

## 2.2 Splice Protection Products

### 2.2.1 Closures

#### 3M™ OS Closures

##### Description

OSS and OSL closures are one piece, tool-free, one-hand / one-operation, small size, mechanical, copper cable splice closures. Simply pressing the two shelves of the closure together by hand, closure locks and seals the splice. Closure body is made out of thermoplastic material and the sealing is a patented gel. Splice area in the middle of the closure is non-filled and the sealing material is surrounding the splice cell. Top shelf and bottom shelf of the closure are hinged from the back edge and when the closure is closed, sealing gel on the top and the bottom shelves meet/compress each other by sealing the cable entries automatically. "Cable Tie" and/or "special design build-in strain relief" provide cable retention. The design of the closure allows re-entries by simply unlatching the locking mechanism.

##### Highlights:

- Mechanical
- Easy to install
- UV resistant and IP 67 protection
- Non-craft sensitive and reliable
- Re-enterable
- Splice area is dry (no gel filing)
- Up to 10 pairs application with Scotchlok™ TM and MS2™
- Cylindrical design
- No deformation on the sealing area or splice area after the closure installation



OSS closure is mainly for 2/4 pairs splices (w Scotchlok™ U/U2) protection and OSL closure is mainly for up to 10 a pairs splice (w Scotchlok U/U2) protection. OSL can be perfectly used with MS2 10 pairs module, too.

Both closures are, having IP67 protection class, suitable for UG (direct buried) applications as well as the overhead applications, which may require lower protection class.

##### Type/Order text

##### Ref.-No.



**OSSC One Step Small Closure 1 to 1 Chicane version**

MOQ: 10 ea  
Packaging: 10ea in a carton box w installation instructions.

**OSSC 121C**

**OSSC One Step Small Closure 1 to 2 Chicane version**

MOQ: 10 ea  
Packaging: 10ea in a carton box w installation instructions.

**OSSC 122C**

**OSSC One Step Small Closure 1 to 1 Cable Tie version**

Packaging: 10ea + 20ea cable ties in a carton box w installation instructions.

**OSSC 121T**

**OSSC One Step Small Closure 1 to 2 Cable Tie version**

MOQ: 10 ea  
Packaging: 10ea + 20ea cable ties in a carton box w installation instructions.

**OSSC 122T**



**OSLC One Step Large Closure 2 to 2**

MOQ: 10 ea  
Packaging: 1ea w 4ea cable ties & 4ea spring force s/b connectors in a bag / 10 bags in a carton box w installation instructions.

**OSLC 222**

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ BEC

#### Description

3M BEC closures are suitable for all type of splicing configurations in a twisted pair transmission network.

The sturdy design allows the BEC closures to accommodate any kind of electronic active circuits used in Telecom Networks (HDSL, repeaters, PCM 11).

These watertight, pressurisable closures (up to 1 bar above atmospheric pressure) are suitable for underground network.

#### Easy to install and to cable up

- Closures are easily opened and re-sealed to allow testing and repairs
- One range of cable glands fits all 5 types of closures
- Can be mounted onto metal inserts

#### Various configurations are possible

- 5 box sizes
- 5 to 8 ports depending on model

#### Wide range of accessories

- Cable glands (resin, heat-shrink, combined seals)
- Cable gland kits for repairs
- Sealing resin
- Mounting brackets



#### Highlights:

- High pressure reinforced polyester for direct buried applications
- IP 67 to NFC 20010
- Standard equipment
- Joint closure for buried applications without cable entry, with dummy plugs
- Service pressure: 500 mb

#### Technical characteristics

Models	Volume (litres)	Length (mm)	Width (mm)	Depth (mm)	Cable entries
1B	3.60	240	210	72	5
1A	6.90	240	210	137	5
2	10.30	430	210	114	6
3B	9.80	550	280	80	8
3A	25.00	550	280	215	8

## 2.2 Splice Protection Products

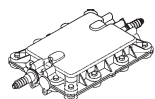
### 2.2.1 Closures

#### 3M™ BEC

#### Type/Order text

#### Ref.-No.

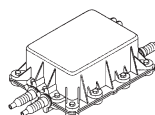
#### Distribution and protection closures



##### BEC Closure type 1 B

Equipped with: 5 dummy plugs, 2 earth terminals

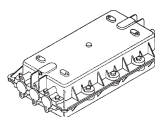
NN450214VB00



##### BEC Closure type 1 A

Equipped with: 5 dummy plugs, 2 earth terminals

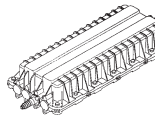
NN450213VB00



##### BEC Closure type 2

Equipped with: 6 dummy plug, 2 earth terminals

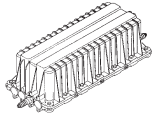
NN450212VB00



##### BEC Closure type 3 B

Equipped with: 8 dummy plugs, 2 earth terminals

NN450209VB00



##### BEC Closure type 3 A

Equipped with: 8 dummy plugs, 2 earth terminals

NN450208VB00



##### Kit of 2 cable inlets in 2 part-Heat-shrink

Capacity: cable of  $\varnothing$ 12 to 26 mm

The kit comes complete with heat-shrink sleeves, fixing accessories and instruction leaflet.

NN3720140000



##### Kit of 2 cable glands-Heat-shrink

Capacity: Cable of  $\varnothing$ 18 to 30 mm

The kit comes complete with heat-shrink sleeves, fixing accessories and instruction leaflet.

NN3720130000



##### Kit of 2 twin cable glands

PVC cable gland to take 2 cables of  $\varnothing$ 9 mm supplied with heat-shrink sleeves.

NN3720190000



##### Re-opening cable glands

The shells of these glands can be separated to provide access for repairs, testing, etc..., without the need to cut the cable.

##### Kit of 2 cable glands-Resin and heat-shrink

The kit comes complete with heat-shrink split sleeves, tin of resin, fitting accessories and instruction leaflet.

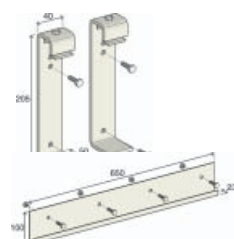
**Capacity: cable of  $\varnothing$ 12 to 26 mm**

NN3720250000

**Capacity: cable of  $\varnothing$ 18 to 30 mm**

NN3720260000

#### Mounting accessories



##### Mounting brackets

Wall mount brackets are attached to the back of the BPBM closure and hook onto wall rail.

NN3711460000

##### Manhole mounting rail

L section attached to the wall of the manhole to support the protection closure with mounting brackets.

NN2717531800

## 2.2 Splice Protection Products

### 2.2.1 Closures

# SLiC™

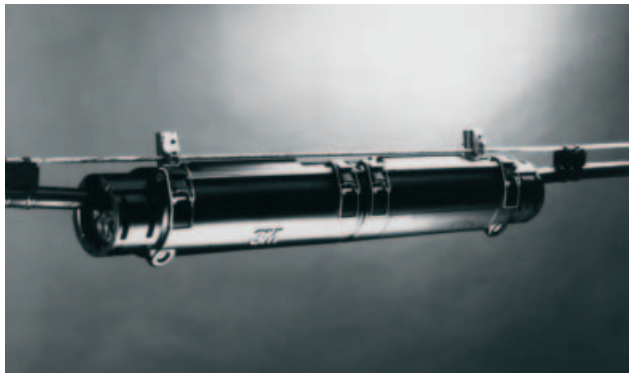
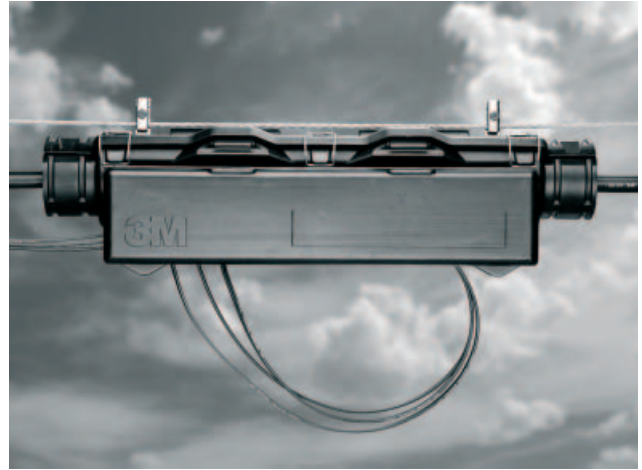
#### Description

#### 3M Floating Bond, 3M Rigid Bond, 3M Spiral End Seal

The 3M SLiC aerial closure is a single-piece aerial closure, easily installed in construction or maintenance situations. The one piece construction permits complete splice access after placement without removal of the closure or bonding from the cables. The closures are free breathing and suitable for straight, butt and branch splices of non-pressurised communication cables.

Splices are protected by the closure's double-wall moulded polyethylene construction. The durable SLiC closure will not crack or break in even the harshest environment. All components are attached to the closure.

Due to its interlocking ends, the SLiC aerial closure can expand to meet any size sheath opening without special kits, eliminating excess inventory. The 2 x 29, 3 x 33, 5 x 33, and 7 x 33 closures



can be extended while maintaining their initial strength. The SLiC aerial closure does not require taping, bricking or any special labour-intensive practices. The end seals assure a snug fit on cables and eliminate the need for a drip collar. Sealing collars or tape are not required when using the SLiC closure.

The two, three, five, seven, and nine-inch diameter closures feature a universal end seal to handle any plant configuration. There are six sizes available, accommodating splice openings from 254 to 635 mm (10 to 25 inches). **RUS listed**

#### Highlights:

- One piece construction
- Provides easy installation; no loose parts
- Double walled, moulded construction
- Resists breaking or cracking
- Interlocking ends
- Extendible for long sheath openings
- Hanger/bonding system
- No external or additional bonding material required
- Quick release latch
- Easy re-entry
- Attached sheath retention (SR) bracket
- Protects cable sheath pull-out or movement (only for rigid bond)
- Spiral end seal
- One size fits multiple cable configurations

Fewer parts and easier installation with the SLiC Aerial Closure.

- Superior seal
- Easily adaptable
- Single piece design
- Double wall moulded construction
- Made from durable, rugged materials
- Easy to access and re-enter

Scotchlok Connectors see	pg. 108 - 113
Shield Bonding see	pg. 207 - 210
Tapes and Sealing see	pg. 194 - 198
MS <sup>2</sup> Modules see	pg. 114 - 120

## 2.2 Splice Protection Products

### 2.2.1 Closures

#### SLiC™

Type/Order text

Ref.-No.

#### SLiC Aerial Closures with Floating Bond



Contains	Pkg. & kg (lbs.)/cs.	Min. Order	
<b>SLiC Aerial Closure Kit with Spiral End Seal</b>			
Spiral End Seal	1/cs., 1,0 (2.3)	1 kit	<b>2" x 19"-SES</b>
Spiral End Seal	1/cs., 1,7 (3.7)	1 kit	<b>2" x 29"-SES</b>
Spiral End Seal	1/cs., 2,0 (4.4)	1 kit	<b>3" x 19"-SES</b>
Spiral End Seal	1/cs., 2,4 (5.3)	1 kit	<b>3" x 33"-SES</b>
Spiral End Seal	1/cs., 3,8 (8.3)	1 kit	<b>5" x 33"-SES</b>
Spiral End Seal	1/cs., 5,0 (11.1)	1 kit	<b>7" x 33"-SES</b>
Spiral End Seal	1/cs., 7,5 (16.5)	1 kit	<b>9" x 36"-SES</b>
<b>SLiC Aerial Closure Kit with Rubber End Seal</b>			
2 Double Port	1/cs., 1,1 (2.4)	1 kit	<b>2" x 19"</b>
2 Double Port	1/cs., 1,7 (3.7)	1 kit	<b>2" x 29"</b>
2 Triple Port	1/cs., 2,4 (5.6)	1 kit	<b>3" x 33"</b>
2 Triple Port	1/cs., 3,6 (8.0)	1 kit	<b>5" x 33"</b>
2 Triple Port	1/cs., 4,8 (10.6)	1 kit	<b>7" x 33"</b>
2 Triple Port	1/cs., 7,3 (16.0)	1 kit	<b>9" x 36"</b>

#### SLiC Aerial Closures with Rigid Bond/Sheath Retention



Contains	Pkg. & kg (lbs.)/cs.	Min. Order	
<b>Aerial Closure Kit with Spiral End Seal</b>			
Spiral End Seal	1/cs., 1,1 (2.5)	1 kit	<b>2" x 19"-SR/SES</b>
Spiral End Seal	1/cs., 1,7 (3.7)	1 kit	<b>2" x 29"-SR/SES</b>
Spiral End Seal	1/cs., 2,6 (5.8)	1 kit	<b>3" x 33"-SR/SES</b>
Spiral End Seal	1/cs., 3,9 (8.6)	1 kit	<b>5" x 33"-SR/SES</b>
Spiral End Seal	1/cs., 5,1 (11.2)	1 kit	<b>7" x 33"-SR/SES</b>
Spiral End Seal	1/cs., 7,4 (16.3)	1 kit	<b>9" x 36"-SR/SES</b>

#### SLiC Aerial Closures with Bond Assembly attached (4462-SN)



Contains	Pkg. & kg (lbs.)/cs.	Min. Order	
<b>Aerial Closure Kit with Spiral End Seal</b>			
Spiral End Seal	1/cs., 4,3 (9.4)	4 kits	<b>2" x 19"-BA/SES</b>
Spiral End Seal	1/cs., 6,5 (14.4)	4 kits	<b>2" x 29"-BA/SES</b>
Spiral End Seal	1/cs., 9,1 (20.0)	4 kits	<b>3" x 33"-BA/SES</b>
Spiral End Seal	1/cs., 3,9 (8.6)	1 kit	<b>5" x 33"-BA/SES</b>
Spiral End Seal	1/cs., 5,0 (11)	1 kit	<b>7" x 33"-BA/SES</b>
Spiral End Seal	1/cs., 7,6 (16.8)	1 kit	<b>9" x 36"-BA/SES</b>
<b>Aerial Closure Kit with Rubber End Seal</b>			
2 Double Port	1/cs., 4,3 (9.5)	4 kits	<b>2" x 19" BA</b>
2 Double Port	1/cs., 6,6 (14.5)	4 kits	<b>2" x 29" BA</b>
2 Double Port	1/cs., 9,1 (20.0)	4 kits	<b>3" x 33" BA</b>
2 Double Port	1/cs., 3,8 (8.3)	1 kit	<b>5" x 33" BA</b>
2 Double Port	1/cs., 4,8 (10.5)	1 kit	<b>7" x 33" BA</b>
2 Double Port	1/cs., 7,4 (16.4)	1 kit	<b>9" x 36" BA</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

