.5 m	Black on Clear	PL150, PL200, PL300
PLP-CLR-3/4	80611456437	19 mm	5.5 m	Black on Clear	PL150, PL200, PL300
PLP-BLK-CLR-1	80611470453	24 mm	5.5 m	Black on Clear	PL300
PLP-MTL-3/8	80611456288	9 mm	5.5 m	Black on Metallic	PL150, PL200, PL300
PLP-MTL-1/2	80611456262	12 mm	5.5 m	Black on Metallic	PL150, PL200, PL300
PLP-MTL-3/4	80611456270	19 mm	5.5 m	Black on Metallic	PL150, PL200, PL300
PLP-BLK-MTL-1	80611470503	24 mm	5.5 m	Black on Metallic	PL300
<b>Vinyl</b>					
PLV-WHT-3/8	80611455942	9 mm	5.5 m	Black on White	PL150, PL200, PL300
PLV-WHT-1/2	80611455959	12 mm	5.5 m	Black on White	PL150, PL200, PL300
PLV-WHT-3/4	80611455967	19 mm	5.5 m	Black on White	PL150, PL200, PL300
PLV-WHT-BLK-3/8	80611470370	9 mm	5.5 m	White on Black	PL150, PL200, PL300
PLV-WHT-BLK-1/2	80611470388	12 mm	5.5 m	White on Black	PL150, PL200, PL300
PLV-WHT-BLK-3/4	80611470396	19 mm	5.5 m	White on Black	PL150, PL200, PL300
PLV-WHT-BLK-1	80611470404	24 mm	5.5 m	White on Black	PL300
<b>Self-Laminating</b>					
PLSL-WHT-1	80611457286	24 mm	5.5 m	Black on White	PL300



### 3M™ ScotchCode™ Wire Marker Tape Dispensers STD

The 3M ScotchCode Tape Dispenser STD is a compact, carry-along dispenser with 10 refillable compartments that holds 2 metre rolls of non-smear polyester tape. Used for marking binder groups, wire or cable, the tapes' high-tack acrylic adhesive resists solvents, oil and water, and adheres firmly to insulation surfaces. An end-loop hooks the dispenser easily to a tool pouch or belt. Dispensers can be ordered empty or filled with 10 rolls of pre-printed numbers 0–9.



Product	3M Order Code	Description
STD-X	80610592554	Compact, carry-along dispenser with 10 refillable compartments that hold 20 cm rolls of non-smear polyester tape. Dispenser only
STD-0-9X	80610733901	Dispenser filled with 10 rolls of numbered tape (one each of 0-9)
STD-CX	80610733760	Dispenser filled with 10 rolls of coloured tape (one each of black, blue, brown, green, grey, orange, red, violet, white and yellow)

### 3M™ ScotchCode™ Write-On Dispensers and Pen

This self-laminating, write-on marker dispenser is handy for identifying wire and cable as well as household, automotive, plumbing and sporting equipment. It is easy to use, refillable and comes with a SMP permanent marking pen. The dispenser's design provides convenience and protects the die-cut adhesive markers. The pen performs well on nonporous surfaces, has an extra fine point with permanent, quick drying black ink. It has excellent UV and water resistance.



**Applications**     Marking communications, security and sound system components  
                              Marking pipes, hoses, tubes, parts, vents

Product	3M Order Code	Description	Labels per roll	Write-on area	Marker Size	Recommended Wire Diameter
SLW	80610593917	Larger sized dispenser with tape and SMP marking pen	70	25 x 19 mm	25 x 127 mm	5.8 to 33.5 mm
SMP-B	80611443435	Black marker pen				

### 3M™ ScotchCode™ Tape Refill Rolls

This aggressive adhesive system, combined with the flexible polyester film backing, provides a thin, conformable tape that is durable, and will hold up in most industrial electrical applications.



Product	3M Order Code	Printed Text Type	Printed Text	Write-on area
SDR-0-9	80611424617	Numeric	"0" through "9"	-
SDR-0	80610733919	Numeric	"0"	-
SDR-1	80610733927	Numeric	"1"	-
SDR-2	80610733935	Numeric	"2"	-
SDR-3	80610733943	Numeric	"3"	-
SDR-4	80610733950	Numeric	"4"	-
SDR-5	80610733968	Numeric	"5"	-
SDR-6	80610733976	Numeric	"6"	-
SDR-7	80610733984	Numeric	"7"	-
SDR-8	80610733992	Numeric	"8"	-
SDR-9	80610734008	Numeric	"9"	-
SLW-REFILL	80611428097	Write-on	-	25 x 19 mm

# 3M™ Dynatel Locating & Marking Systems

3M™ Dynatel Locating and Marking Systems, comprising 3M™ Dynatel™ Locators, 3M Electronic Marking System and 3M EMS Cautious Tape, provide accurate marking and locating of critical underground assets. Sophisticated systems allow programming of identifying features into intelligent markers using RFID technology and interfaces with GPS/GIS systems for accurate mapping.

## 3M™ Dynatel Locators Pages 67 to 69



3M Dynatel utility locators combine simple interfaces and high-resolution graphics with precision locating to help you quickly and accurately identify underground assets. Easy to use units available in a range of configurations from fully featured pipe, cable and electronic marker and tape locators to basic cable avoidance systems.

## 3M™ Electronic Marker System Pages 70 to 71



Colour coded by industry and programmable iD versions to capture customer specific information, 3M utility markers help accelerate location and identification and avoid costly mistakes.

## 3M™ EMS Cautious Tape Pages 72



3M's next generation of underground infrastructure asset management - a revolutionary approach to locating plastic pipes/conduit path that eliminates the need, problems and costs associated with tracer wire and test stations.

## 3M Dynatel™ Locators Service and Training

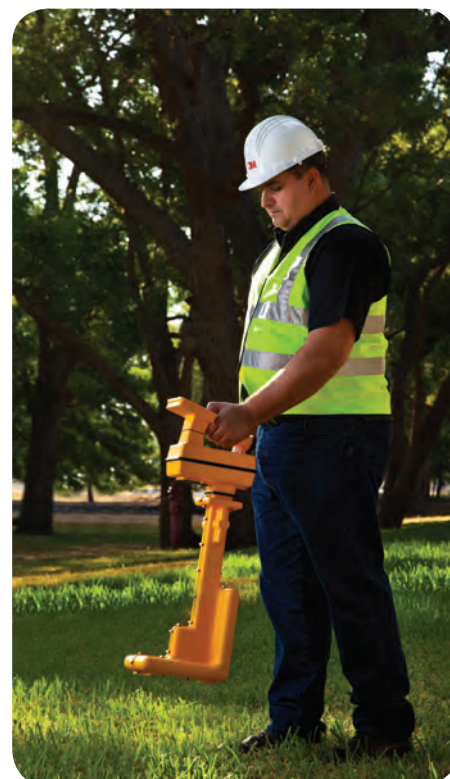
### 3M National Accredited Underground Asset Location Course

This training course is intended for contractors and organisations who install or maintain underground services and need the skills and knowledge to accurately locate and/or mark those assets with 3M Dynatel equipment, and therefore avoid damage to buried underground assets.

Qualification issued on completion: RIICCM202A - Identify, locate and protect underground services, a core competency from RI30909 - Certificate III in Civil Construction.

### 3M™ Dynatel Service, Repair and Calibration

Service, repair, spare parts and calibration services are available from authorised service dealers in Australia (Melbourne) and New Zealand (Auckland). Contact 3M for details or check our website (see back page of catalogue).



# 3M™ Dynatel™ Locators

## 3M™ Dynatel™ Locator Features by Model

Model	2220M	2250M	7420	7550	2273M	7573
Purpose	Marker/Tape	Pipe/Cable	Pipe/Cable	Pipe/Cable/Fault	Pipe/Cable/Marker/Tape	Pipe/Cable/Marker/Tape/Fault
Country	AU & NZ	AU only	AU & NZ	AU & NZ*	NZ only	AU & NZ*



Pipe and cable locate	✓	✓		✓	✓	✓
Electronic marker locate/read/write			✓	✓		✓
EMS Caution Tape locate			✓	✓		✓
GPS compatible		✓	✓	✓	✓	✓
Active frequencies	2	4		6	4	6
Passive power	✓	✓		✓	✓	✓
Passive LF	✓	✓		✓	✓	✓
Sonde locating	✓	✓	✓	✓	✓	✓
Fault locate (A-frame)					✓	✓
Transmitter output	3 W	5 W		12 W	5 W	12 W
Dyna-coupler size	76 mm	76 mm		114 mm	76 mm	114 mm
Direct connect cable (S/L Clips)	Large	Large		Large	Small	Large
Ground rod and pouch	✓	✓		✓	✓	✓
USB to Serial Adaptor Cable	✓	✓	✓	✓	✓	✓
7000RB rechargeable battery (locator)			✓	✓		✓
2200RB rechargeable battery (transmitter)				✓		✓
Cigarette lighter adaptor cable		✓	✓	✓	✓	✓
Carry bag	✓		✓	✓		✓
Replaces earlier models			1420	2250, 2250M, 2550		2273, 2573

\*Different models in each country. Australian models are not permitted to be sold in New Zealand.

For accessories, see pages 73 to 74

### 3M™ Dynatel™ Marker/Tape Locator 7420

3M™ Dynatel™ Marker/Tape Locator 7420 is a performance locator that quickly and efficiently locates all frequencies of 3M EMS Caution Tape and Electronic Markers. It has the capability to read/write to 3M™ Dynatel™ iD Enabled Markers and can locate most other conventional electronic markers.

Designed to be accurate, fast and integrated, the 7420 EMS Marker/Tape Locator with iD Read/Write allows you to accurately and easily:

- Locate and follow the path of EMS Caution Tape
- Locate, read and write to 3M iD Markers
- Pinpoint the depth and location of all existing models of properly installed underground passive EMS Markers
- Conduct direct depth reading of EMS Caution Tape and Markers

<b>Cable/Pipe Locate:</b>	No
<b>Ball and Marker Locate:</b>	Yes
<b>3M EMS Caution Tape Locate:</b>	Yes
<b>Earth Return Fault Locate:</b>	No
<b>GPS Adaptable:</b>	Yes



Product	Country	3M Order Code	7000RB Rechargeable Battery	Carrying Bag Included
7420-ANZ	AU & NZ	80611611460	Yes	Yes

### 3M™ Dynatel™ Pipe/Cable Locator 2220M

The 3M Dynatel Locator 2220M Series is designed to find the path and estimated depth of buried pipes and cables.

Features include:

- Two active frequencies (8 kHz, 82 kHz)
- Passive frequencies for power, cathodic protection systems
- Detects frequencies from sondes and remote transmitters (512 Hz, 640 Hz, 33 kHz)
- Direct readout of active duct probe (sonde)
- Cable/pair identification
- Receiver incorporates an “expander” function to make peaks and nulls more pronounced
- Receiver and transmitter self-test each time the unit is turned on

<b>Cable/Pipe Locate:</b>	Yes
<b>Ball and Marker Locate:</b>	No
<b>3M EMS Caution Tape Locate:</b>	No
<b>Earth Return Fault Locate:</b>	No
<b>GPS Adaptable:</b>	No



Product	Country	3M Order Code	Transmitter	Direct Connect Cable	Coupler Size	2200RB Rechargeable Battery (Transmitter)	Carrying Bag Included
2220M-U3W3-CPLR	AU & NZ	80611326812	3 watt	Large clips	76 mm	No	Yes

## 3M™ Dynatel Pipe/Cable Locator 2250M

The 3M™ Dynatel™ Locator 2250M Series is designed to find the path and estimated depth of buried cables and pipes.

Features include:

- Four active frequencies (577 Hz, 8 kHz, 33 kHz, 200 kHz)
- Five locating modes
- All frequency mode in direct connection (four frequencies simultaneously)
- Three induction frequencies
- Passive frequencies for power and cathodic protection systems
- Receiver incorporates an “expander” function to make peaks and nulls more pronounced
- GPS compatible
- Lightweight and compact



<b>Cable/Pipe Locate:</b>	Yes
<b>Ball and Marker Locate:</b>	No
<b>3M EMS Caution Tape Locate:</b>	No
<b>Earth Return Fault Locate:</b>	No
<b>GPS Adaptable:</b>	Yes

Product	Country	3M Order Code	Transmitter	Direct Connect Cable	Coupler Size	2200RB Rechargeable Battery (Transmitter)	Carrying Bag Included
2250M-UU5W/RT	AU*	80611141484	5 watt	Large	76 mm	No	No

\*Australian model is not permitted to be sold in New Zealand

## 3M™ Dynatel™ Pipe/Cable/Fault Locator 2273M

The 3M™ Dynatel™ Cable/Pipe and Fault Locator 2273M incorporates advanced electronics to quickly and efficiently locate conductor or sheath (earth return) faults and trace the path of underground cables and pipes (with metallic tracer wire). It provides accurate cable/pipe, or Sonde depth measurements, giving a digital readout.