# SLiC™

#### Type/Order text

#### Ref.-No.

### SLiC Aerial Closures with Bond Assembly included (4460-S)



Contains	Pkg. & kg (lbs.)/cs.	Min. Order	
<b>Aerial Closure Kit with Spiral End Seal</b>			
Spiral End Seal	1/cs., 1,1 (2.4)	1 kit	<b>2" x 19" 4460S/SES</b>
Spiral End Seal	1/cs., 1,7 (3.8)	1 kit	<b>2" x 29" 4460S/SES</b>
Spiral End Seal	1/cs., 2,4 (5.2)	1 kit	<b>3" x 33" 4460S/SES</b>
Spiral End Seal	1/cs., 3,7 (8.1)	1 kit	<b>5" x 33" 4460S/SES</b>
Spiral End Seal	1/cs., 5,0 (11.1)	1 kit	<b>7" x 33" 4460S/SES</b>
Spiral End Seal	1/cs., 7,2 (15.9)	1 kit	<b>9" x 36" 4460S/SES</b>
<b>Aerial Closure Kit with Rubber End Seal</b>			
Double Port/Double Port	1/cs., 1,1 (2.5)	1 kit	<b>2" x 19" 4460S</b>
Double Port/Double Port	1/cs., 1,8 (3.9)	1 kit	<b>2" x 29" 4460S</b>
Double Port/Triple Port	1/cs., 2,4 (5.2)	1 kit	<b>3" x 33" 4460S</b>
Double Port/Triple Port	1/cs., 3,5 (7.8)	1 kit	<b>5" x 33" 4460S</b>
Double Port/Triple Port	1/cs., 4,8 (10.6)	1 kit	<b>7" x 33" 4460S</b>
Double Port/Triple Port	1/cs., 7,0 (15.4)	1 kit	<b>9" x 36" 4460S</b>

#### Technical characteristics

### SLiC Aerial Closure Capabilities

	SLiC 2 x 19 mm (in.)	SLiC 2 x 29 mm (in.)	SLiC 3 x 19 mm (in.)	SLiC 3 x 33 mm (in.)	SLiC 5 x 33 mm (in.)	SLiC 7 x 33 mm (in.)	SLiC 9 x 36 mm (in.)
Max. Splice Opening	356 (14)	432 (17)	356 (14)	533 (21)	533 (21)	533 (21)	635 (25)
Max. Bundle Diameter	55,9 (2.2)	66 (2.6)	91,4 (3.6)	91,4 (3.6)	142,2 (5.6)	193,0 (7.6)	244 (9.6)
Approx. Cable Range Pair Count	100-pair (26 or 24 AWG) 0,4 or 0,5	**200-pair (26 or 24 AWG) 0,4 or 0,5	200-pair	*400-pair (26 or 24 AWG) 0,4 or 0,5	*1200-pair (26 AWG) 0,4	*2400-pair (26 AWG) 0,4	*3600-pair (26 AWG) 0,4
Spiral End Seal Port Capacity							
End Seal Dia. Port #1	20-41 (0.8-1.6)	20-41 (0.8-1.6)	20-66 (0.8-2.6)	20-66 (0.8-2.6)	30-76 (1.2-3.0)	38-97 (1.5-3.8)	38-97 (1.5-3.8)
End Seal Dia. Port #2	13-25 (0.5-1.0)	13-25 (0.5-1.0)	13-25 (0.5-1.0)	13-25 (0.5-1.0)	20-36 (0.8-1.4)	30-46 (1.2-1.8)	30-46 (1.2-1.8)
End Seal Dia. Port #3	13-25 (0.5-1.0)	13-25 (0.5-1.0)	13-25 (0.5-1.0)	13-25 (0.5-1.0)	36-51 (1.4-2.0)	13-30 (0.5-1.2)	13-30 (0.5-1.2)
End Seal Dia. Port #4	NA	NA	NA	NA	13-30 (0.5-1.2)	46-61 (1.8-2.4)	46-61 (1.8-2.4)
End Seal Dia. Port #5	NA	NA	NA	NA	NA	13-30 (0.5-1.2)	13-30 (0.5-1.2)
Rubber End Seal Port Capacity							
1 Port End Seal Dia. Port #1	5-41 (0.2-1.6)	5-41 (0.2-1.6)	5-66 (0.2-2.6)	5-66 (0.2-2.6)	NA	NA	NA
2 Port End Seal Dia. Port #1	5-25 (0.2-1.0)	5-25 (0.2-1.0)	5-51 (0.2-2.0)	5-51 (0.2-2.0)	20-56 (0.8-2.2)	41-81 (1.6-3.2)	41-81 (1.6-3.2)
2 Port End Seal Dia. Port #2	5-15 (0.2-0.6)	5-15 (0.2-0.6)	5-15 (0.2-0.6)	5-15 (0.2-0.6)	5-56 (0.2-2.2)	5-81 (0.2-3.2)	5-81 (0.2-3.2)
3 Port End Seal Dia. Port #1	NA	NA	5-41 (0.2-1.6)	5-41 (0.2-1.6)	15-56 (0.6-2.2)	36-97 (1.4-3.8)	36-97 (1.4-3.8)
3 Port End Seal Dia. Port #2	NA	NA	5-25 (0.2-1.0)	5-25 (0.2-1.0)	5-36 (0.2-1.4)	15-46 (0.6-1.8)	15-46 (0.6-1.8)
3 Port End Seal Dia. Port #3	NA	NA	5-25 (0.2-1.0)	5-25 (0.2-1.0)	5-36 (0.2-1.4)	15-46 (0.6-1.8)	15-46 (0.6-1.8)

\* Based on 2-Bank Straight Splice using MS<sup>2</sup> 4000-DWP Module

\*\* Based on more than one cable

## 2.2 Splice Protection Products

### 2.2.1 Closures

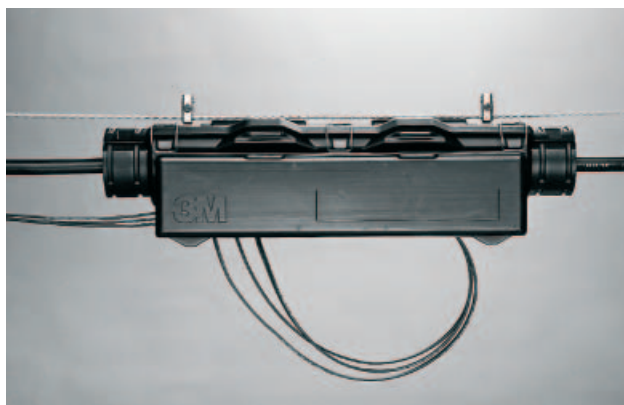
#### SLiC™

##### Description

#### SLiC Aerial Terminal and SLiC Aerial Terminal with Spiral End Seal

The 3M SLiC Aerial Terminal and the SLiC Aerial Terminal with Spiral End Seal are distribution terminals and closures contained within a lightweight, double-wall moulded-plastic housing designed for fixed-count termination of aerial drop wires. Special block configurations required by the individual customer are also available and may be completed either at the factory or by the customer.

End seals of the SLiC Terminal are designed to assure proper sizing and a snug fit around the cable sheath. This eliminates the need for drip collars to prohibit water from entering the splice chamber. The SLiC Terminal with Rubber End Seal comes packaged with single-port end seals; however, customers may use double-port or triple-port end seals as their applications require. The 7.6 cm SLiC Terminal with spiral end seal comes packaged with three port end seals. And, the 12.7 cm terminal comes packaged with four port end seals.



##### Highlights:

- Two-closure-in-one housing design  
Separates splice and drop chamber
- One piece construction  
Eases installation
- Self-healing drop wire ports  
Minimises weather and insect problems
- Sleeves extend in either or both directions  
Eliminates need for separate rehabilitation and distribution splices; accommodates long sheath openings
- Accommodates a variety of terminating blocks  
Adaptable to user requirements
- Multiple distribution counts  
Counts range in multiples of 5, from 5 to 25
- Spiral end seal  
One size fits multiple cable configurations

##### Accessories see

Shield Bonding see	pg. 207 - 210
Tapes and Sealing see	pg. 194 - 198
Scotchlok Connectors see	pg. 108 - 113
MS <sup>®</sup> Modules see	pg. 114 - 120

## 2.2 Splice Protection Products

### 2.2.1 Closures

#### SLiC™

##### Type/Order text

##### Ref.-No.

#### Empty SLiC Aerial Terminals

Block Type	Initial Pair Capacity	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>Empty Terminals with Spiral End Seals</b>				
ATS/IDC	5 - 25	11.7 (26.0)	4	<b>328-MTPI/SES</b>
ATS/IDC	5 - 25	4.1 (9.1)	1	<b>530-MTPI/SES</b>

Empty Housings Available with Rubber End Seals Upon Request 328 & 530 MT Housing will accommodate other manufacturer's blocks

\* Blocks must be purchased from manufacturer or through your distributor.

#### Filled SLiC Aerial Terminals

Block Type	Initial Pair Capacity	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>Filled Terminals with Spiral End Seals</b>				
ATS/IDC	5, 10, 15, 25	12,0 (26.4)	4	<b>328-PI-5/SES</b>
ATS/IDC	5, 10, 15, 25	12,0 (26.4)	4	<b>328-PI-10/SES</b>
ATS/IDC	5, 10, 15, 25	12,0 (26.4)	4	<b>328-PI-20/SES</b>
ATS/IDC	5, 10, 15, 25	13,8 (30.6)	4	<b>328-PI-25/SES</b>
ATS/IDC	5, 10, 15, 25	5,0 (11.0)	1	<b>530-PI-5/SES</b>
ATS/IDC	5, 10, 15, 25	5,0 (11.0)	1	<b>530-PI-10/SES</b>
ATS/IDC	5, 10, 15, 25	5,0 (11.0)	1	<b>530-PI-20/SES</b>
ATS/IDC	5, 10, 15, 25	5,1 (11.22)	1	<b>530-PI-25/SES</b>

NOTE: 3" SLiC terminals have an approximate splice bundle capacity of 78,7 mm (3.1"). Based on 24 AWG (0,5 mm) 2 bank straight splices using MS2 4000DWP modules; splice capacity is approximately 300 pair. 5" SLiC terminals have an approximate splice bundle capacity of 129,5 mm (5.1"). Based on 26 AWG (.4 mm) 2 bank straight splices using MS2 4000DWP modules; splice capacity is approximately 900 pair.



## 2.2 Splice Protection Products






### 2.2.1 Closures

#### SLiC™

##### Type/Order text

##### Ref.-No.

#### SLiC Aerial Closure and Terminal Accessories

		Pkg. & kg (lbs.)/cs.	Min. Order	
	<b>Offset Hanger Brackets</b>	1/cs., 2,4 (5.3)	1 set/bag, 10 sets/case	<b>AC-HB1</b>
	<b>Extended Hanger Brackets</b>	1/cs., 2,4 (5.3)	1 set/bag, 10 sets/case	<b>AC-HB2</b>
	<b>SLiC Rubber End Seal Kits</b>			
		10/cs., 0,6 (1.4)	10 each	<b>2" Single Port Rubber End Seal</b>
		10/cs., 0,5 (1.2)	10 each	<b>2" Double Port Rubber End Seal</b>
		10/cs., 1,0 (2.2)	10 each	<b>3" Single Port Rubber End Seal</b>
		10/cs., 1,0 (2.1)	10 each	<b>3" Double Port Rubber End Seal</b>
		10/cs., 1,0 (2.2)	10 each	<b>3" Triple Port Rubber End Seal</b>
		5/cs., 2,51 (5.5)	5 each	<b>5" Single Port Rubber End Seal</b>
		5/cs., 2,46 (5.4)	5 each	<b>5" Double Port Rubber End Seal</b>
		5/cs., 1,3 (2.8)	5 each	<b>5" Triple Port Rubber End Seal</b>
		5/cs., 2,4 (5.2)	5 each	<b>7" Double Port Rubber End Seal*</b>
		5/cs., 2,3 (5.0)	5 each	<b>7" Triple Port Rubber End Seal*</b>
	<b>SLiC Spiral End Seal Kits</b>			
		10/cs., 0,5 (1.2)	10 each	<b>2" Triple Port Spiral End Seal</b>
		10/cs., 1,2 (2.7)	10 each	<b>3" Triple Port Spiral End Seal</b>
		5/cs., 2,1 (4.7)	5 each	<b>5" Four Port Spiral End Seal</b>
		5/cs., 3,5 (7.8)	5 each	<b>7" Five Port Spiral End Seal*</b>
	<b>Sheath Retention Kits</b>			
	SR-3 adds sheath retention to 3" SLiC Terminals and Closures	10/cs.	10 kits per case 1 kit per bag	<b>SR-3</b>
	SR-5 adds sheath retention to 5" SLiC Terminals and Closures	10/cs.	10 kits per case 1 kit per bag	<b>SR-5</b>

\* Also fits in a 9" closure.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ Dome Closure

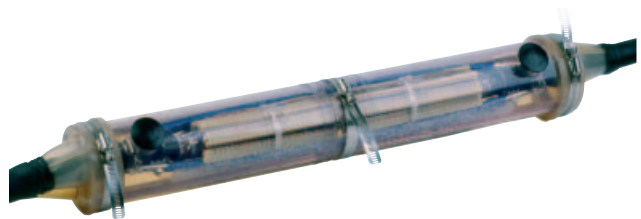
#### Description

Re-enterable 3M Dome Closures with Pull ‘N’ Shrink Tubing (PST), offer fast and rugged splice protection, with easy re-entry.

An economical method of protecting butt splices for pedestal, hand hole or pole mount applications is provided by the Re-enterable PST Dome Closures. The closure provides protection from the harmful effects of moisture, insects, and ultraviolet light, while providing no cost re-entry.

The dome closure is an easily re-enterable closure that protects the splice—without requiring special tools or heat for installation. The splice is enclosed in a split polypropylene dome which is clamped together with a steel latch and sealed with an O-ring. An expanded ethylene propylene rubber tube (PST) is slipped over the base of the enclosure and onto a gel sealing collar. Pulling a plastic rip cord on the PST allows it to shrink to the minimum outside diameter necessary to form a tight seal. The flexible tubing material conforms to the shape of the collar, sealing out both air and water.

The kit is available in four sizes, which accommodate splices from 25 to 900-pair. For encapsulated plant, three sizes are available which accommodate splices from 25- to 600-pair. **RUS Listed**



#### Highlights:

- Unique latching system to secure dome to the sealed base
- Easily re-enterable, no re-entry kit, seal undisturbed at re-entry, no tools needed to re-enter
- Gel end seal
- Air tight seal over multiple cable diameters and configurations
- Retrofits existing PST
- Multiple applications

Compounds/Encapsulants see	pg. 188 - 191
Shield Bonding see	pg. 207 - 210
Scotchlok Connectors see	pg. 108 - 113
MS® Modules see	pg. 114 - 120
Tapes and Sealing see	pg. 194 - 198

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ Dome Closure

#### Technical characteristics

#### Specifications for Re-enterable 3M PST Dome Closure Kits

	4604	4606	4608	4608XL
Closure Outside Dimension W x D mm (in.)	97 x 71 (3.8 x 2.8)	142 x 99 (5.6 x 3.9)	178 x 137 (7.0 x 5.4)	178 x 137 (7.0 x 5.4)
Closure Height (H) mm (in.)	572 (22.5)	572 (22.5)	597 (23.5)	851 (33.5)
Approx. Bundle Diameter mm (in.)	64 (2.5)	99 (3.9)	135 (5.3)	135 (5.3)
Minimum Reliable CAD Pedestal	CAD 4	CAD 6	CAD 8	CAD 12/70
Main Cables mm (in.)	13-28 (0.5-1.1)	23-41 (0.9-1.6)	36-64 (1.4-2.5)	36-64 (1.4-2.5)
Terminal Cables mm (in.)	10-15 (0.4-0.6)	10-15 (0.4-0.6)	10-20 (0.4-0.8)	10-20 (0.4-0.8)
Branch Cables mm (in.)	–	18-25 (0.7-1.0)	23-33 (0.9-1.3)	23-33 (0.9-1.3)
Drop Cables mm (in.)	9 max. (0.35 max.) 2 cable max.	9 max. (0.35 max.) 2 cable max.	9 max. (0.35 max.) 2 cable max.	9 max. (0.35 max.) 2 cable max.
*Approx. Splice Range	100 pr.-MS <sup>2</sup> 50 pr.-UR2	300 pr.-MS <sup>2</sup> 100 pr.-UR2	600 pr.-MS <sup>2</sup> 300 pr.-UR2	900 pr.-MS <sup>2</sup> 400 pr.-UR2

#### Type/Order text

#### Ref.-No.

#### Re-enterable 3M PST Dome Closure Kits

Packaging & kg (lbs.)	Minimum Order	
15/cs. 17,0 (37.5)	15 kits	<b>4604</b>
9/cs. 15,6 (34.4)	9 kits	<b>4606</b>
5/cs. 12,2 (26.8)	5 kits	<b>4608</b>
5/cs. 15,3 (33.7)	5 kits	<b>4608XL</b>

**\*NOTE:** Based on 2 bank MS<sup>2</sup> 4000-DWP Modules and Scotchlok Connectors installed per 3M practices. Examples: 100-pair means 100-pair In and 100-pair Out or 100 pair straight splice.