Features include:

- Four active frequencies (577 Hz, 8 kHz, 33 kHz, 133 kHz)
- Graphic display to distinguish between targeted cable and other cables in congested area
- Accurate multi-antenna design for various user-selected locating modes
- Precisely locates sheath or ground faults on both short and long cable sections
- Compatible with GPS
- Lightweight, compact and well balanced
- Rugged and durable
- Precisely locates sheath or ground faults on both short and long cable sections

<b>Cable/Pipe Locate:</b>	Yes
<b>Ball and Marker Locate:</b>	No
<b>3M EMS Caution Tape Locate:</b>	No
<b>Earth Return Fault Locate:</b>	Yes
<b>GPS Adaptable:</b>	Yes

Product	Country	3M Order Code	Transmitter	Direct Connect Cable	Coupler Size	7000RB Rechargeable Battery (Locator)	2200RB Rechargeable Battery (Transmitter)	Carrying Bag Included
2273M-EC5W	NZ	80611141336	5 watt	Small	76 mm	No	No	No





### 3M™ Dynatel™ Pipe/Cable/EMS Locators 7550-iD

The 3M™ Dynatel™ 7550-iD locator represents an advancement in locating technology for the field professional. The 7550-iD locator allows users to locate the new 3M EMS Caution Tape, along with cables, pipes and the ability to read/write to 3M iD markers.

Features include:

- Locate and follow the path of 3M EMS Caution Tape
- Six active frequencies (577 Hz, 1 kHz, 8 kHz, 33 kHz, 82 kHz, 133 kHz (NZ only), 200 kHz (AU only)
- Maximum transmitter output of 12 watts
- Trace view mapping interface that provides intuitive mapping display
- Five modes of operation
- Locate, write and read information into the 3M™ iD Electronic Marker System
- Compatible with GPS
- Lightweight, compact and well balanced
- Rugged and durable

<b>Cable/Pipe Locate:</b>	Yes
<b>Ball and Marker Locate:</b>	Yes
<b>3M EMS Caution Tape Locate:</b>	Yes
<b>Earth Return Fault Locate:</b>	No
<b>GPS Adaptable:</b>	Yes



Product	Country	3M Order Code	Transmitter	Direct Connect Cable	Coupler Size	7000RB Rechargeable Battery (Locator)	2200RB Rechargeable Battery (Transmitter)	Carrying Bag Included
7550-ID/U12-AU	AU*	80611611478	12 watt	Large clips	114 mm	Yes	Yes	Yes
7550-ID/E12-NZ	NZ	80611612419	12 wat	Large clips	114 mm	Yes	Yes	Yes

\*Australian model is not permitted to be sold in New Zealand

### 3M™ Dynatel™ Pipe/Cable/Fault/EMS Locator 7573-iD

The 3M™ Dynatel™ 7573-iD locator represents an advancement in locating technology for the field professional. The 7573-iD locator allows users to locate the new 3M EMS Caution Tape, along with cables, pipes and the ability to read/write to 3M iD markers. It can also be used for fault finding.

Features include:

- Locate and follow the path of 3M EMS Caution Tape
- Six active frequencies (577 Hz, 1 kHz, 8 kHz, 33kHz, 82 kHz, 133 kHz (NZ only), 200 kHz (AU only)
- Maximum transmitter output of 12 watts
- Trace view mapping interface that provides intuitive mapping display
- Five modes of operation
- Locate, write and read information into the 3M™ iD Electronic Marker System
- Compatible with GPS
- Lightweight, compact and well balanced
- Rugged and durable
- Precisely locates sheath or ground faults on both short and long cable sections

<b>Cable/Pipe Locate:</b>	Yes
<b>Ball and Marker Locate:</b>	Yes
<b>3M EMS Caution Tape Locate:</b>	Yes
<b>Earth Return Fault Locate:</b>	Yes
<b>GPS Adaptable:</b>	Yes



Product	Country	3M Order Code	Transmitter	Direct Connect Cable	Coupler Size	7000RB Rechargeable Battery (Locator)	2200RB Rechargeable Battery (Transmitter)	Carrying Bag Included
7573-ID/U12-AU	AU*	80611611486	12 watt	Large clips	114 mm	Yes	Yes	Yes
7573-IDE/E12 - NZ	NZ	80611612401	12 watt	Large clips	114 mm	Yes	Yes	Yes

\*Australian model is not permitted to be sold in New Zealand

## 3M™ Electronic Marker System

3M Electronic Markers provide accurate identification of underground assets, helping to reduce the risk of accidentally excavating other buried facilities. All markers function without the need for an external power source. Their water resistant polyethylene shells are impervious to minerals, chemicals and the temperature extremes normally found underground.

iD Markers can be programed to include customer-specific information about the asset, such as the facility owner, conduit size, placement date, and other important details. This information can be accessed using 3M locators with the iD function.

The 3M™ Electronic Marker System (EMS) helps save utility companies time and money by enabling field crews to quickly pinpoint the location of buried facilities including cable runs, splices and joints, valves, bends, road crossings, service drops and manholes. Using EMS Markers during construction, installation and maintenance virtually eliminates the time consuming search for hard-to-locate facilities.



### 3M™ Electronic Marker System Overview

		Telephone	Power	CATV	General	Water	Wastewater	Gas	3M iD and EMS Markers Read Range	
		Orange	Red	Black/ Orange	Purple	Blue	Green	Yellow	Using 7420-ANZ or 7550 or 7573 AU models	Using 7550 or 7573 NZ models
iD (Programmable)	iD Ball Marker	1421-XR/ID	1422-XR/ID	1427-XR/ID	1428-XR/ID	1423-XR/ID	1424-XR/ID	1425-XR/ID	1.5 m	1.2 m (Tel, Gas, WW, CATV) 1.0 m (Power, Water)
	iD Near-Surface Marker	1432-XR/ID	1433-XR/ID		1438-XR/ID	1434-XR/ID	1435-XR/ID	1436-X/ID	0.9 m	0.6 m
	iD Full-Range Marker	1250-XR/ID	1251-XR/ID		1248-XR/ID	1252-XR/ID	1253-XR/ID	1254-XR/ID	2.4 m	2.0 m
Passive	EMS Ball Marker	1401-XR	1402-XR	1407-XR	1408-XR	1403-XR	1404-XR	1405-XR	1.5 m	1.5 m
	EMS Near-Surface Marker	1432	1433			1434	1435	1436	0.6 m	0.6 m
	EMS Full-Range Marker	1250	1251			1252	1253	1254	2.4 m	2.4 m

\*0.9 m for passive near-surface markers, 0.6 m for iD (programmable) near surface markers

### 3M™ EMS Near-Surface Markers

3M EMS Near-Surface Markers provide an accurate, long lasting method of marking underground facilities. The markers have a range of up to 1 metre from marker to locator and can be programmed to include customer specific information (iD version).