**Kit components included:** Closure Assembly, Dome, Base, O-Ring, Latch, Gel End Seal, Ground Wires, P.S.T. Sheath Scuff, Desiccant Bag.

**Companion products needed:** Scotch 88T 38 mm (1-1/2") Wide Vinyl Tape, 130C LR Rubber Tape, Scotchlok 4460 Series Shield Bond Connectors, Scotchlok UR2 or MS<sup>2</sup> Splice Connectors, 6228 Cable Ties, 381 mm (15").

#### Dome Closure Accessories

	Size cm (in.)	Pkg. & kg (lbs.)	Min. Order	
Pull N' Shrink Tubing	11,4 x 13,3 (4.8 x 5.25)	5/cs., 2,4 (5.5)	5 each	<b>4604-PST</b>
Pull N' Shrink Tubing	14,6 x 15,8 (5.75 x 6.25)	5/cs., 4,0 (8.92)	5 each	<b>4606-PST</b>
Pull N' Shrink Tubing	18,4 x 18,4 (7.25 x 7.25)	5/cs., 9,4 (20.78)	5 each	<b>4608-PST</b>
Gel Sealant Strip	6,3 x 50,7 (2.5 x 20)	50/cs., 9,4 (20.78)	50 each	<b>4608-PST</b>
Non-Indicating Desiccant Bags	–	100/cs., 3,6 (8.0)	100 each	<b>4600-NID</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

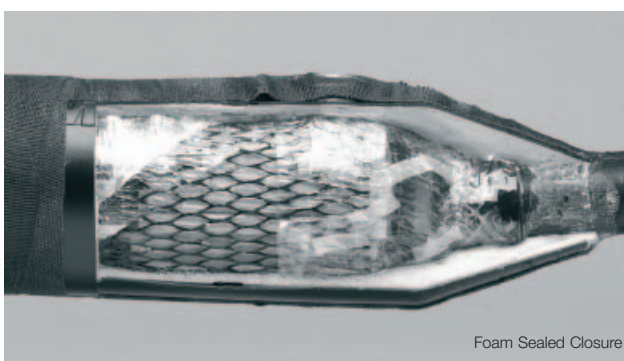
# 3M™ Encapsulated Closures

#### Description

Encapsulated Closures enclose cable plant splices in direct buried, hand hole, and man hole applications. They also protect cable splices from environmental elements found in these applications and enclose a variety of cable configurations.

The closures are also used to easily accommodate distribution drops from the main cable. The methods used in encapsulated closures have evolved from early gravity filled methods to compound compression methods.

The Better Buried and 89 Series Closures use a gravity fill method of encapsulating and protecting the cable splice. Both kits are simple to install and are offered with a full product offering to cover the complete cable ranges found in the outside plant. In addition, both kits can be ordered with 8882 High Gel re-enterable encapsulant. The 89 Series can also be purchased with 4407 Encapsulant for making a permanent, hard encapsulated closure with maximum water protection.



### 3M Buried Compound Compression

The Better Buried Compound Compression Closure method forces the encapsulant up the cable core to stop water ingress. The product is simple to install, comes with the spacer web and plastic wrap and is used to hold and force the encapsulant. The product is offered in different sizes to cover various cable ranges and can be easily extended and bricked.

#### Accessories see

Compounds/Encapsulants	pg. 188 - 191
Shield Bonding	pg. 207 - 210
Scotchlok Connectors	pg. 108 - 113
Tapes and Sealing	pg. 194 - 198

### 3M Foam Sealed Closure

Foam Sealed Closures use the Compound Compression method to apply the pressure to the encapsulant. The polyethylene closure body is over wrapped with the armorcast structural material for physical strength. 3M 4411 expandable sealant is used to fill the void between the closure body and the compound compression splice. The expandable foam adheres to the closure body, E-Z wrap and the cable sheath which in turn provides a water tight barrier around the splice and cables entering the closure.

#### Highlights:

- Few loose parts
- Easy assembly and improved productivity
- No heat required
- Eliminate safety concerns
- Adjustable closure diameter
- Minimises compound usage and total cost
- Tough outer shell
- Can be used in harsh environments
- Rigid body closure
- Easy re-entry, physical strength
- Rigid bonding assembly
- Increased physical strength, provides more support to the cable
- Solvent resistant
- Gasoline won't erode expandable foam and armorcast
- Can be cut with a zip cord
- Can be extended easily
- No need to stock different sizes
- Total kit
- No need to order individual parts, reduces total cost

## 2.2 Splice Protection Products

### 2.2.1 Closures

## 3M™ Encapsulated Closures

#### Technical characteristics

#### 3M Foam Sealed Closure with Compound Compression

Product Number	FSC-2x12	FSC-3x12 S	FSC-3x12 L	FSC-3x19	FSC-4x19	FSC-6x19	FSC-8x19	FSC-8x19 L
Splice Bundle Diameter mm (in.)	31 (1.25)	50 (2)	76 (3)	76 (3)	100 (3.9)	145 (5.7)	190 (7.48)	190 (7.48)
Max. Splice Opening mm (in.)	228 (9)	255 (10)	255 (10)	430 (17)	430 (17)	480 (19)	480 (19)	480 (19)
Closure Length End To End mm (in.)	90 (15.25)	546 (21.5)	546 (21.5)	724 (28.5)	724 (28.5)	775 (30.5)	775 (30.5)	775 (30.5)
MS <sup>2</sup> 4000 DWP Module Splice Max.	0	100/24	200/24	400/24	600/24	1200/24	2400/26	2700/26
Scotchlok Connector Splice UY2	25/22	75/24	200/24	400/24	600/24	1200/24	2400/26	2700/26
Approx. Compound Required ml (g*)	(150) 165	385 (350)	769 (700)	1648 (1500)	2473 (2250)	5769 (5250)	8242 (7500)	9890 (9000)

\*Grams of 4442/8882 High Gel Re-enterable Encapsulant based on the density of 1,1ml (0,9 g). The density of other re-enterable encapsulants will vary.

#### Type/Order text

#### Ref.-No.

#### 3M Foam Sealed Closure with Compound Compression

Packaging	Minimum Order	
1 kit	1 kit	<b>FSC-2x12</b>
1 kit	1 kit	<b>FSC-3x12S</b>
1 kit	1 kit	<b>FSC-3x12L</b>
1 kit	1 kit	<b>FSC-3x19</b>
1 kit	1 kit	<b>FSC-4x19</b>
1 kit	1 kit	<b>FSC-6x19</b>
1 kit	1 kit	<b>FSC-8x19</b>
1 kit	1 kit	<b>FSC-8x19L</b>

#### Additional products needed to complete this product:

Splicing Connectors and External Bonding Kit (if necessary).

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ Encapsulated Closures

#### Description

#### 3M Better Buried Closures

To order Better Buried Gravity Filled Closures follow 2 easy steps:

**Step 1:** Determine closure size using pair capacity and maximum opening, (i.e. = BB2 x 12)

**Step 2:** Using closure size from Step 1, determine splice and cable configuration code. (i.e. = SB/2SC-LHS) (Combine steps 1 and 2 to determine product number (i.e. = BB2 x 12 SB/2SC-LHS))

#### Product Nomenclature:

BB=Better Buried

FC=Flat Cap

DC=Double Port End Cap

SW=Spaces Web

LHS = Locking Harness System

SC = Single Port End Cap

SB = Strain Relief Bond Bar

PC = Puddle Cap

TC = Triple Port End Cap

DS = Double Closure

#### Closure Capacity for 3M BB2x12 through 3M BB4x12

Step 1	BB2x12	BB2x24	BB3x12	BB3x24	BB4x12
Splice Bundle Diameter mm (in.)	50 (2)	50 (2)	75 (3)	75 (3)	100 (4)
Max. Splice Opening mm (in.)	177 (7)	425 (17)	177 (7)	425 (17)	177 (7)
Closure Length End To End mm (in.)	400 (16)	700 (28)	400 (16)	700 (28)	400 (16)
MS2 4000 DWP Module Splice Maximum Pair Capacity	50-pr.	100-pr.	100-pr.	200-pr.	200-pr.
Scotchlok Connector UR2/UR	25-pr.	50-pr.	75-pr.	100-pr.	150-pr.
Approx. Compound Required ml (g*)	660 (600)	1,320 (1,200)	1,320 (1,200)	3,300 (3,000)	2,500 (2,250)

\*Grams of 4442/8882 High Gel Re-enterable Encapsulant based on the density of 1.1ml (0.9g). The density of other re-enterable encapsulants will vary.

#### Splice & Cable Configurations for 3M BB2x12 through 3M BB4x12

Step 2	BB2x12	BB2x24	BB3x12	BB3x24	BB4x12
In-line Splice With Single End Caps (1 in/1 out)	SB/2SC-LHS	SB/2SC-LHS	–	SB/2SC-LHS	SB/2DC-LHS
In-line Splice With 1 Single & 1 Double End Cap (1 in/2 out)	–	SB/SC, DC-LHS	–	SB/SC, DC-LHS	–
In-line Splice With 1 Single & 1 Double End Cap, (SB/SC, DC-LHS), Plus 4462 Shield Bond Connector And 4442 or 8882 High Gel (1 in/2 out)	4462/High Gel SC, DC-LHS	4462/High Gel SC, DC-LHS	–	4462/High Gel SC, DC-LHS	–
In-line Splice With 2 Double End Caps (2 in/2 out)	–	–	SB/2DC-LHS	–	–
In-line Splice With 1 Double & 1 Triple End Cap (2 in/3 out)	–	–	–	–	–
Butt Splice With End Cap	2BB BUTT-LHS	–	3BB BUTT-LHS	–	4BB BUTT-LHS

#### 3M End Caps & 3M Closure Extension Sleeves

Accessories	BB2x12	BB2x24	BB3x12	BB3x24	BB4x12
Single Entry	2" SC-LHS BB	2" SC-LHS BB	3" SC-LHS BB	3" SC-LHS BB	4" SC-LHS BB
Double Entry	2" DC-LHS BB	2" DC-LHS BB	3" DC-LHS BB	3" DC-LHS BB	4" DC-LHS BB
Triple Entry	–	–	–	–	–
1 Flat Cap, 1 Puddle Cap	–	–	–	–	4" BB FC/PC
Closure Name	2DS-12-BB	2DS-24-BB	3DS-24-BB	3DS-24-BB	4DS-24-BB



## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ Encapsulated Closures

#### Description

#### Ordering Example: 3M BB2x24 SB/SC, 3M DC-LHS

BB = A Better Buried Closure

2x24 = 2 inch Diameter, 24 inch Length

SB = Strain Relief Bond Bar

SC = One Single Port End Cap

DC = One Double Port End Cap

LHS = Locking Harness System

#### Closure Capacity 3M BB4x24 through 3M BB9x26

Step 1	BB4x24	BB5x26	BB6x26	BB7x26	BB9x26
Splice Bundle Diameter mm (in.)	(100) 4	(125) 5	(150) 6	(175) 7	(225) 9
Max. Splice Opening mm (in.)	(425) 17	(475) 19	(475) 19	(475) 19	(475) 19
Closure Length End To End mm (in.)	(750) 30	(750) 30	(750) 30	(750) 30	(750) 30
MS2 4000 DWP Module Splice Maximum Pair Capacity	400-pr.	600-pr.	900-pr.	1,200-pr.	2,400-pr.
Scotchlok Connector UR2/UR	200-pr.	300-pr.	400-pr.	600-pr.	900-pr.
Approx. Compound Required ml (g)	4,500 (5,500)	7,200 (8,300)	12,500 (13,750)	15,000 (16,500)	21,000 (23,100)

\*Grams of 4442/8882 High Gel Re-enterable Encapsulant based on the density of 1,1ml (0,9 g). The density of other re-enterable encapsulants will vary.

#### Splice & Cable Configurations 3M BB4x24 through 3M BB9x26

Step 2	BB4x24	BB5x26	BB6x26	BB7x26	BB9x26
In-line Splice With Single End Caps (1 in/1 out)	SB/2SC-LHS	SB/2SC-LHS	–	–	–
In-line Splice With 1 Single & 1 Double End Cap (1 in/2 out)	SB/SC, DC-LHS	SB/SC, DC-LHS	–	–	–
In-line Splice With 1 Single & 1 Double End Cap, (SB/SC, DC-LHS), Plus 4462 Shield Bond Connector And 4442 or 8882 High Gel (1 in/2 out)	4462/High Gel SC, DC-LHS	4462/High Gel SC, DC-LHS	–	–	–
In-line Splice With 2 Double End Caps (2 in/2 out)	–	–	SB/2DC-LHS	SB/2DC-LHS	SB/2DC-LHS
In-line Splice With 1 Double & 1 Triple End Cap (2 in/3 out)	–	–	–	SB /DC,TC-LHS	SB /DC,TC-LHS
Butt Splice With Double End Cap	SW/FC, PC-LHS	SW/FC, PC-LHS	–	SW/FC,PC-LHS	–

#### 3M End Caps & 3M Closure Extension Sleeves

Accessories	BB4x24	BB5x26	BB6x26	BB7x26	BB9x26
Single Entry	4" SC-LHS BB	5" SC-LHS BB	–	–	–
Double Entry	4" DC-LHS BB	5" DC-LHS BB	6" DC-LHS BB	7" DC-LHS BB	9" DC-LHS BB
Triple Entry	–	–	–	7" TC-LHS BB	9" TC-LHS BB
1 Flat Cap, 1 Puddle Cap	4"BB FC/PC	5"BB FC/PC	–	7"BB FC/PC	–
Closure Name	4DS-24-BB	5DS-26-BB	6DS-26-BB	7DS-26-BB	9DS-26-BB