Product	3M Order Code	Programmable/ Passive	Application	Colour	Depth	Height x Diameter
1432	80610230312	Passive	Telephone	Orange	0.6 m	76 mm x 20 mm
1433	80610230379	Passive	Power	Red	0.6 m	76 mm x 20 mm
1434	80610230387	Passive	Water	Blue	0.6 m	76 mm x 20 mm
1435	80610230395	Passive	Wastewater	Green	0.6 m	76 mm x 20 mm
1436	80610230403	Passive	Gas	Yellow	0.6 m	76 mm x 20 mm
1432-XR/ID	80611321292	Programmable	Telephone	Orange	0.9 m	76 mm x 20 mm
1433-XR/ID	80611321300	Programmable	Power	Red	0.9 m	76 mm x 20 mm
1434-XR/ID	80611321318	Programmable	Water	Blue	0.9 m	76 mm x 20 mm
1435-XR/ID	80611321326	Programmable	Wastewater	Green	0.9 m	76 mm x 20 mm
1436-XR/ID	80611321334	Programmable	Gas	Yellow	0.9 m	76 mm x 20 mm
1438-XR/ID	80611321342	Programmable	General Purpose/ Recyclable Water	Purple	0.9 m	76 mm x 20 mm

### 3M™ EMS Ball Markers

The 3M EMS Ball Markers have a self-leveling design providing accurate, horizontal position regardless of how the ball is placed in the ground, making the job of precisely locating underground facilities easier.



Product	3M Order Code	Programmable/ Passive	Application	Colour	Depth	Diameter
1401-XR	80611161136	Passive	Telephone	Orange	1.5 m	102 mm
1402-XR	80611161144	Passive	Power	Red	1.5 m	102 mm
1403-XR	80630000323	Passive	Water	Blue	1.5 m	102 mm
1404-XR	80630000331	Passive	Wastewater	Green	1.5 m	102 mm
1405-XR	80630000257	Passive	Gas	Yellow	1.5 m	102 mm
1407-XR	80611161151	Passive	CATV	Orange/Black	1.5 m	102 mm
1408-XR	80611168354	Passive	General Purpose/ Recyclable Water	Purple	1.5 m	102 mm
1421-XR/ID	80611142193	Programmable	Telephone	Orange	1.5 m	102 mm
1422-XR/ID	80611142201	Programmable	Power	Red	1.5 m	102 mm
1423-XR/ID	80611143225	Programmable	Water	Blue	1.5 m	102 mm
1424-XR/ID	80611143233	Programmable	Wastewater	Green	1.5 m	102 mm
1425-XR/ID	80611143241	Programmable	Gas	Yellow	1.5 m	102 mm
1427-XR/ID	80611142219	Programmable	CATV	Orange/Black	1.5 m	102 mm
1428-XR/ID	80611142227	Programmable	General Purpose/ Recyclable Water	Purple	1.5 m	102 mm

### 3M™ EMS Full-Range Markers

3M EMS Full-Range Markers provide an accurate, convenient, long lasting method of marking underground facilities. The marker has a range of up to 2.4 metres from marker to locator.



Product	3M Order Code	Programmable/ Passive	Application	Colour	Depth	Diameter x Thickness
1250	80610221071	Passive	Telephone	Orange	2.4 m	381 mm x 17 mm
1251	80610221295	Passive	Power	Red	2.4 m	381 mm x 17 mm
1252	80610221519	Passive	Water	Blue	2.4 m	381 mm x 17 mm
1253	80610221501	Passive	Wastewater	Green	2.4 m	381 mm x 17 mm
1254	80610221550	Passive	Gas	Yellow	2.4 m	381 mm x 17 mm
1248-XR/ID	80611321284	Programmable	General Purpose/ Recyclable Water	Purple	2.4 m	381 mm x 17 mm
1250-XR/ID	80611321235	Programmable	Telephone	Orange	2.4 m	381 mm x 17 mm
1251-XR/ID	80611321243	Programmable	Power	Red	2.4 m	381 mm x 17 mm
1252-XR/ID	80611321250	Programmable	Water	Blue	2.4 m	381 mm x 17 mm
1253-XR/ID	80611321268	Programmable	Wastewater	Green	2.4 m	381 mm x 17 mm
1254-XR/ID	80611321276	Programmable	Gas	Yellow	2.4 m	381 mm x 17 mm

### 3M™ EMS Caution Tape 7600 Series

3M has developed an effective way to locate the path of underground plastic pipes and conduits, eliminating the need, problems and costs associated with tracer wire and test stations.

3M™ Electronic Marking System Caution Tape uses a new EMS marker technology embedded into a caution tape for installation near or above the buried facility and helps provide continuous path location. When energized using a 3M™ Dynatel™ Locator 7000 Series (7420, 7550, 7573), the markers are activated.

The markers require no batteries, and there is no need to hook up an external transmitter or search for access points. The markers work independently, so even if a section of caution tape is cut or removed, the other markers on the tape would continue to provide accurate location. Each version of 3M™ EMS Caution Tape is tuned to a frequency specific to the path of that utility (gas, telco or wastewater) and can be buried up to 0.76 m.

#### System Benefits:

- Eliminates needs to install tracer wire
- No access points or connections required
- Locate without the need for a transmitter
- Unique identification for each utility type
- Low installed costs
- Tape does not provide a path for lighting
- Signal path is maintained even if the tape is cut or damaged
- Product design life - 50 years







Product	3M Order Code	Application	Colour*	Printing		Depth		Format	Width x Roll Length	Weight per roll
				Text Colour	Text	Using 7420-ANZ or 7550 or 7573 AU models	Using 7550 or 7573 NZ models			
7654-XR-CT-RW	80611611916	General Purpose/ Recyclable Water	Purple	Black	DANGER BURIED CSG PRODUCTION WATER MAIN BELOW	0.76 m	0.6 m	Pallet	150 mm x 400 m	18.1 kg
7654-XR-CT-RW	AE010607081	General Purpose/ Recyclable Water	Purple	Black	DANGER BURIED CSG PRODUCTION WATER MAIN BELOW	0.76 m	0.6 m	Single Roll	150 mm x 400 m	18.1 kg
7655-XR-CT-GAS	80611611924	Gas	Yellow	Black	DANGER BURIED GAS MAIN BELOW	0.76 m	0.6 m	Pallet	150 mm x 400 m	18.1 kg
7655-XR-CT-GAS	AE010607099	Gas	Yellow	Black	DANGER BURIED GAS MAIN BELOW	0.76 m	0.6 m	Single Roll	150 mm x 400 m	18.1 kg





\*Compliant to AS/NZS Standards

New utilities/applications coming in 2015 - contact 3M for latest details.  
Custom colours and print available on request.