## 2.2 Splice Protection Products

### 2.2.1 Closures

## 3M™ Encapsulated Closures

#### Type/Order text

#### Ref.-No.

#### Better Buried Closure Kits

Packaging & kg (lbs.)	Minimum Order	
10/cs., 6,3 (13.8)	10 kits	<b>BB2x12 SB/2SC-LHS</b>
1/cs., 1,4 (3.0)	1 kit	<b>BB2x24 SB/2SC-LHS</b>
1/cs., 1,8 (3.9)	1 kit	<b>BB3x24 SB/2SC-LHS</b>
1/cs., 2,3 (5.1)	1 kit	<b>BB4x24 SB/2SC-LHS</b>
1/cs., 3,2 (7.1)	1 kit	<b>BB5x26 SB/2SC-LHS</b>
1/cs., 1,4 (3.2)	1 kit	<b>BB2x12/4462/High Gel</b>
1/cs., 2,6 (5.8)	1 kit	<b>BB2x24/4462/High Gel</b>
1/cs., 5,9 (13.0)	1 kit	<b>BB3x24/4462/High Gel</b>
1/cs., 8,6 (19.0)	1 kit	<b>BB4x24/4462/High Gel</b>
1/cs., 13,1 (28.8)	1 kit	<b>BB5x26/4462/High Gel</b>
1/cs., 0,7 (1.5)	1 kit	<b>BB2x12 SW/FC, DC-LHS</b>
1/cs., 0,9 (2.0)	1 kit	<b>BB3x12 SW/FC, DC-LHS</b>
1/cs., 1,1 (2.5)	1 kit	<b>BB4x12 SW/FC, DC-LHS</b>
1/cs., x (4.6)	1 kit	<b>BB4x24 SW/FC-PC</b>
1/cs., x (7.0)	1 kit	<b>BB5x26 SW/FC-PC</b>
1/cs., x (9.0)	1 kit	<b>BB7x26 SW/FC-PC</b>
1/cs., 1,4 (3.0)	1 kit	<b>BB2x24 SB/SC, DC-LHS</b>
1/cs.	1 kit	<b>BB3x12 SB/SC, DC-LHS</b>
1/cs., 1,7 (3.7)	1 kit	<b>BB3x24 SB/SC, DC-LHS</b>
1/cs., 1,7 (3.7)	1 kit	<b>BB4x24 SB/SC, DC-LHS</b>
1/cs., 2,3 (5.0)	1 kit	<b>BB5x26 SB/SC, DC-LHS</b>
1/cs., 1,8 (3.9)	1 kit	<b>BB3x24 SB/2SC, DC-LHS</b>
1/cs., 1,7 (3.7)	1 kit	<b>BB4x24 SB/2SC, DC-LHS</b>
1/cs.	1 kit	<b>BB4x12 SB/2DC-LHS</b>
1/cs., 3,6 (8.0)	1 kit	<b>BB6x26 SB/2DC-LHS</b>
1/cs., 4,2 (9.3)	1 kit	<b>BB7x26 SB/2DC-LHS</b>
1/cs., 5,1 (11.3)	1 kit	<b>BB9x26 SB/2DC-LHS</b>
1/cs., 4,7 (10.4)	1 kit	<b>BB7x26 SB/DC, TC-LHS</b>
1/cs., 5,9 (13.0)	1 kit	<b>BB9x26 SB/DC, TC-LHS</b>

#### 3M Better Buried Closure Accessories

2/cs., 1,04 (2.3)	2 each	<b>4430 Spacer Web 3x20</b>
1/cs., 0,90 (2.0)	1 each	<b>4430 Spacer Web 6x 20</b>



## 2.2 Splice Protection Products

### 2.2.1 Closures

## 3M™ Encapsulated Closures

#### Type/Order text

#### Ref.-No.

#### Better Buried Closure Kit Spare Parts

Packaging & kg (lbs.)	Minimum Order	
10/cs., 0,9 (2.0)	10 each	2" SC-LHS BB
10/cs., 1,0 (2.3)	10 each	2" DC-LHS BB
10/cs., 7,4 (16.4)	10 each	2DS-24-BB
10/cs., 1,4 (3.0)	10 each	3" SC-LHS BB
10/cs., 1,4 (3.0)	10 each	3" DC-LHS BB
10/cs., 12 (26.5)	10 each	3DS-24-BB
10/cs., 1,8 (4.0)	10 each	4" SC-LHS BB
10/cs., 2,3 (5.0)	10 each	4" DC-LHS BB
10/cs., 2,3 (5.0)	10 kits	4" BB FC/PC
10/cs., 16,1 (35.4)	10 each	4DS-24-BB
10/cs., 2,7 (6.0)	10 each	5" SC-LHS BB
0/cs., 3,2 (7.0)	10 each	5" DC-LHS BB
10/cs., 3,2 (7.0)	10 kits	5" BB FC/PC
10/cs., 13,6 (30.0)	10 each	5DS-26-BB
1/cs., 0,5 (1.0)	1 each	6" DC-LHS BB
1/cs., 2,9 (6.5)	1 each	6DS-26-BB
1/cs., 0,5 (1.0)	1 each	7" DC-LHS BB
1/cs., 0,5 (1.0)	1 each	7" TC-LHS BB
5/cs., 2,3 (5.0)	5 kits	7" BB FC/PC
1/cs., 3,4 (7.5)	1 each]	7DS-26-BB
1/cs., 0,5 (1.0)	1 each	9" DC-LHS BB
1/cs.	1 each	9" TC-LHS BB
1/cs., 4,9 (9.0)/cs.	1 each	9DS-26-BB

#### 3M Compound Compression Kits

10/case, 8,16 (18.0)	10 kits	BB2x12CC SB/2SC-LHS
10/case, 1,49 (3.3)	1 kit	BB2x24CC SB/2SC-LHS
1/case, 1,36 (3.0)	1 kit	BB3x12CC SB/2SC-LHS
1/case, 1,81 (4.0)	1 kit	BB3x24CC SB/2SC-LHS
1/case, 2,72 (6.0)	1 kit	BB4x24CC SB/2SC-LHS
1/case, 3,62 (8.0)	1 kit	BB5x26CC SB/2SC-LHS
1/case, 4,53 (10.0)	1 kit	BB6x26CC SB/2DC-LHS
1/case, 5,21 (11.5)	1 kit	BB7x26CC SB/2DC-LHS
1/case, 5,57 (12.3)	1 kit	BB9x26CC SB/2DC-LHS
1/case, 0,90 (2.0)	1 kit	BB/CC-R

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ Encapsulated Closures

#### Type/Order text

#### Ref.-No.

#### Maximum Splice Bundle Capacities (In-Line Splice) for 3M Better Buried Compound Compression Kits

4000-DWP or	UR Connectors 25-pair modular connector	(w/3" Pigtails)	
50 pr., 24 AWG (0,5 mm)	25 pr., 22 AWG (0,6 mm)		<b>BB2x12CC SB/2SC-LHS</b>
100 pr., 22 AWG (0,6 mm)	75 pr., 22 AWG (0,6 mm)		<b>BB3x12CC SB/2SC-LHS</b>
100 pr., 24 AWG (0,5 mm)	50 pr., 22 AWG (0,6 mm)		<b>BB2x24CC SB/2SC-LHS</b>
200 pr., 24 AWG (0,5 mm)	100 pr., 22 AWG (0,6 mm)		<b>BB3x24CC SB/2SC-LHS</b>
400 pr., 24 AWG (0,5 mm)	200 pr., 22 AWG (0,6 mm)		<b>BB4x24CC SB/2SC-LHS</b>
600 pr., 24 AWG (0,5 mm)	300 pr., 22 AWG (0,6 mm)		<b>BB5x26CC SB/2SC-LHS</b>
900 pr., 24 AWG (0,5 mm)	400 pr., 22 AWG (0,6 mm)		<b>BB6x26CC SB/2DC-LHS</b>
1200 pr., 24 AWG (0,5 mm)	600 pr., 22 AWG (0,6 mm)		<b>BB7x26CC SB/2DC-LHS</b>
2400 pr., 24 AWG (0,5 mm)	900 pr., 22 AWG (0,6 mm)		<b>BB9x26CC SB/2DC-LHS</b>
-	-		<b>BB/CC-R Re-entry Kit</b>

#### Technical characteristics

#### Closure Dimension Guide for 3M Better Buried Compound Compression Kits

Product	Closure End Cap Port Diameters		Max. Splice Openings			Approx. Amount of Compound Required (Ave. Splice)
	Single Entry (Max.)	Multiple Entry 1 2	Single Sheath	Double Sheath Outer Inner		
<b>BB2x12CC SB/2SC-LHS</b>	30 mm (1.2")		127 mm (5")			659 ml (600 grams)
<b>BB3x12CC SB/2SC-LHS</b>	41 mm (1.6")		127 mm (5")			1320 ml (1200 grams)
<b>BB2x24CC SB/2SC-LHS</b>	30 mm (1.2")		423 mm (17")	423 mm (17")	356 mm (14")	1320 ml (1200 grams)
<b>BB3x24CC SB/2SC-LHS</b>	41 mm (1.6")		423 mm (17")	423 mm (17")	356 mm (14")	3300 ml (3000 grams)
<b>BB4x24CC SB/2SC-LHS</b>	51 mm (2.0")		423 mm (17")	423 mm (17")	356 mm (14")	4945 ml (4500 grams)
<b>BB5x26CC SB/2SC-LHS</b>	61 mm (2.4")		483 mm (19")	483 mm (19")	406 mm (16")	7912 ml (7200 grams)
<b>BB6x26CC SB/2DC-LHS</b>		68 mm (2.7") 51 mm (2.0")	483 mm (19")	483 mm (19")	406 mm (16")	13736 ml (12500 grams)
<b>BB7x26CC SB/2DC-LHS</b>		78 mm (3.1") 60 mm (2.4")	483 mm (19")	483 mm (19")	406 mm (16")	16483 ml (15000 grams)
<b>BB9x26CC SB/2DC-LHS</b>		97 mm (3.8") 78 mm (3.1")	483 mm (19")	483 mm (19")	406 mm (16")	23077 ml (21000 grams)

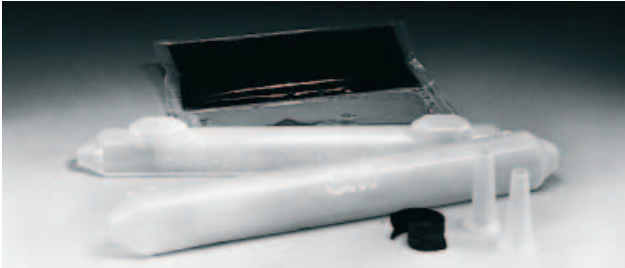
## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ Encapsulated Closures

#### Description

#### Scotchcast 89Series Closures



These rigid body closures use a gravity fill method of encapsulating and protecting cables. They are packed with 4442 or 8882 Re-enterrable encapsulant for easy re-entry and include:

- Scotchlok 4462-Shield Bond Connectors
- Scotch 130C Tape
- Scotch 88T Tape
- Scotchcast 4435 Sheath Scuff

**RUS Listed**

#### Technical characteristics

#### Information for 3M Scotchcast 89 Series Closures/Re-enterrable Encapsulant

Product	8981 High Gel	8982 High Gel	8983 High Gel	8984 High Gel	8985 High Gel	8986 High Gel
Splice Bundle Diameter mm (in.)	13 (0.5)	23 (0.9)	32 (1.25)	57 (2.25)	88 (3.5)	119 (4.75)
Max. Splice Opening mm (in.)	38 (1.5)	132 (5.25)	244 (9.75)	225 (9.0)	425 (17)	425 (17)
Closure Length End To End mm (in.)	182 (7.2)	273 (10.75)	396 (15.6)	400 (15.75)	622 (24.5)	635 (24.5)
Scotchlok Connector UR2/UR	4-pr.	18-pr.	50-pr.	100-pr.	400-pr.	600-pr.
MS <sup>2</sup> 4000 DWP Module Splice Maximum Pair Capacity	–	–	–	100-pr.	400-pr.	600-pr.
Approx. Compound Included	90 ml (82 grams)	300ml (266 grams)	660 ml (600 grams)	1,320 ml (1,200 grams)	2,640 ml (3,000 grams)	6,600 ml (6,000 grams)

#### Type/Order text

#### Ref.-No.

Packaging & kg (lbs.)	Minimum Order	Ref.-No.
1/box 10/cs.	10 kits /2.9 (6.4)	<b>8981/High Gel</b>
1/cs. 5,7 (12.5)	10 kits	<b>8982/High Gel</b>
1/cs. 10,3 (22.6)	10 kits	<b>8983/High Gel</b>
1/cs. 2,1 (4.6)	1 kit	<b>8984/High Gel</b>
1/cs. 4,7 (10.3)	1 kit	<b>8985/High Gel</b>
1/cs. 9,1 (20.0)	1 kit	<b>8986/High Gel</b>

Additional products needed to complete this closure: 4458 Pair Saver, Scotchlok and MS<sup>2</sup> Connectors.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ Encapsulated Closures

#### Description

#### 3M Scotchcast PIC Encapsulating Closure Kits (Non-Re-enterable)

These rigid body closures are made of translucent polypropylene and are packed with 4407 Urethane Compound and rubber tape strips for sealing ends of closure.



#### Technical characteristics

#### Information for 3M Scotchcast 89 Series Closures/Hard Encapsulant (non-re-enterable)

Product	8981-07	8982-07	8983-07	8984-07	8985-07	8986-07
Splice Bundle Diameter mm (in.)	13 (0.5)	23 (0.9)	32 (1.25)	57 (2.25)	88 (3.5)	119 (4.75)
Max. Splice Opening mm (in.)	38 (1.5)	132 (5.25)	244 (9.75)	225 (9.0)	425 (17)	425 (17)
Closure Length End To End mm (in.)	182 (7.2)	273 (10.75)	396 (15.6)	400 (15.75)	622 (24.5)	635 (24.5)
Scotchlok Connector UR2/UR	4-pr.	18-pr.	50-pr.	100-pr.	400-pr.	600-pr.
MS <sup>2</sup> 4000 DWP Module Splice Maximum Pair Capacity	–	–	–	100-pr.	400-pr.	600-pr.
Approx. Compound Included	90 ml (94 grams)	300ml (300 grams)	660 ml (675 grams)	1,320 ml (1,350 grams)	2,640 ml (3,375 grams)	6,600 ml (6,750 grams)

#### Type/Order text

#### Ref.-No.

Packaging & kg (lbs.)	Minimum Order	Ref.-No.
1/box 10/cs. 3,1 (6.8)	10 kits	<b>8981-07</b>
1/box 10/cs. 6,2 (13.6)	10 kits	<b>8982-07</b>
1/box 10/cs. 11,2 (24.7)	10 kits	<b>8983-07</b>
1/cs. 2,1 (4.6)	1 kit	<b>8984-07</b>
1/cs. 4,9 (10.7)	1 kit	<b>8985-07</b>
1/cs.	1 kit	<b>8986-07</b>

Additional products needed to complete this closure: 4458 Pair Saver, Scotchlok and MS<sup>2</sup> Connectors.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ Encapsulated Closures

#### Description

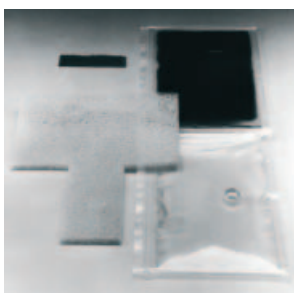
#### 3M SLiC 5-Pair Buried Service Wire Kit



Protecting a buried service wire splice is now easier than ever with the SLiC Buried Service Wire Kit. The BSW kit is a three-part, rigid body closure that self-encapsulates two and five-pair buried service wire. It has a built-in bonding system that bonds the buried service wire shield as the splice is put together and contains a revolutionary new sealant.

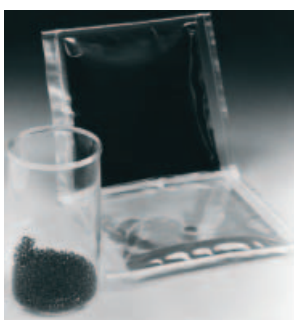
The special formulated sealant is a one-part, no-mix, non-urethane product containing no grease. The sealant serves as an electrical insulator and reacts upon moisture contact to prevent water ingress. At the point of water incursion, the sealant hardens and forms a water-resistant barrier.

#### 3M Scotchcast 3817 Buried Service Wire Splicing/Cable Capping Kit



For buried service wire splicing and end capping. Kit contains T foam spacer pad, 17 compound in "J" size bag, 75 g (2.65 oz.) Unipak container. Packaged in poly bag with instructions.

#### 3M Scotchcast 3821 Cable Capping Kit



Designed specifically for cable capping, this kit includes a clear plastic cup. The 3821 kit accepts a 300-pair 0.6 mm (22 AWG) or 400-pair 0.5 mm (24 AWG).

Also included in the kit is fast curing 17 compound in the Unipak Container. Instructions are provided. 38 mm (1-1/2") O.D.

#### 3M Scotchcast 3832 Buried Service Wire Splice Kit



The Scotchcast 3832 Buried Service Wire Splice Kit will accommodate inline and butt splices of up to five-pair filled or unfilled service wire. One "A" size bag of 4403 encapsulant and a split bolt are provided with the kit. Once the compound has been poured, an outer tube is rotated over the barrel opening to seal the unit, requiring no waiting for the compound to cure before the kit is buried.

## 2.2 Splice Protection Products

### 2.2.1 Closures

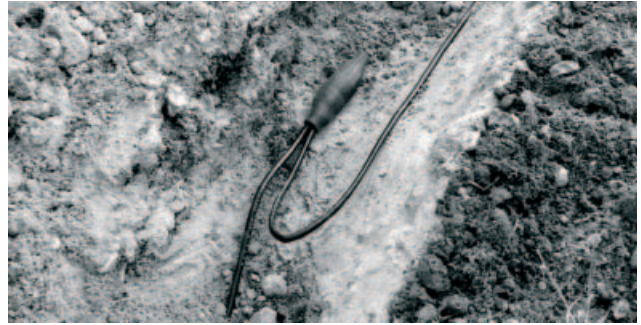
# 3M™ Encapsulated Closures

#### Description

### 3M 3838 PST/Gel Buried Service Wire Splice Kit

The 3M 3838 PST/Gel Buried Service Splice Kit is a flexible and "non-compound" splicing system that provides fast, reliable and easy protection. This kit will accommodate inline, butt and extended splices of up to six pair buried service wire. The new kit utilizes non-toxic PST and Gel technology and provides an excellent water-proof environment.

It meets tough qualification tests such as impact and pull-out resistance, water immersion and freeze / thaw cycle test in wet sand. The shield bond connector is specially designed to provide good electrical continuity and strain relief at the same time. The 3838 PST/Gel buried service wire kit is simple to use and requires minimal training.



#### Highlights:

- PST/Gel technology  
Proven reliability; waterproof performance saves maintenance costs, keeps lines up and running
- Passes freeze/thaw cycle test in wet sand  
No return dig-ups; saves repair costs
- Used for butt and in-line splicing  
Addresses multiple splicing configurations; reduces inventory hassles and costs
- No encapsulant mixing  
Reduces installation time and reduces waste
- Universal sizing, "push type" strain relief and shield connector
- Fits all needs; inventory savings. No special tools required; no tooling costs
- Fewer piece parts  
Fast assembly; reduced labour
- No compound  
No curing time; can be buried immediately
- Easy installation  
Craft friendly with minimal training
- Applicable in extreme temperatures  
No scheduling or weather constraints

## 2.2 Splice Protection Products

### 2.2.1 Closures

## 3M™ Encapsulated Closures

#### Type/Order text

#### Ref.-No.

### 3M Buried Service Wire and End Capping Kits

	Packaging & kg (lbs.)/cs.	Min. Order	
Buried Service Wire Kit 2,3 (5.0)	1 kit/bag, 12 kits/cs.	12 kits	<b>SLiC 5-pair</b>
Buried Service Wire Splicing/ Cable Capping Kit 38,100 mm (1 1/2"), O.D.	1 kit/bag, 12 cs. 1,45 (3.2)	12 kits	<b>3817</b>
Buried Service Wire Splice Kit with Split Bolt	1/bag, 12/cs. 1,9 (4.2)	12 kits	<b>3832</b>
Cable Capping Kit 22,225 mm + 38,100 mm (7/8" + 1 1/2") O.D.	1/bag, 12/cs. 1,7 (3.8)	12 kits	<b>3821</b>
PST/Gel Buried Service Wire Splice Kit	1 kit/1 box (.625 lbs)	1 kit	<b>3838</b>
includes the following:	Gel Blanket (1) 4360 Pull 'N' Shrink Tubing (1) 4463 Shield Bond Assembly (1) 23 Tape Strip (1)		

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

#### Description

A complete pressure tight re-enterable closure system for enclosing spliced connections of communications cables in a wide variety of applications

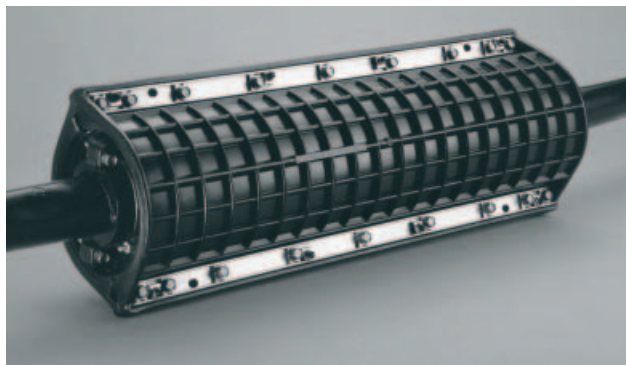
The 2-type Closure Series is available in a wide variety of closure lengths and diameters. Lengths range from 470mm (18-1/2") to over 2096mm (82-1/2") and closure diameters range from 77mm (3") to 305mm (12").

The 2-type kit comes complete with all the components needed to install the cover and end plates. The only tool required for installation is a washer cutter tool.

MS<sup>®</sup> Modules see pg. 114 - 120

Tapes and Sealing see pg. 194 - 198

Splicing Rigs & Equipment see pg. 121 - 124



#### Each complete 2-Type Cover Kit Selection Contains:

- Cover assembly with channel bars and bolts
- Transparent splice wrap with cable ties
- Cover sealing R-Type re-enterable sealing tape
- Endplate sealing R-Type re-enterable sealing tape
- Solvent cleaning wipe and plastic gloves
- Back cover support clips with cable ties
- Pressurisation valve
- Internal shield continuity braid with insulation
- External grounding ribbon
- Vented and solid continuity and ground connectors with hex nuts
- Assembly Instructions

#### Each complete 2-Type Endplate Kit Selection Contains:

- Endplate assembly with sheath grip clamps
- Cable collar build-up R-Type re-enterable sealing tape material
- Endplate mid-section sealing R-Type re-enterable sealing tape
- Solvent cleaning wipe and plastic gloves
- Cable diameter measuring tape
- Shield connector
- Cable sheath scuff
- Hose clamps for securing sheath grip clamps to cable
- Additional sheath grip clamps
- Universal slotted washers for sealing cable entrances
- Assembly Instructions

#### Type/Order text

#### Ref.-No.

### Customised complete 3M 2-Type Closure Solutions

Description	Max. Number Cable Pairs	Sheath Opening mm	Cable Opening (Encapsulated)	Max. Ø Cable Opening (mm)	Splice Banks (25 Pair MS)	Min. Order (each)	
2A2AA-4-DTAG	500/0.4	254	2 in & 2 out	41 & 25	1	1	<b>DKSM 1</b>
2B2A-4-DTAG	800/0.4	483	2 in & 2 out	56 & 56	2	1	<b>DKSM 2</b>
2C2A-4-DTAG	1500/0.4	483	2 in & 2 out	71 & 71	2	1	<b>DKSM 3</b>
2D2A-4-DTAG	2000/0.4	500	2 in & 2 out	86 & 86	2	1	<b>DKSM 4</b>
2C2B-4-DTAG*	2000/0.4	700	2 in & 2 out	71 & 71	3	1	<b>DKSM 3L</b>
2D2B-4-DTAG*	2000/0.4	700	2 in & 2 out	86 & 86	3	1	<b>DKSM 5</b>
2D2C-4-DTAG*	2000/0.4	900	2 in & 2 out	86 & 86	4	1	<b>DKSM 6</b>
2B2A-4-USSM**	200/0.4-0.8	483	2 in & 2 out	56 & 56 mm	200 SID pairs	1	<b>USSM</b>

\* Large closures for exchange transfer and cut over.

\*\* Closure with Lightning protection. Includes SID-C terminal block with gas arrestores. Protects people and equipment in telecommunication towers (UMTS, GSM) and wind power stations against. Bonding and grounding terminal included.



## 2.2 Splice Protection Products

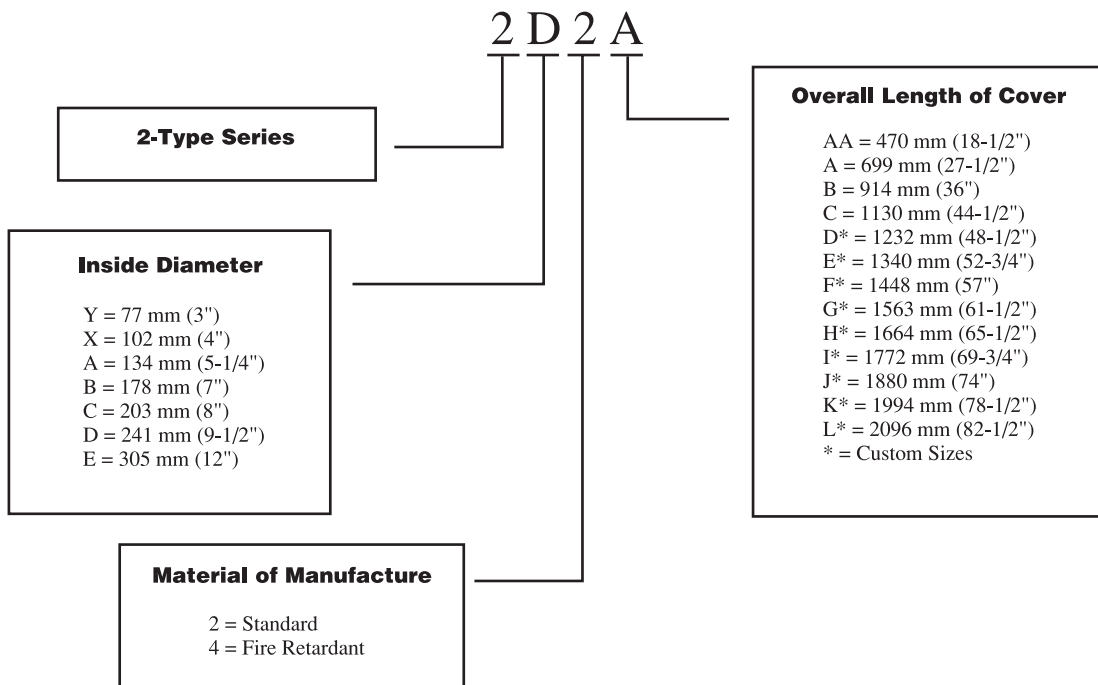
### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

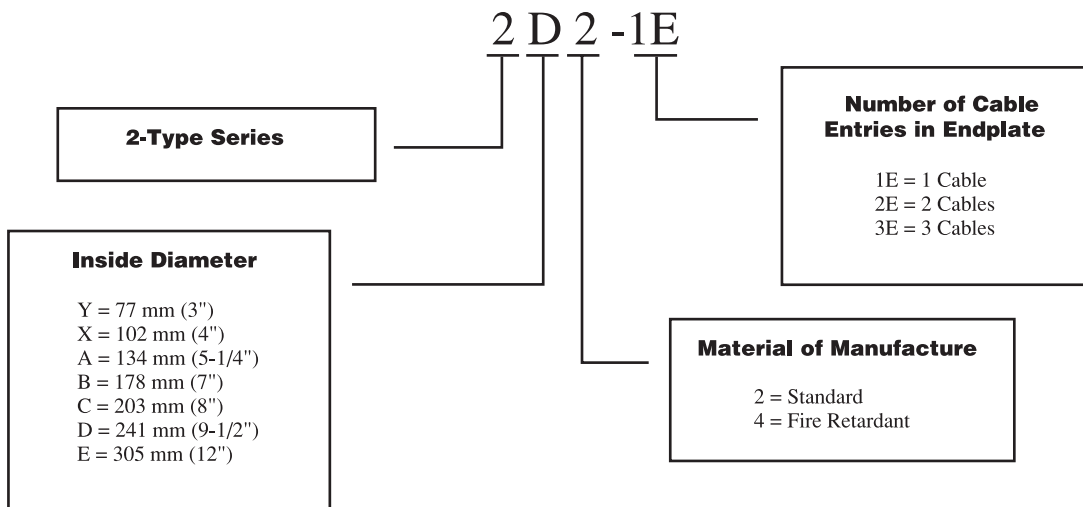
#### Description

### 3M 2-Type Closure System Ordering Code ▶

#### Covers



#### Endplates



## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2A2 Standard Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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#### Cover Halves Assembly Selection

134 (5.25)	470 (18.5)	254 (10.0)	400	1	5,0 (11)	1	<b>2A2AA-510</b>
134 (5.25)	699 (27.5)	483 (19.0)	600	2	6,8 (15)	1	<b>2A2A-510</b>
134 (5.25)	914 (36.0)	699 (27.5)	Custom	3	8,6 (19)	1	<b>2A2B-510</b>
134 (5.25)	1130 (44.5)	914 (36.0)	Custom	4	10 (22)	1	<b>2A2C-510</b>
134 (5.25)	1448 (57.0)	1232 (48.5)	Custom	–	14 (31)	1	<b>2A2F-510</b>
134 (5.25)	1664 (65.5)	1448 (57.0)	Custom	–	16 (35)	1	<b>2A2H-510</b>
134 (5.25)	1994 (78.5)	1778 (70.0)	Custom	–	18 (39)	1	<b>2A2K-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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#### Endplate Selection

134 (5.25)	1	56 (2.2)	1,4 (3)	1	<b>2A2-1E-510</b>
134 (5.25)	2	41 (1.6) 33 (1.3)	1,4 (3)	1	<b>2A2-2E-510</b>

#### Grommet Selection

134 (5.25)	6	28 (1.1) up to 33 (1.3)	1,4 (3)	1	<b>2A4-6E-130</b>
134 (5.25)	6	28 (1.1) up to 33 (1.3)	0,9 (2)	1	<b>2A4-6S-130</b>
134 (5.25)	9	22 (0.88) up to 28 (1.1)	1,4 (3)	1	<b>2A4-9E</b>
134 (5.25)	9	22 (0.88) up to 28 (1.1)	1,4 (3)	1	<b>2A4-9S</b>
Custom	Custom	Custom	Custom	1	<b>2A2-CG</b>

#### A complete 2-type closure system requires:

- 1 cover assembly kit and 2 endplate kits OR
- 1 cover assembly kit,
- 1 endplate kit and 1 grommet kit.

#### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Custom grommet hole configurations are available on a special order basis.
3. Bonding hardware included with solid grommets only.
4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2B2 Standard Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)	
<b>Cover Halves Assembly Selection</b>							
178 (7.0)	470 (18.5)	254 (10.0)	600	1	6 (13)	1	<b>2B2AA-510</b>
178 (7.0)	699 (27.5)	483 (19.0)	1200	2	8 (17)	1	<b>2B2A-510</b>
178 (7.0)	914 (36.0)	699 (27.5)	2100	3	10 (22)	1	<b>2B2B-510</b>
178 (7.0)	1130 (44.0)	914 (36.0)	2700	4	12 (27)	1	<b>2B2C-510</b>
178 (7.0)	1232 (48.5)	1016 (40.0)	Custom	–	14 (31)	1	<b>2B2D-510</b>
178 (7.0)	1340 (52.8)	1124 (44.3)	Custom	–	15 (33)	1	<b>2B2E-510</b>
178 (7.0)	1448 (57)	1232 (48.5)	Custom	–	16 (36)	1	<b>2B2F-510</b>
178 (7.0)	1772 (69.75)	1556 (61.25)	Custom	–	20 (44)	1	<b>2B2I-510</b>
178 (7.0)	1880 (74.0)	1664 (65.5)	Custom	–	21 (46)	1	<b>2B2J-510</b>
178 (7.0)	1994 (78.5)	1778 (70.0)	Custom	–	22 (49)	1	<b>2B2K-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)	
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#### Endplate Selection

178 (7.0)	1	86 (3.4)	1,8 (4)	1	<b>2B2-1E-510</b>
178 (7.0)	2	56 (2.2) 56 (2.2)	2,3 (5)	1	<b>2B2-2E-510</b>
178 (7.0)	3	56 (2.2) 25 (1.0) 25 (1.0)	2,3 (5)	1	<b>2B2-3E-510</b>

#### Grommet Selection

178 (7.0)	9	28 (1.1) up to 33 (1.3)	2,3 (5)	1	<b>2B4-9E-130</b>
178 (7.0)	9	28 (1.1) up to 33 (1.3)	1,8 (4)	1	<b>2B4-9S-130</b>
178 (7.0)	12	22 (0.88) up to 28 (1.1)	2,3 (5)	1	<b>2B4-12E</b>
178 (7.0)	12	22 (0.88) up to 28 (1.1)	2,3 (5)	1	<b>2B4-12S</b>
Custom	Custom	Custom	Custom	Custom	<b>2B2-CG</b>

#### A complete 2-type closure system requires:

- 1 cover assembly kit and 2 endplate kits OR
- 1 cover assembly kit,
- 1 endplate kit and 1 grommet kit.

#### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Custom grommet hole configurations are available on a special order basis.
3. Bonding hardware included with solid grommets only.
4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2C2 Standard Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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#### Cover Halves Assembly Selection

203 (8.0)	699 (27.5)	483 (19.0)	1800	2	8,6 (19)	1	<b>2C2A-510</b>
203 (8.0)	914 (36.0)	699 (27.5)	3600	3	11 (25)	1	<b>2C2B-510</b>
203 (8.0)	1130 (44.5)	914 (36.0)	4200	4	14 (30)	1	<b>2C2C-510</b>
203 (8.0)	1232 (48.5)	1016 (40.0)	Custom	–	17 (37)	1	<b>2C2D-510</b>
203 (8.0)	1340 (52.75)	1124 (44.25)	Custom	–	18 (39)	1	<b>2C2E-510</b>
203 (8.0)	1448 (57.0)	1232 (48.5)	Custom	–	19 (41)	1	<b>2C2F-510</b>
203 (8.0)	1563 (61.5)	1346 (53.0)	Custom	–	21 (46)	1	<b>2C2G-510</b>
203 (8.0)	1664 (65.5)	1448 (57.0)	Custom	–	21 (47)	1	<b>2C2H-510</b>
203 (8.0)	1772 (69.75)	1556 (61.25)	Custom	–	23 (50)	1	<b>2C2I-510</b>
203 (8.0)	1880 (74.0)	1664 (65.5)	Custom	–	24 (52)	1	<b>2C2J-510</b>
203 (8.0)	1994 (78.5)	1778 (70.0)	Custom	–	25 (55)	1	<b>2C2K-510</b>
203 (8.0)	2096 (82.5)	1880 (74.0)	Custom	–	26 (57)	1	<b>2C2L-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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#### Endplate Selection

203 (8.0)	1	86 (3.4)	1,8 (4)	1	<b>2C2-1E-510</b>
203 (8.0)	2	71 (2.8) 71 (2.8)	2,7 (6)	1	<b>2C2-2E-510</b>
203 (8.0)	3	71 (2.8) 41 (1.6) 41 (1.6)	2,7 (6)	1	<b>2C2-3E-510</b>

#### Grommet Selection

203 (8.0)	12	28 (1.1) up to 33 (1.3)	2,7 (6)	1	<b>2C4-12E-130</b>
203 (8.0)	12	28 (1.1) up to 33 (1.3)	2,7 (6)	1	<b>2C4-12S-130</b>
203 (8.0)	18	22 (0.88) up to 28 (1.1)	2,7 (6)	1	<b>2C4-18E</b>
203 (8.0)	18	22 (0.88) up to 28 (1.1)	2,7 (6)	1	<b>2C4-18S</b>
Custom	Custom	Custom	Custom	Custom	<b>2C2-CG</b>

#### A complete 2-type closure system requires:

- 1 cover assembly kit and 2 endplate kits OR
- 1 cover assembly kit,
- 1 endplate kit and 1 grommet kit.

#### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Custom grommet hole configurations are available on a special order basis.
3. Bonding hardware included with solid grommets only.
4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2D2 Standard Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)	
<b>Cover Halves Assembly Selection</b>							
241 (9.5)	470 (18.5)	254 (10.0)	Custom	1	8,2 (18)	1	<b>2D2AA-510</b>
241 (9.5)	699 (27.5)	483 (19.0)	3300	2	10 (22)	1	<b>2D2A-510</b>
241 (9.5)	914 (36.0)	699 (27.5)	4200	3	13 (29)	1	<b>2D2B-510</b>
241 (9.5)	1130 (44.5)	914 (36.0)	4800	4	16 (35)	1	<b>2D2C-510</b>
241 (9.5)	1232 (48.5)	1016 (40.0)	Custom	–	18 (40)	1	<b>2D2D-510</b>
241 (9.5)	1340 (52.75)	1124 (44.25)	Custom	–	20 (43)	1	<b>2D2E-510</b>
241 (9.5)	1448 (57.0)	1232 (48.5)	Custom	–	21 (46)	1	<b>2D2F-510</b>
241 (9.5)	1563 (61.5)	1346 (53.0)	Custom	–	23 (50)	1	<b>2D2G-510</b>
241 (9.5)	1664 (65.5)	1448 (57.0)	Custom	–	24 (53)	1	<b>2D2H-510</b>
241 (9.5)	1772 (69.75)	1556 (61.25)	Custom	–	25 (56)	1	<b>2D2I-510</b>
241 (9.5)	1880 (74.0)	1664 (65.5)	Custom	–	27 (59)	1	<b>2D2J-510</b>
241 (9.5)	1994 (78.5)	1778 (70.0)	Custom	–	28 (62)	1	<b>2D2K-510</b>
241 (9.5)	2096 (82.5)	1880 (74.0)	Custom	–	29 (64)	1	<b>2D2L-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)	
<b>Endplate Selection</b>					
241 (9.5)	1	86 (3.4)	2,3 (5)	1	<b>2D2-1E-510</b>
241 (9.5)	2	86 (3.4) 86 (3.4)	3,2 (7)	1	<b>2D2-2E-510</b>
241 (9.5)	3	86 (3.4) 56 (2.2) 56 (2.2)	3,2 (7)	1	<b>2D2-3E-510</b>
<b>Grommet Selection</b>					
241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18E</b>
241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18S</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,6 (8)	1	<b>2D4-18E-130</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,2 (7)	1	<b>2D4-18S-130</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-27E</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,2 (7)	1	<b>2D4-27S</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-36E</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,2 (7)	1	<b>2D4-36S</b>
241 (9.5)	42	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-42E</b>
Custom	Custom	Custom	Custom	Custom	<b>2D2-CG</b>

#### A complete 2-type closure system requires:

- 1 cover assembly kit and 2 endplate kits OR
- 1 cover assembly kit,
- 1 endplate kit and 1 grommet kit.

#### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Custom grommet hole configurations are available on a special order basis.
3. Bonding hardware included with solid grommets only.
4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2E2-DD Standard Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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#### Cover Halves Assembly Selection

305 (12.0)	699 (27.5)	483 (19.0)	3300	2	12 (26)	1	<b>2E2A-DD-510</b>
305 (12.0)	914 (36.0)	699 (27.5)	4200	3	16 (34)	1	<b>2E2B-DD-510</b>
305 (12.0)	1130 (44.5)	914 (36.0)	Custom	4	20 (43)	1	<b>2E2C-DD-510</b>
305 (12.0)	1232 (48.5)	1016 (40.0)	Custom	–	21 (47)	1	<b>2E2D-DD-510</b>
305 (12.0)	1340 (52.75)	1124 (44.25)	Custom	–	23 (50)	1	<b>2E2E-DD-510</b>
305 (12.0)	1448 (57.0)	1232 (48.5)	Custom	–	25 (54)	1	<b>2E2F-DD-510</b>
305 (12.0)	1563 (61.5)	1346 (53.0)	Custom	–	27 (59)	1	<b>2E2G-DD-510</b>
305 (12.0)	1664 (65.5)	1448 (57.0)	Custom	–	28 (62)	1	<b>2E2H-DD-510</b>
305 (12.0)	1772 (69.75)	1556 (61.25)	Custom	–	30 (65)	1	<b>2E2I-DD-510</b>
305 (12.0)	1880 (74.0)	1664 (65.5)	Custom	–	31 (69)	1	<b>2E2J-DD-510</b>
305 (12.0)	1994 (78.5)	1778 (70.0)	Custom	–	32 (71)	1	<b>2E2K-DD-510</b>
305 (12.0)	2096 (82.5)	1880 (74.0)	Custom	–	34 (74)	1	<b>2E2L-DD-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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#### Endplate Selection

241 (9.5)	1	86 (3.4)	2,3 (5)	1	<b>2D2-1E-510</b>
241 (9.5)	2	86 (3.4) 86 (3.4)	3,2 (7)	1	<b>2D2-2E-510</b>
241 (9.5)	3	86 (3.4) 56 (2.2) 56 (2.2)	3,2 (7)	1	<b>2D2-3E-510</b>

#### Grommet Selection

241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18E</b>
241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18S</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,6 (8)	1	<b>2D4-18E-130</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,2 (7)	1	<b>2D4-18S-130</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-27E</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,2 (7)	1	<b>2D4-27S</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-36E</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,2 (7)	1	<b>2D4-36S</b>
241 (9.5)	42	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-42E</b>
Custom	Custom	Custom	Custom	Custom	<b>2D2-CG</b>

#### A complete 2-type closure system requires:

- 1 cover assembly kit and 2 endplate kits OR
- 1 cover assembly kit,
- 1 endplate kit and 1 grommet kit.

#### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Custom grommet hole configurations are available on a special order basis.
3. Bonding hardware included with solid grommets only.
4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

#### Type/Order text

#### Ref.-No.

### 3M 2E2-EE 12" Endplate Standard Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)	
<b>Cover Halves Assembly Selection</b>							
305 (12.0)	699 (27.5)	483 (19.0)	3300	2	12 (26)	1	<b>2E2A-EE-510</b>
305 (12.0)	914 (36.0)	699 (27.5)	4200	3	16 (34)	1	<b>2E2B-EE-510</b>
305 (12.0)	1130 (44.5)	914 (36.0)	Custom	4	20 (43)	1	<b>2E2C-EE-510</b>
305 (12.0)	1232 (48.5)	1016 (40.0)	Custom	–	21 (47)	1	<b>2E2D-EE-510</b>
305 (12.0)	1340 (52.75)	1124 (44.25)	Custom	–	23 (50)	1	<b>2E2E-EE-510</b>
305 (12.0)	1448 (57.0)	1232 (48.5)	Custom	–	25 (54)	1	<b>2E2F-EE-510</b>
305 (12.0)	1563 (61.5)	1346 (53.0)	Custom	–	27 (59)	1	<b>2E2G-EE-510</b>
305 (12.0)	1664 (65.5)	1448 (57.0)	Custom	–	28 (62)	1	<b>2E2H-EE-510</b>
305 (12.0)	1772 (69.75)	1556 (61.25)	Custom	–	30 (65)	1	<b>2E2I-EE-510</b>
305 (12.0)	1880 (74.0)	1664 (65.5)	Custom	–	31 (69)	1	<b>2E2J-EE-510</b>
305 (12.0)	1994 (78.5)	1778 (70.0)	Custom	–	32 (71)	1	<b>2E2K-EE-510</b>
305 (12.0)	2096 (82.5)	1880 (74.0)	Custom	–	34 (74)	1	<b>2E2L-EE-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)	
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#### Endplate Selection

305 (12.0)	2	112 (4.4)	112 (4.4)	4,1 (9)	1	<b>2E2-2E-510</b>
305 (12.0)	3	102 (4.0)	86 (3.4) 86 (3.4)	4,1 (9)	1	<b>2E2-3E-510</b>

#### Grommet Selection

305 (12.0)	27	22 (0.88) up to 28 (1.1)	5,9 (13)	1	<b>2E4-27E</b>
305 (12.0)	27	22 (0.88) up to 28 (1.1)	5,9 (13)	1	<b>2E4-27S</b>
305 (12.0)	27	28 (1.1) up to 33 (1.3)	5,5 (12)	1	<b>2E4-27E-130</b>
305 (12.0)	27	28 (1.1) up to 33 (1.3)	5,0 (11)	1	<b>2E4-27S-130</b>
305 (12.0)	36	22 (0.88) up to 28 (1.1)	5,9 (13)	1	<b>2E4-36E</b>
305 (12.0)	36	22 (0.88) up to 28 (1.1)	5,5 (12)	1	<b>2E4-36S</b>
305 (12.0)	42	22 (0.88) up to 28 (1.1)	5,9 (13)	1	<b>2E4-42E</b>
305 (12.0)	Custom	To be specified	–	–	<b>2E2-CG</b>

#### A complete 2-type closure system requires:

- 1 cover assembly kit and 2 endplate kits OR
- 1 cover assembly kit,
- 1 endplate kit and 1 grommet kit.

#### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Custom grommet hole configurations are available on a special order basis.
3. Bonding hardware included with solid grommets only.
4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2E2-DE Standard Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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#### Cover Halves Assembly Selection

305 (12.0)	699 (27.5)	483 (19.0)	4200	2	12 (26)	1	<b>2E2A-DE-510</b>
305 (12.0)	914 (36.0)	699 (27.5)	4800	3	16 (34)	1	<b>2E2B-DE-510</b>
305 (12.0)	1130 (44.5)	914 (36.0)	Custom	4	20 (43)	1	<b>2E2C-DE-510</b>
305 (12.0)	1232 (48.5)	1016 (40.0)	Custom	–	21 (47)	1	<b>2E2D-DE-510</b>
305 (12.0)	1340 (52.75)	1124 (44.25)	Custom	–	23 (50)	1	<b>2E2E-DE-510</b>
305 (12.0)	1348 (57.0)	1232 (48.5)	Custom	–	25 (54)	1	<b>2E2F-DE-510</b>
305 (12.0)	1563 (61.5)	1346 (53.0)	Custom	–	27 (59)	1	<b>2E2G-DE-510</b>
305 (12.0)	1664 (65.5)	1448 (57.0)	Custom	–	28 (62)	1	<b>2E2H-DE-510</b>
305 (12.0)	1772 (69.75)	1556 (61.25)	Custom	–	30 (65)	1	<b>2E2I-DE-510</b>
305 (12.0)	1880 (74.0)	1664 (65.5)	Custom	–	31 (69)	1	<b>2E2J-DE-510</b>
305 (12.0)	1994 (78.5)	1778 (70.0)	Custom	–	32 (71)	1	<b>2E2K-DE-510</b>
305 (12.0)	2096 (82.5)	1880 (74.0)	Custom	–	34 (74)	1	<b>2E2L-DE-510</b>

Note: One end is 229 mm (9"), one end is 305 mm (12").