## 3M™ Direct Connect Accessories



Product & Country	2876 AU & NZ	2892 AU	8006 AU & NZ	9043 AU & NZ
				
<b>3M Order Code</b>	80610598130	80610598668	80610126841	80610126833
<b>Product Name</b>	3M™ Large Clip Direct-Connect Transmitter Cable for Most Cable/Fault Locators 2876	3M™ Small Clip Direct-Connect Transmitter Cable for All Cable/Fault Locators 2892	3M™ Ground Rod 8006	3M™ Ground Extension Cable 9043
<b>Description</b>	Two lead, 3 m cables used for direct connection to cable and ground	Two lead, 3 m cables used for direct connection to cable and ground	For applying ground capability. Stainless steel	Extends ground capability to 3.6 m
<b>Compatible with</b>	2250/2273, 2220M, 2250M/2273M, 2550/2573, 7550, 7573	2250/2273, 2220M, 2250M/2273M, 2550/2573, 7550, 7573	2250/2273, 2220M, 2250M/2273M, 2550/2573, 7550, 7573	2250/2273, 2220M, 2250M/2273M, 2550/2573, 7550, 7573
		Not in NZ		

## 3M™ Couplers

Product & Country	1196 AU	1196/C NZ	4001 AU	9011 AU & NZ
				
<b>3M Order Code</b>	80610411185	80611312499	80611325830	80610074843
<b>Product Name</b>	3M Dyna-Coupler 1196 152 mm with Pouch	3M 152 mm Dyna-Coupler 1196/C 152 mm with Pouch and 9011 Cable	3M™ 114 mm Dyna-Coupler 4001	3M™ Coupler Cable 9011
<b>Description</b>	Permits coupling of RF trace tone to large diameter cables, bundle cables, and cables enclosed in accessible non-metallic ducts. For use on cables and conduits with a maximum diameter of 175 mm.	Permits coupling of RF trace tone to large diameter cables, bundle cables, and cables enclosed in accessible non-metallic ducts. For use on cables and conduits with a maximum diameter of 175 mm.	Permits coupling of RF trace tone to cables with a maximum diameter of 120 mm	For use with any Dynatel Transmitter, Receiver, or Coupler: length of 3.6 m
<b>Compatible with</b>	2250/2273, 2220M, 2250M/2273M, 2550/2573, 7550, 7573		2250/2273, 2220M, 2250M/2273M, 2550/2573, 7550, 7573	2250/2273, 2220M, 2250M/2273M, 2550/2573, 7550, 7573



## 3M™ Fault Finding Accessories

Product	3014	9026
		
3M Order Code	80610074777	80610074942
Product name	3M™ Earth Contact Frame 3014	3M™ Earth Contact Frame Cable 9026
Description	Used only when locating sheath (earth return) faults. It indicates direction to the fault and is colour coded to correspond with the receiver's indicator	For use with the 3014 Earth Contact Frame for sheath (earth return) fault location; length of 1.2 m
Compatible with	2273, 2273M, 2573, 7550, 7573	2273, 2273M, 2573, 7550, 7573

## 3M™ Dynatel™ Transmitters






Product	12 Watt Transmitter
Country	AU*



3M Order Code	80611331085
Product Name	3M™ Dynatel™ 12 Watt Transmitter
Description	Includes 12 watt transmitter, ground rod, and rechargeable battery
Compatible with	2550, 2573, 7573

\*Australian model is not permitted to be sold in New Zealand

## 3M™ Locator Carrying Bags and Batteries

Product	2200M	2200RB	2200RB Adaptor	7000RB	7000RB Adaptor
					
3M Order Code	80611146715	78900051927	AE010603684	80630002535	78900051810
Product Name	3M™ Soft Carrying Bag	3M™ Dynatel™ ANZ Transmitter Battery 2200RB	3M™ Dynatel™ ANZ Power Adaptor for 2200RB Transmitter Battery	3M™ Rechargeable Battery 7000RB	3M™ Dynatel ANZ Power Adaptor for 7000RB Locator Battery
Description	Soft carrying bag for the 1420, 2200M, 2500M, 2273M and 7000 series locators	Rechargeable lead acid battery for 5 watt and 12 watt transmitter units	Power adaptor for 2200RB battery	Rechargeable battery for 7000 series locators (receivers)	Power adaptor for 7000RB battery
Compatible with	1420, 2200M, 2250M/2273M, 7420, 7550, 7573	2273, 2250, 7550, 7573	2273, 2250, 7550, 7573	7420, 7550, 7573	7420, 7550, 7573

## 3M™ Sondes

Product	3229
	
3M Order Code	80610757785
Product Name	3M™ ADP 33KHZ Sonde 3229 for use with Dynatel Series Locators
Description	The 3200 Series Active Duct Probe is an active mini-transmitter (sonde) which allows the user to trace the path of conduit. The ADP can help the user pinpoint key points, such as J-boxes, handholes and stubs
Compatible with	2250/2273, 2220M, 2250M/2273M, 2550/2573, 7550, 7573

# 3M™ Personal Safety Products

3M provides solutions for work situations requiring basic Personal Protective Equipment (PPE) through to environments that call for the most sophisticated and comprehensive protection. From an individual tradesperson to medium sized businesses to organisations employing thousands of workers, 3M has a workplace safety solution to meet your needs.

## The 3M range of solutions for worker safety includes:

- Respiratory Protection
- Hearing Protection
- Communications
- Head, Eye and Face Protection
- Spill Management
- Worker Visibility
- Detection and Monitoring
- Body Protection



## Training and Support

3M's team of Specialist Representatives are available nationally to provide support and training that meets the needs of our customers. Furthermore, our qualified and highly experienced team are able to assist customers by:

- Conducting initial and ongoing assessments of the workplace
- Recommending appropriate respiratory, hearing, eye protection, communication and spill management solutions required to maintain a safe work environment
- Providing technical advice about the correct use and maintenance of the solution that has been selected
- Facilitating on-site fit testing for both respiratory and hearing protection solutions as required

## Technical Assistance

3M TechAssist is the ideal point of contact for your questions, especially when you require a prompt answer. Customers can contact TechAssist to obtain answers to questions on product information, technical advice, guidance with product selection, Australia/New Zealand Standards advice and other important information they need to know on a day-to-day basis.

3M Tech Assist Helpline  
1800 024 464 (AU)  
0800 364 357 (NZ)



## 3M Safety brands you can trust:



## 3M™ Hearing Protection

The 3M™, E-A-R™ and Peltor™ brands offer a hearing protection solution for anyone who spends time in noisy environments. The comprehensive range of 3M and E-A-R earplugs includes disposable, reusable, no-roll down and banded models. They are available in multiple shapes and sizes to comfortably accommodate different wearer and workplace needs. Many 3M and Peltor earmuffs are available in headband, neckband, helmet attachable and folded models to meet virtually every application need and wearer preference.

### 3M™ E-A-R™ Classic™ Disposable Earplugs

- PVC foam provides a comfortable seal with high protection levels
- Superior in-ear comfort, hydrophobic and flame retardant
- SLC80: 21 dB (Class 3 Corded)
- SLC80 23 dB (Class 4)



Product Code	Type	Colour	Pack	Protection Rating
312-1201	Uncorded	Yellow	Poly Bag	Class 4
311-1101	Corded	Yellow	Poly Bag	Class 3

### 3M™ E-A-Rsoft™ Superfit™ Disposable Earplugs

- Soft foam and red indicator line delivers protection and comfort
- Large size option for larger ear canals
- The bullet design of the earplug provides high protection levels
- Available in corded and uncorded formats



Product Code	Type	Colour	Pack	Protection Rating
311-1254	Corded	Yellow	Poly Bag	Class 4
312-1256	Uncorded	Yellow	Poly Bag	Class 4

### 3M™ E-A-R™ Taperfit II™ Disposable Earplugs

- Tapered shape provides high attenuation and all day comfort
- Plus size option for larger ear canals
- May be worn with Ear Muffs for added protection
- Available in corded and uncorded formats



Product Code	Type	Colour	Pack	Protection Rating
312-1219	Uncorded	Yellow	Poly Bag	Class 5
312-1224	Corded	Yellow	Poly Bag	Class 5

### 3M™ E-A-R™ Push Ins™ No Roll Down Earplugs

- Patented foam softens with usage to improve seal and comfort
- The stem and plug are made of two materials to ensure great fit with a rigid stem and comfort with a soft foam
- No roll down provides a quick and easy way to use earplugs
- The convenient stem provides a quick and hygienic insertion method



Product Code	Type	Colour	Pack	Protection Rating
318-1002	Uncorded	Yellow	Poly Bag	Class 4
318-1003	Corded	Yellow	Poly Bag	Class 4

### 3M™ E-A-R™ Ultrafit™ Reusable Earplugs

- Reusable triple flange design ensures high protection levels
- Product available in either polybags or cases for safe storage
- Premoulding delivers performance in a variety of work environments
- Available in corded and uncorded formats



Product Code	Type	Colour	Pack	Protection Rating
340-4004	Corded	Yellow	Poly Bag	Class 3

### 3M™ E-A-R™ Swerve™ Banded Earplugs

- Adjustable ergonomic design minimises collar interference
- Lightweight and durable plastic flexes for constant on and off wearings
- Product comes with both Comfort Pod and Flex 28 tip options



Product Code	Type	Colour	Pack	Protection Rating
322-2000	Band	Yellow	Poly Bag	Class 4
322-2001	Replacement Tips	Yellow	Poly Bag	Class 4

### 3M™ Peltor™ H7 Deluxe Earmuffs

- Versatile high quality earmuffs meet the protection needs of almost any working environment
- Available in headband, neckband and helmet attachment formats
- Liquid and foam filled cushions provide a quality noise seal with low pressure for all day wearer comfort
- Stainless steel headband wires with four point suspension helps distribute cushion pressure evenly and earcups pivot for consistent fit



Product Code	Type	Colour	Pack	Protection Rating
H7A	Head Band	Olive Green	Box	Class 5
H7B	Neck Band	Olive Green	Box	Class 5
H7P3E	Hard Hat Attached	Olive Green	Box	Class 5
H7P3G	Hard Hat Attached	Olive Green	Box	Class 5

### 3M™ Peltor™ H9 Select Performance Earmuffs

- Lightweight, comfortable and effective earmuffs that provide a cost effective solution for a wide range of workplaces
- Available in headband, neckband and helmet attachment formats
- Liquid and foam filled cushions provide a quality noise seal with low pressure for all day wearer comfort
- Stainless steel headband wires with four point suspension helps distribute cushion pressure evenly and earcups pivot for consistent fit



Product Code	Type	Colour	Pack	Protection Rating
H9A	Head Band	Yellow	Box	Class 5
H9B	Neck Band	Yellow	Box	Class 5
H9E	Hard Hat Attached	Yellow	Box	Class 5
H9G	Hard Hat Attached	Yellow	Box	Class 5

### 3M™ Peltor™ X4 Premium Earmuffs

- Modern, attractive low-profile design
- Incredibly thin and light weight
- Electrically-insulated (dielectric) wire headband
- Twin headband design reduces heat buildup and offers outstanding balance and comfort for prolonged use



Product Code	Type	Colour	Pack	Protection Rating
X4A	Head Band	Black/Green	Box	Class 5
X5P3E/G	Hard Hat Attached	Black/Green	Box	Class 5

### 3M™ 1436 Economy Earmuffs

- Entry level earmuffs with good noise protection
- Foldable for easy storage



Product Code	Type	Colour	Pack	Protection Rating
1436	Head Band	Orange	Box	Class 5

### 3M™ Worktunes™ Digital AM/FM Radio Earmuffs

- Hands-free Voice Assist feature guides you to your favourite stations and helps you program new ones
- Easy-to-use auto scanning to quickly find and save radio stations
- Save up to 50 pre-set stations
- Recessed MP3 and two-way radio jack



Product Code	Type	Colour	Pack	Protection Rating
90541-80025AU	Head Band	Black/Yellow	Box	Class 5



## 3M™ Eye Protection

3M safety eyewear combines superior technologies and design to provide a range of solutions that span the function and price spectrum, providing high performance eyewear for most work situations as well as a variety of outdoor recreational activities. 3M safety glasses and goggles provide high quality optics and reliable UV protection.