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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#### Endplate Selection\*

241 (9.5)	1	86 (3.4)	2,3 (5)	1	<b>2D2-1E-510</b>
241 (9.5)	2	86 (3.4) 86 (3.4)	3,2 (7)	1	<b>2D2-2E-510</b>
241 (9.5)	3	86 (3.4) 56 (2.2) 56 (2.2)	3,2 (7)	1	<b>2D2-3E-510</b>
305 (12.0)	2	112 (4.4) 112 (4.4)	4,1 (9)	1	<b>2E2-2E-510</b>
305 (12.0)	3	102 (4.0) 86 (3.4) 86 (3.4)	4,1 (9)	1	<b>2E2-3E-510</b>

#### Grommet Selection

241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18E</b>
241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18S</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,6 (8)	1	<b>2D4-18E-130</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,2 (7)	1	<b>2D4-18S-130</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-27E</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,2 (7)	1	<b>2D4-27S</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-36E</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,2 (7)	1	<b>2D4-36S</b>
241 (9.5)	42	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-42E</b>

A complete 2-type closure system requires:  
 1 cover assembly kit and 2 endplate kits OR  
 1 cover assembly kit,  
 1 endplate kit and 1 grommet kit.

- NOTE:
1. Custom cover lengths are available on a special order basis.
  2. Custom grommet hole configurations are available on a special order basis.
  3. Bonding hardware included with solid grommets only.
  4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.



## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Series Pressurised Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2X2 Standard Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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##### Cover Halves Assembly Selection

102 (4.0)	470 (18.5)	254 (10.0)	100	1	4,8 (11)	1	<b>2X2AA-510</b>
102 (4.0)	699 (27.5)	483 (19.0)	Custom	2	7,3 (16)	1	<b>2X2A-510</b>
102 (4.0)	914 (36.0)	699 (27.5)	Custom	3	8,6 (19)	1	<b>2X2B-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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##### Endplate Selection

102 (4.0)	2	25 (1.0)	25 (1.0)	0,9 (2)	1	<b>2X2-2E-510</b>
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##### A complete 2-type closure system requires:

1 cover assembly kit and 2 endplate kits.

##### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

#### 3M 2Y2 Standard Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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##### Cover Halves Assembly Selection

77 (3.0)	470 (18.5)	254 (10.0)	100	1	5,0 (11)	1	<b>2Y2AA-510</b>
77 (3.0)	699 (27.5)	483 (19.0)	Custom	2	7,3 (16)	1	<b>2Y2A-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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##### Endplate Selection

77 (3.0)	2	25 (1.0)	25 (1.0)	0,9 (2)	1	<b>2Y2-2E-510</b>
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##### A complete 2-type closure system requires:

1 cover assembly kit and 2 endplate kits.

##### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

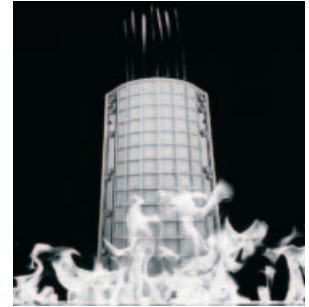
# 3M™ 2-Type Fire Retardant Closures

#### Description

3M 2-Type Closures that can really take the heat.

The 2-Type Fire Retardant Closure is completely self-contained and capable of withstanding a 15 minute horizontal or vertical burn test. In addition, the Fire Retardant Vault/ Building Closure System meets all the performance criteria of the standard 2-Type Closure series so you can use the same tools and installation procedures.

The system has an Oxygen Index of 28% minimum and a UL 94 rating exceeding V.O. The closure self extinguishes when the fuel source is removed. The Fire Retardant Closure can be used for new construction or for retrofitting: cable for entrance facilities, vault or central office, building riser cables or building distribution cables.



#### Type/Order text

#### Ref.-No.

### 3M 2A4 Fire Retardant Series

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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#### Cover Halves Assembly Selection

134 (5.25)	470 (18.5)	254 (10.0)	400	1	5,5 (12)	1	<b>2A4AA-510</b>
134 (5.25)	699 (27.5)	483 (19.0)	600	2	7,7 (17)	1	<b>2A4A-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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#### Endplate Selection

134 (5.25)	1	56 (2.2)	1,4 (3)	1	<b>2A4-1E-510</b>
134 (5.25)	2	41 (1.6) 33 (1.3)	1,4 (3)	1	<b>2A4-2E-510</b>

#### Grommet Selection

134 (5.25)	6	28 (1.1) up to 33 (1.3)	1,4 (3)	1	<b>2A4-6E-130</b>
134 (5.25)	6	28 (1.1) up to 33 (1.3)	1,4 (3)	1	<b>2A4-6S-130</b>
134 (5.25)	9	22 (0.88) up to 28 (1.1)	1,4 (3)	1	<b>2A4-9E</b>
134 (5.25)	9	22 (0.88) up to 28 (1.1)	1,4 (3)	1	<b>2A4-9S</b>
134 (5.25)	Custom	To be specified			<b>2A4-GC</b>

**A complete 2-type closure system requires:** 1 cover assembly kit and 2 endplate kits OR 1 cover assembly kit, 1 endplate kit and 1 grommet kit.

- NOTE:
1. Custom grommet hole configurations are available on a special order basis. "E" designates solid endplate for new construction and "S" designates split endplate for existing or retrofit applications.
  2. Bonding hardware included with solid grommets only.
  3. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Fire Retardant Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2B4 Fire Retardant Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)	
<b>Cover Halves Assembly Selection</b>							
178 (7.0)	470 (18.5)	254 (10.0)	600	1	7,3 (16)	1	<b>2B4AA-510</b>
178 (7.0)	699 (27.5)	483 (19.0)	1200	2	9,6 (21)	1	<b>2B4A-510</b>
178 (7.0)	914 (36.0)	699 (27.5)	2100	3	13 (29)	1	<b>2B4B-510</b>
178 (7.0)	1130 (44.5)	914 (36.0)	2700	4	16 (35)	1	<b>2B4C-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)	
<b>Endplate Selection</b>					
178 (7.0)	1	86 (3.4)	2,3 (5)	1	<b>2B4-1E-510</b>
178 (7.0)	2	56 (2.2) 56 (2.2)	2,7 (6)	1	<b>2B4-2E-510</b>
178 (7.0)	3	56 (2.2) 25 (1.0) 25 (1.0)	2,3 (5)	1	<b>2B4-3E-510</b>
<b>Grommet Selection</b>					
178 (7.0)	9	28 (1.1) up to 33 (1.3)	2,3 (5)	1	<b>2B4-9E-130</b>
178 (7.0)	9	28 (1.1) up to 33 (1.3)	2,3 (5)	1	<b>2B4-9S-130</b>
178 (7.0)	12	22 (0.88) up to 28 (1.1)	2,3 (5)	1	<b>2B4-12E</b>
178 (7.0)	12	22 (0.88) up to 28 (1.1)	2,3 (5)	1	<b>2B4-12S</b>

**A complete 2-type closure system requires:** 1 cover assembly kit and 2 endplate kits OR 1 cover assembly kit, 1 endplate kit and 1 grommet kit.

**NOTE:**

1. Custom grommet hole configurations are available on a special order basis. "E" designates solid endplate for new construction and "S" designates split endplate for existing or retrofit applications.
2. Bonding hardware included with solid grommets only.
3. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Fire Retardant Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2C4 Fire Retardant Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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#### Cover Halves Assembly Selection

203 (8.0)	699 (27.5)	483 (19.0)	1800	2	12 (26)	1	<b>2C4A-510</b>
203 (8.0)	914 (36.0)	699 (27.5)	3600	3	16 (34)	1	<b>2C4B-510</b>
203 (8.0)	1130 (44.5)	914 (36.0)	4200	4	19 (41)	1	<b>2C4C-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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#### Endplate Selection

203 (8.0)	1	86 (3.4)	2,3 (5)	1	<b>2C4-1E-510</b>
203 (8.0)	2	71 (2.8) 71 (2.8)	3,2 (7)	1	<b>2C4-2E-510</b>
203 (8.0)	3	71 (2.8) 41 (1.6) 41 (1.6)	3,2 (7)	1	<b>2C4-3E-510</b>

#### Grommet Selection

203 (8.0)	12	28 (1.1) up to 33 (1.3)	2,7 (6)	1	<b>2C4-12E-130</b>
203 (8.0)	12	28 (1.1) up to 33 (1.3)	2,7 (6)	1	<b>2C4-12S-130</b>
203 (8.0)	18	22 (0.88) up to 28 (1.1)	2,7 (6)	1	<b>2C4-18E</b>
203 (8.0)	18	22 (0.88) up to 28 (1.1)	2,7 (6)	1	<b>2C4-18S</b>

**A complete 2-type closure system requires:** 1 cover assembly kit and 2 endplate kits OR 1 cover assembly kit, 1 endplate kit and 1 grommet kit.

#### NOTE:

1. Custom grommet hole configurations are available on a special order basis. "E" designates solid endplate for new construction and "S" designates split endplate for existing or retrofit applications.
2. Bonding hardware included with solid grommets only.
3. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Fire Retardant Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2D4 Fire Retardant Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)	
<b>Cover Halves Assembly Selection</b>							
241 (9.5)	699 (27.5)	483 (19.0)	3300	2	14 (30)	1	<b>2D4A-510</b>
241 (9.5)	914 (36.0)	699 (27.5)	4200	3	17 (38)	1	<b>2D4B-510</b>
241 (9.5)	1130 (44.5)	914 (36.0)	4800	4	22 (47)	1	<b>2D4C-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)	
<b>Endplate Selection</b>					
241 (9.5)	1	86 (3.4)	2,7 (6)	1	<b>2D4-1E-510</b>
241 (9.5)	2	86 (3.4) 86 (3.4)	3,6 (8)	1	<b>2D4-2E-510</b>
241 (9.5)	3	86 (3.4) 56 (2.2) 56 (2.2)	3,6 (8)	1	<b>2D4-3E-510</b>
<b>Grommet Selection</b>					
241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18E</b>
241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18S</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,6 (8)	1	<b>2D4-18E-130</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,2 (7)	1	<b>2D4-18S-130</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-27E</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-27S</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-36E</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,2 (7)	1	<b>2D4-36S</b>
241 (9.5)	42	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-42E</b>
241 (9.5)	Custom	To be specified	3,6 (8)	1	<b>2D4-CG</b>

**A complete 2-type closure system requires:** 1 cover assembly kit and 2 endplate kits OR 1 cover assembly kit, 1 endplate kit and 1 grommet kit.

- NOTE:
1. Custom grommet hole configurations are available on a special order basis. "E" designates solid endplate for new construction and "S" designates split endplate for existing or retrofit applications.
  2. Bonding hardware included with solid grommets only.
  3. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Fire Retardant Closures

#### Type/Order text

#### Ref.-No.

### 3M 2E4-DD Fire Retardant Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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#### Cover Halves Assembly Selection

305 (12.0)	699 (27.5)	483 (19.0)	3300	2	16 (34)	1	<b>2E4A-DD-510</b>
305 (12.0)	914 (36.0)	699 (27.5)	4200	3	21 (45)	1	<b>2E4B-DD-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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#### Endplate Selection

241 (9.5)	1	86 (3.4)	2,7 (6)	1	<b>2D4-1E-510</b>
241 (9.5)	2	86 (3.4) 86 (3.4)	3,6 (8)	1	<b>2D4-2E-510</b>
241 (9.5)	3	86 (3.4) 56 (2.2) 56 (2.2)	3,6 (8)	1	<b>2D4-3E-510</b>

#### Grommet Selection

241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18E</b>
241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18S</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,6 (8)	1	<b>2D4-18E-130</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,2 (7)	1	<b>2D4-18S-130</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-27E</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-27S</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-36E</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,2 (7)	1	<b>2D4-36S</b>
241 (9.5)	42	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-42E</b>
241 (9.5)	Custom	To be specified	3,6 (8)	1	<b>2D4-CG</b>

**A complete 2-type closure system requires:** 1 cover assembly kit and 2 endplate kits  
OR 1 cover assembly kit, 1 endplate kit and 1 grommet kit.

#### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Custom grommet hole configurations are available on a special order basis. "E" designates solid endplate for new construction and "S" designates split endplate for existing or retrofit applications.
3. Bonding hardware included with solid grommets only.
4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Fire Retardant Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2D4-EE Fire Retardant Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)	
<b>Cover Halves Assembly Selection</b>							
305 (12.0)	699 (27.5)	483 (19.0)	4200	2	16 (34)	1	<b>2E4A-EE-510</b>
305 (12.0)	914 (36.0)	699 (27.5)	4800	3	20 (44)	1	<b>2E4B-EE-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)	
<b>Endplate Selection</b>					
305 (12)	2	112 (4.4) 112 (4.4)	4,5 (10)	1	<b>2E4-2E-510</b>
305 (12)	3	102 (4.0) 86 (3.4) 86 (3.4)	4,5 (10)	1	<b>2E4-3E-510</b>
<b>Grommet Selection</b>					
305 (12)	27	22 (0.88) up to 28 (1.1)	5,9 (13)	1	<b>2E4-27E</b>
305 (12)	27	22 (0.88) up to 28 (1.1)	5,9 (13)	1	<b>2E4-27S</b>
305 (12)	27	28 (1.1) up to 33 (1.3)	5,5 (12)	1	<b>2E4-27E-130</b>
305 (12)	27	28 (1.1) up to 33 (1.3)	5,0 (11)	1	<b>2E4-27S-130</b>
305 (12)	36	22 (0.88) up to 28 (1.1)	5,9 (13)	1	<b>2E4-36E</b>
305 (12)	36	22 (0.88) up to 28 (1.1)	5,5 (12)	1	<b>2E4-36S</b>
305 (12)	42	22 (0.88) up to 28 (1.1)	5,9 (13)	1	<b>2E4-42E</b>
305 (12)	Custom	To be specified	-	1	<b>2E4-CG</b>

**A complete 2-type closure system requires:** 1 cover assembly kit and 2 endplate kits  
OR 1 cover assembly kit, 1 endplate kit and 1 grommet kit.

- NOTE:
1. Custom cover lengths are available on a special order basis.
  2. Custom grommet hole configurations are available on a special order basis. "E" designates solid endplate for new construction and "S" designates split endplate for existing or retrofit applications.
  3. Bonding hardware included with solid grommets only.
  4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Fire Retardant Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2E4-DE Fire Retardant Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)	
<b>Cover Halves Assembly Selection</b>							
305 (12.0)	699 (27.5)	483 (19.0)	4200	2	16 (35)	1	<b>2E4A-DE-510</b>
305 (12.0)	914 (36.0)	699 (27.5)	4800	3	21 (45)	1	<b>2E4B-DE-510</b>

Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)	
<b>Endplate Selection</b>					
241 (9.5)	1	86 (3.4)	14 (30)	1	<b>2D4-1E-510</b>
241 (9.5)	2	86 (3.4) 86 (3.4)	17 (38)	1	<b>2D4-2E-510</b>
241 (9.5)	3	86 (3.4) 56 (2.2) 56 (2.2)	22 (47)	1	<b>2D4-3E-510</b>
<b>Grommet Selection</b>					
241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18E</b>
241 (9.5)	18	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-18S</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,6 (8)	1	<b>2D4-18E-130</b>
241 (9.5)	18	28 (1.1) up to 33 (1.3)	3,2 (7)	1	<b>2D4-18S-130</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-27E</b>
241 (9.5)	27	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-27S</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-36E</b>
241 (9.5)	36	22 (0.88) up to 28 (1.1)	3,2 (7)	1	<b>2D4-36S</b>
241 (9.5)	42	22 (0.88) up to 28 (1.1)	3,6 (8)	1	<b>2D4-42E</b>
241 (9.5)	Custom	To be specified	-	1	<b>2D4-CG</b>

**A complete 2-type closure system requires:** 1 cover assembly kit and 2 endplate kits OR 1 cover assembly kit, 1 endplate kit and 1 grommet kit.