### 3M™ Virtua™ AP Series

- Sleek unisex styling, lightweight, comfortable and exceptional value
- Wrap around polycarbonate lenses and integral side shields to provide comfortable fit and ultimate protection
- All lenses deliver greater than 99% UV protection
- AS/NZS 1337.1 Medium Impact



Product Code	Lens Colour	Coating	Pack	Protection Rating
11818-00000-100AS	Clear	Anti-Fog	Bag	Medium Impact
11815-00000-100AS	Grey	Hard Coat	Bag	Medium Impact
11817-00000-100AS	Amber	Hard Coat	Bag	Medium Impact
11847-00000-100AS	Mirror	Hard Coat	Bag	Medium Impact

### 3M™ Maxim GT™ Series

- Lightweight elastomeric browguard, wrap around lens with anti-fog coating
- Style and comfort
- Dual-injected brow bar and temples
- 3-position lens adjustment and adjustable temple lengths
- AS/NZS 1337.1 Medium Impact



Product Code	Lens Colour	Coating	Pack	Protection Rating
14246-00000-100AS	Clear	Anti-Fog/Hard Coat	Bag	Medium Impact
14247-00000-100AS	Grey	Anti-Fog/Hard Coat	Bag	Medium Impact

### 3M™ Securefit™ 200 Series

- Self-adjusts to fit a wide array of head sizes reducing the need to stock multiple frame sizes
- Provides a secure, snug fit without compromising comfort
- Helps reduce eyewear/frame slippage during workplace head movements
- Enhances frame comfort without sacrificing the security of fit
- AS/NZS 1337.1 Medium Impact



Product Code	Lens Colour	Coating	Pack	Protection Rating
SF201AF-AS	Clear	Anti-Fog	Bag	Medium Impact
SF202AF-AS	Grey	Anti-Fog	Bag	Medium Impact

### 3M™ Light Vision II™ Series

- Light Vision II provides workers with hands-free direct lighting
- Ideal for intricate work where extra lighting and both hands are required
- Dual LED lights are adjustable so light is directed where needed
- LED lights have a long battery life of up to 50 hours
- Wrap around design provides high wearer protection levels
- AS/NZS 1337.1 Medium Impact



Product Code	Lens Colour	Coating	Pack	Protection Rating
10425-00000	Clear	Anti-Fog	Bag	Medium Impact

### 3M™ Photochromic Series

- Safety eyewear with the added benefit of a transitioning lens
- Photochromic lens is UV reactive so lightens or darkens automatically in seconds
- Lenses deliver greater than 99% UV protection
- Durable frame with nylon brow and magnesium alloy temples
- AS/NZS 1337.1 Medium Impact



Product Code	Lens Colour	Coating	Pack	Protection Rating
10423-00000	Clear	Transition	Bag	Medium Impact

### 3M™ Lexa™ Splash Goggle Series

- Soft frames combine with the Lexa lens for a lightweight, stylish and comfortable goggle solution
- Soft PVC frame delivers ideal splash protection
- Top and bottom vent channels improve air flow
- Lenses feature DX anti-fog and deliver greater than 99% UV protection
- AS/NZS 1337.1 Medium Impact



Product Code	Lens Colour	Coating	Pack	Protection Rating
16645-00000-100AS	Clear	Anti-Fog/Hard Coat	Bag	Medium Impact

### 3M™ Fahrenheit™ Goggle Series

- Aerodynamic design for 180 degrees of distortion free vision
- Built-in channel designed to fit prescription frames
- Market leading DX anti-fog coating on selected models
- AS/NZS 1337.1 Medium Impact



Product Code	Lens Colour	Coating	Pack	Protection Rating
40170-00000	Clear	Anti-Fog	Bag	Medium Impact

## 3M™ Disposable Respiratory Protection

3M offers respirators that fit well, are comfortable and provide the protection you need. 3M disposable respirators are compatible with eyewear and hearing protection products from 3M. Additionally, 3M disposable respirators meet the performance requirements of AS/NZS 1716:2012 'Respiratory protective devices'. To achieve the assigned protection of a tight fitting face-piece there must be a good seal between the edges of the respirator and your face. Conducting a fit test to AS/NZS 1715:2009 is considered best practice as part of a general respiratory protection program.

### 3M™ Flat Fold Particulate Respirators 9300 Series

- Unique 3-panel design fits a wide range of face sizes
- Low profile provides good field of vision
- Proprietary 3M Cool Flow™ exhalation valve reduces heat and moisture build-up, making breathing easier (9322 and 9312)
- Individually packaged for portability in the workplace

**Applications:** P1 respirators protect against dusts and mists, while P2 also protects against smoke and fume



Product Code	Description	Valve	Weight	Nose Clip	Staples	Standard
9322	P2	Valved	15 g	Aluminium	Steel	AS/NZS 1716:2012
9320	P2	Unvalved	10 g	Aluminium	Steel	AS/NZS 1716:2012
9312	P1	Valved	15 g	Aluminium	Steel	AS/NZS 1716:2012
9310	P1	Unvalved	10 g	Aluminium	Steel	AS/NZS 1716:2012

### 3M™ Cupped Particulate Respirators 8000 Series

- Lightweight construction for added comfort and help increase wearer compliance
- Galvanised steel nose clip for use in intrinsically safe environment (8812 and 8710)
- Adjustable nose clip helps reduce eyewear fogging

**Applications:** P1 respirators protect against dusts and mists, while P2 also protects against smoke and fume



Product Code	Protection Type	Valve	Weight	Nose Clip	Staples	Standard
8210	P2	Unvalved	8 g	Aluminium	No staples	AS/NZS 1716:2012
8710	P1	Unvalved	8 g	Galvanised Steel	No staples	AS/NZS 1716:2012
8822	P2	Valved	13 g	Galvanised Steel	Steel	AS/NZS 1716:2012
8812	P1	Valved	13 g	Galvanised Steel	Steel	AS/NZS 1716:2012

### 3M™ Particulate Respirators with Nuisance Level\* Organic Vapour Relief

- Activated carbon layer provides protection against nuisance levels\* of organic vapours and odours
- Galvanised steel nose clip for use in intrinsically safe environment e.g. underground use (9913V and 9913)
- 9542A is individually wrapped and has folded design for easy storage and dispensing in the workplace

**Applications:** e.g. metal processing, foundry operations, waste disposal and recycling

\*Nuisance levels are those levels below the Workplace Exposure Standard



Product Code	Protection Type	Valve	Weight	Nose Clip	Staples	Standard
9913V	GP1	Valved	18 g	Galvanised Steel	Steel	AS/NZS 1716:2012
9913	GP1	Unvalved	13 g	Galvanised Steel	Steel	AS/NZS 1716:2012
9542A	P2	Unvalved	13 g	Aluminium	Steel	AS/NZS 1716:2012

### 3M™ Economy Particulate Respirators

- Adjustable nose clip enables wearer to customise for a better seal and secure feel
- Light weight construction helps with wearer compliance
- Dual latex free straps provide even strap pressure and help to improve comfort on the neck, face and head



Product Code	Protection Type	Valve	Weight	Nose Clip	Staples	Standard
8205	P2	Unvalved	8 g	Aluminium	Steel	AS/NZS 1716:2012
8000	P1	Unvalved	8 g	Aluminium	Steel	AS/NZS 1716:2012

## 3M™ Reusable Respiratory Protection

With the ability to reuse the facepiece, the 3M range of reusable half and full face respirators offer value and versatility for a wide variety of environments and hazards, while giving you the confidence in protection you deserve. 3M gas and vapour cartridges and particulate filters are lightweight, well balanced and provide excellent field of vision when fitted to a respirator.

### 3M™ Respirator Starter Kits

3M Respirator Starter Kits are convenient and easy to use providing an ideal solution to get you started. All kits include a pair of 3M™ Earplugs, 3M™ Respirator Cleaning Wipes and a 3M Respiratory Protection Guide. To avoid moisture and contaminant exposure, store the respirator in the handy, sealable storage container.

### 3M™ Dust/Particle Respirator Kit 6225

#### Kit contains:

- 1 x 3M™ Half Face Respirator 6000 Series - Medium
- 1 x pair of 3M™ Particulate Filters 2125, P2
- 1 x 3M™ No-Touch™ Foam Earplugs P2000, Class 4
- 4 x 3M™ Respirator Cleaning Wipes 504
- 1 x 3M Respiratory Protection Guide
- 1 x Storage Container



#### Applications:

- Sanding/Sawing - Wood/plaster dust
- Lead Paint Removal - Metal fume and/or particles
- Food Manufacturing - Fine food powders
- Insulation - Fibreglass particles
- Drilling/Cutting - Metal/wood/plastic particles
- Masonry - Stone particles
- Grinding - Metal dust and particles
- Powder Coating – Dust

Product Code	3M Order Code AU	Protection Type	Standards	Respirator Size
6225	AT010590613	P2	AS/NZS 1716:2012	Medium
2125	70071486180	P2	AS/NZS 1716:2012	N/A

## 3M™ Body Protection

3M offers a comprehensive range of disposable coveralls that provide protection for a variety of applications. Harmful dust, light liquid splashes, and biological contaminants are just some of the dangers in today's industrial workplace. The 3M line of quality disposable coveralls help protect at-risk workers and offers quality and reliability, helping workers to manoeuvre freely and operate efficiently.

### 3M™ Protective Coverall 4515

The 4515 coverall is made from a breathable material and is ideal for a wide range of applications, particularly those requiring protection from hazardous dusts. A two-way zipper provides on-off convenience and elasticated hood, cuffs, waist and ankles allow for a comfortable fit.

Product Code	3M Order Code AU	3M Order Code NZ	Colour	Size	Type Rating
4515	GT700004127	GT700004127	White	M	Type 5/6 - for hazardous dust and splash
4515	AT010588898	GT700004135	White	L	Type 5/6 - for hazardous dust and splash
4515	AT010588906	GT700004143	White	XL	Type 5/6 - for hazardous dust and splash
4515	AT010588914	GT700004150	White	XXL	Type 5/6 - for hazardous dust and splash
4515	GT700000265	GT700000265	White	3XL	Type 5/6 - for hazardous dust and splash



### 3M™ Protective Coverall 4510

The 4510 coverall is constructed of high quality, ultra low-linting, laminated microporous material and is designed to offer cost effective protection against hazardous dusts and light liquid chemical splashes. The 4510 also has a two-way zipper with storm flap for added convenience and extra protection. Elasticated hood, cuffs, waist and ankles provide for a comfortable fit.

Product Code	Colour	Size	Type Rating	Treatment
4510	White	M	Type 5/6 - for hazardous dust and splash	Anti-static - EN 1149- 5:2008
4510	White	L	Type 5/6 - for hazardous dust and splash	Anti-static - EN 1149- 5:2008
4510	White	XL	Type 5/6 - for hazardous dust and splash	Anti-static - EN 1149- 5:2008
4510	White	XXL	Type 5/6 - for hazardous dust and splash	Anti-static - EN 1149- 5:2008
4510	White	3XL	Type 5/6 - for hazardous dust and splash	Anti-static - EN 1149- 5:2008



### 3M™ Comfort Grip General Use Gloves

3M Comfort Grip General Use Gloves offer a comfortable alternative to the traditional cotton and leather work glove. Nitrile palm coating makes this glove light, flexible, abrasion-resistant and long lasting. The gloves are constructed from a nylon knit material with a stretch liner that gives you a breathable "second skin" fit - perfectly suited for applications where hand flexibility and dexterity are needed.

#### Agency Approvals:



#### Applications:

- General material handling
- Handling small parts
- Electrical component assembly
- Carpentry, plumbing, roofing



Product Code	3M Order Code	Size	Blade Cut Resistance	Abrasion Resistance	Tear Resistance	Puncture Resistance
CGM-GU	WX300942173	M	Level 1	Level 4	Level 2	Level 2
CGL-GU	WX300942181	L	Level 1	Level 4	Level 2	Level 2
CGXL-GU	WX300942199	XL	Level 1	Level 4	Level 2	Level 2



### 3M™ Head and Face Protection

3M is the trusted leader in the head and face protection market providing robust, comfortable and easy-to-use products to a wide spectrum of industries. These products are designed for strength, all day comfort, enhanced visibility, and sometimes serve as a “carrier” to other personal protective equipment (PPE) products.

#### 3M™ Peltor™ G2000 Hard Hat

Attractive design and excellent protection is the best way to summarise the Peltor G2000 Hard Hat. The hard hat goes well beyond the requirements for formal testing and is comfortable with its low back and relatively low profile. It was designed to accommodate additional accessories, visor and hearing protection. The G2000 also incorporates the 3M™ Peltor™ Uvicator™ which provides a visible indication of the damage caused by UV-radiation from the sun. The Uvicator gradually turns from Red to White to show when it is time to replace your hard hat.



Product Code	Colour	Material	Weight	Size	Standards
G2000CUV-GU	Yellow	UV-stabilised ABS	340 g	54 - 62 cm	AS/NZS 1801
G2000CUV-OR	Orange	UV-stabilised ABS	340 g	54 - 62 cm	AS/NZS 1801
G2000NUV-VI	White	UV-stabilised ABS	340 g	54 - 62 cm	AS/NZS 1801

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