- NOTE:
1. Custom cover lengths are available on a special order basis.
  2. Custom grommet hole configurations are available on a special order basis. "E" designates solid endplate for new construction and "S" designates split endplate for existing or retrofit applications.
  3. Bonding hardware included with solid grommets only.
  4. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.



## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Fire Retardant Closures

**Type/Order text**

**Ref.-No.**

#### 3M 2X4 Fire Retardant Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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**Cover Halves Assembly Selection**

102 (4.0)	470 (18.5)	254 (10.0)	100	1	5,9 (13)	1	<b>2X4AA-510</b>
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Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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**Endplate Selection**

102 (4.0)	2	25 (1.0)	25 (1.0)	1,4 (3)	1	<b>2X4-2E-510</b>
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**A complete 2-type closure system requires:** 1 cover assembly kit and 2 endplate kits.

NOTE:

1. Custom cover lengths are available on a special order basis.
2. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ 2-Type Fire Retardant Closures

#### Type/Order text

#### Ref.-No.

#### 3M 2Y4 Fire Retardant Series Closures

Inside Diameter mm (in.)	Overall Length mm (in.)	Sheath Opening mm (in.)	Max. Number Cable Pairs	Splice Banks	Pkg. kg (lbs.)	Min. Order (each)
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#### Cover Halves Assembly Selection

77 (3.0)	470 (18.5)	254 (10.0)	100	1	5,9 (13)	1	<b>2Y4AA-510</b>
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Endplate Diameter mm (in.)	Cable Openings	Max. Diameter Each Cable Opening mm (in.)	Pkg. kg (lbs.)	Min. Order (each)
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#### Endplate Selection

77 (3.0)	2	25 (1.0)	1,4 (3)	1	<b>2Y4-2E-510</b>
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A complete 2-type closure system requires: 1 cover assembly kit and 2 endplate kits.

#### NOTE:

1. Custom cover lengths are available on a special order basis.
2. Maximum number of cable pairs based on 0,51/0,40 mm (24/26") gauge cable using 25 pair modular connectors for straight, in-line splice.

## 2.2 Splice Protection Products

### 2.2.1 Closures

## Accessories and Replacement Parts

#### Type/Order text

#### Ref.-No.

### Accessories and Replacement Parts 3M 2-Type Closures and 3M Fire Retardant 4-Type Vault Closures

Descriptions / mm (in.)	Packaging	Min. Order	kg (lbs.)	
<b>Abrasive Sheath Scuff</b>				
For scuffing cable sheath during cable preparation.				
<b>Cable Sheath Scuff</b> 25 (1) x 400 (16)	100	1 pkg.	1,4 (3.0)	<b>AS10-M100</b>
<b>Aerial Hanger Kit</b>				
For supporting closure assembly to strand wire in aerial applications.				
<b>Aerial Hanger Kit</b>	2	20 kits	3,2 (7)	<b>AH20K</b>
<b>Back Cover Clip Kit</b>				
For supporting backing cover to endplates during splicing. Also keeps endplates parallel and properly spaced.				
<b>A, B, C, X, Y and Z Covers</b>	2 Clips w/Cable Ties	20 kits	0,9 (2)	<b>BCC10K</b>
<b>Kit in bulk</b> (Cable Ties not Included)	100	1 pkg.	1,4 (3)	<b>BCC10-M100</b>
<b>Bolts</b>				
For replacing lost or damaged bolts in endplates and covers.				
<b>7.9 x 47.6 (5/16 x 1-7/8) - Short</b>	25	4 pkgs.	2,7 (6)	<b>SB1875K</b>
<b>7.9 x 60.3 (5/16 x 2-3/8) - Long</b>	25	4 pkgs.	3,2 (7)	<b>SB2375K</b>
<b>Bond Connector Kit</b>				
For replacing lost or damaged bond connectors.				
<b>Solid, Vented Bond Conn. Kit</b>	1 Solid & 1 Vented with hex nuts	20 kits	0,9 (2)	<b>BCHN10K</b>
<b>Solid Bond Connector</b>	25	4 pkgs.	1,4 (3)	<b>BBC20K</b>
<b>Vented Bond Connector</b>	25	4 pkgs.	0,9 (2)	<b>VBC20K</b>
<b>Bonding Harness</b>				
For establishing shield continuity on tip cables inside vault closures. Standard packaging - 9 Wire Harnesses.				
<b>Bonding Harness Kit (9-wire)</b>	1	1 kit	0,2 (0.4)	<b>BH9K</b>
<b>Bonding Harness Kit (18-wire)</b>	2	1 kit	0,3 (0.7)	<b>BH18K</b>
<b>Bonding Harness Kit (27-wire)</b>	3	1 kit	0,4 (1)	<b>BH27K</b>
<b>Bonding Harness Kit (36-wire)</b>	4	1 kit	0,9 (2)	<b>BH36K</b>
<b>Bonding Harness Kit (42-wire)</b>	5	1 kit	0,9 (2)	<b>BH42K</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

## Accessories and Replacement Parts

#### Type/Order text

#### Ref.-No.

### Accessories/Replacement Parts for 3M 2-Type Closures and 3M Fire Retardant 4-Type Vault Closures

Descriptions / mm (in.)	Packaging	Min. Order	kg (lbs.)	
<b>Channel Bars</b>				
For replacing lost or damaged channel bars in 2-Type and 4-Type cover halves. T = Threaded, U = Unthreaded.				
<b>2-Type and 4-Type Cover - T</b> 470 (18.5)	6	1 kit	2,3 (5)	<b>CTB9K</b>
<b>2-Type Cover - T</b> 699 (27.5)	6	1 kit	2,3 (5)	<b>CTB10K</b>
<b>2-Type Cover - T</b> 914 (36.0)	6	1 kit	3,2 (7)	<b>CTB11K</b>
<b>2-Type Cover - T</b> 1130 (44.5)	6	1 kit	4,1 (9)	<b>CTB12K</b>
<b>2-Type Cover - U</b> 470 (18.5)	6	1 kit	2,3 (5)	<b>CUB9K</b>
<b>2-Type Cover - U</b> 699 (27.5)	6	1 kit	2,3 (5)	<b>CUB10K</b>
<b>2-Type Cover - U</b> 914 (36.0)	6	1 kit	3,2 (7)	<b>CUB11K</b>
<b>2-Type Cover - U</b> 1130 (44.5)	6	1 kit	4,1 (9)	<b>CUB12K</b>
<b>Channel Bar Inserts for 2-Type Closure</b>				
For replacing lost or damaged channel bar inserts.				
<b>Channel Bar Threaded Inserts</b>	25	4 pkgs.	1,4 (3)	<b>CBN10K</b>
<b>Channel Bar Unthreaded Inserts</b>	25	4 pkgs.	1,4 (3)	<b>CBW10K</b>
<b>Cleaning Wipes</b>				
For preparing plastic closure halves, endplates and cables before applying sealing tapes.				
<b>Closure Sealing Surface Cleaner</b>	100	1 pkg.	2,3 (5)	<b>CSSC20-M100</b>
<b>Continuity/Grounding Pressurisation Kit</b>				
For restoring continuity and external grounding of closure. Also used for flash testing and pressurisation.				
<b>470 (18.5) Length Cover (AA)</b>	1	10 kits	2,7 (6)	<b>BG9K</b>
<b>699 (27.5) Length Cover (A)</b>	1	10 kits	4,1 (9)	<b>BG10K</b>
<b>914 &amp; 1130 (36 &amp; 44.5) Length Cover (B &amp; C)</b>	1	10 kits	5,0 (11)	<b>BG12K</b>
<b>Endplate Inserts</b>				
For replacing lost or damaged endplate inserts.				
<b>Threaded Endplate Inserts</b>	25	4 pkgs.	1,8 (4)	<b>SNI300K</b>
<b>Unthreaded Endplate Inserts</b>	25	4 pkgs.	1,8 (4)	<b>SWI300K</b>
<b>Grommet Sealant and Tip Cable Insertion Shoe</b>				
Insertion shoe for easy insertion of tip cables into grommets and grommet sealant for sealing tip cables into grommet.				
<b>3 oz. Tube of Sealant</b>	1	10 each	1,8 (4)	<b>GSC10</b>
<b>Tip Cable Insertion Shoe</b>	1	1 each	0,23 (0.5)	<b>GCIS20</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

## Accessories and Replacement Parts

#### Type/Order text

#### Ref.-No.

### Accessories/Replacement Parts for 3M 2-Type Closures and Fire Retardant 3M 4-Type Vault Closures

Descriptions / mm (in.)	Packaging	Min. Order	kg (lbs.)	
<b>Jacking Plates</b>				
For replacing lost or damaged jacking plates.				
<b>Threaded Jacking Plate</b>	25	4 pkgs.	1,4 (3)	<b>CIT68K</b>
<b>Unthreaded Jacking Plates</b>	25	4 pkgs.	1,4 (3)	<b>CIU68K</b>
<b>Jaw Tooth Clamps</b>				
For replacing lost or damaged jaw tooth clamps.				
–	25	4 pkgs.	1,4 (3)	<b>JT00K</b>
–	25	4 pkgs.	1,4 (3)	<b>JT25K</b>
–	25	4 pkgs.	1,8 (4)	<b>JT50K</b>
–	25	4 pkgs.	2,3 (5)	<b>JT87K</b>
<b>Pressure Valve Assembly</b>				
For replacing lost or damaged pressure valves.				
<b>Pressure Valve Assembly</b>	10	10 pkgs.	2,3 (5)	<b>FVA11K</b>
<b>RC Re-enterable Sealing Cord</b>				
For sealing the groove along the length of cover halves. AA Length Cover = 1 roll RC45; A Length Cover = 1 roll RC62; B and C Length Covers = 1 roll RC96, Z-Closure - 1 roll RC36				
–	1	96 rolls	8,6 (19)	<b>RC36-8</b>
–	1	96 rolls	10 (21)	<b>RC45-8</b>
–	1	96 rolls	13 (29)	<b>RC62-8</b>
–	1	96 rolls	21 (46)	<b>RC96-8</b>
<b>RTE Re-enterable Sealing Tape</b>				
For sealing between cover halves and endplates. 2Y2, 2X2 & 2A2 series = 1 roll RTE36 required for 2 each endplates; 2B2 series = 1 roll RTE46 required for 2 each endplates. 2C2 & 2D2 series = 1 roll RTE62 required for 2 each endplates; 2E2 series = 2 rolls RTE46 required for 2 each endplates.				
–	1	108 rolls	20 (43)	<b>RTE36-8</b>
–	1	108 rolls	26 (58)	<b>RTE46-8</b>
–	1	54 rolls	17 (38)	<b>RTE62-8</b>
<b>RTW Re-enterable Sealing Tape</b>				
For sealing collar build-up around cable. Note: Usage will vary with cable diameter.				
–	1	60 rolls	12 (26)	<b>RTW36-8</b>
–	1	60 rolls	21 (47)	<b>RTW72-8</b>
<b>Shield Connector</b>				
For replacing lost or damaged shield connectors.				
<b>BCP1-1</b> , Size #1, up to 20 (0.8) Cable Dia.	25	4 pkgs.	1,8 (4)	<b>SC10K</b>
<b>BCP2-1</b> , Size #2, 20 (0.8) to 41 (1.6) Cable Dia.	25	4 pkgs.	2,3 (5)	<b>SC20K</b>
<b>BCP3-1</b> , Size #3, over 41 (1.6) Cable Dia.	25	4 pkgs.	2,3 (5)	<b>SC30K</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

## Accessories and Replacement Parts

#### Type/Order text

#### Ref.-No.

### Accessories/Replacement Parts for 3M 2-Type Closures and Fire Retardant 3M 4-Type Vault Closures

Descriptions / mm (in.)	Packaging	Min. Order	kg (lbs.)	
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#### Splice Wrap Kit

For wrapping and protecting splice bundle and to keep wire out of the cover half sealing groove during assembly.

<b>2Y2AA, 2X2AA &amp; 2A2AA Closures</b>	1	32 kits	3,6 (8)	<b>ASW9K</b>
<b>2B2AA Closures</b>	1	32 kits	-	<b>BSW9K</b>
<b>2A2A &amp; 2B2A Closures</b>	1	16 kits	5,0 (11)	<b>BSW10K</b>
<b>2B2B Closure</b>	1	16 kits	7,3 (16)	<b>BSW11K</b>
<b>2B2C Closure</b>	1	16 kits	10,4 (23)	<b>BSW12K</b>
<b>2C2A &amp; 2D2A Closures</b>	1	16 kits	6,8 (15)	<b>DSW10K</b>
<b>2C2B &amp; 2D2B Closures</b>	1	16 kits	9,1 (20)	<b>DSW11K</b>
<b>2C2C &amp; 2D2C Closures</b>	1	16 kits	11,3 (25)	<b>DSW12K</b>
<b>2E2A Closure</b>	1	16 kits	8,2 (18)	<b>ESW10K</b>
<b>2E2B Closure</b>	1	16 kits	11,3 (25)	<b>ESW11K</b>

<b>Step Washer</b>	2	50 pkgs.	5,0 (11)	<b>MK-K</b>
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Descriptions / mm (in.)	Pin Size	Packaging	Min. Order	kg (lbs.)	
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#### Tip Cable Opening Plugs

For plugging unused tip cable openings for endplate grommets.

<b>6 - 10 (0.23 - 0.40)</b>	A	1	50 plugs	1,4 (3)	<b>GP2340</b>
<b>10 - 15 (0.41 - 0.58)</b>	B	1	50 plugs	0,9 (2)	<b>GP4158</b>
<b>15 - 19 (0.59 - 0.76)</b>	C	1	50 plugs	0,5 (1)	<b>GP5976</b>
<b>15 - 24 (0.77 - 0.93)</b>	D	1	50 plugs	0,5 (1)	<b>GP7793</b>
<b>22 - 28 (0.88 - 1.1)</b>	E	1	50 plugs	1,4 (3)	<b>GP88100</b>
<b>28 - 33 (1.1 - 1.3)</b>	F	1	50 plugs	1,8 (4)	<b>GP110130</b>
<b>33 - 38 (1.3 - 1.5)</b>	G	1	50 plugs	2,3 (5)	<b>GP131152</b>

Descriptions / mm (in.)	Packaging	Min. Order	kg (lbs.)	
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#### Underground Closure Support Kit

For supporting closure assembly to racks in vault or manhole applications

<b>Underground Support Kit</b>	2	10 kits	4,1 (9)	<b>UCS10K</b>
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#### Universal Plugging Spools

For plugging unused cable openings in endplate openings. Black in colour.

<b>For 25 (1.0) Cable Openings</b>	25	1 pkg.	0,02 (0.04)	<b>FX-K</b>
<b>For 41 (1.6) Cable Openings</b>	25	1 pkg.	0,04 (0.08)	<b>GX-K</b>
<b>For 51 (2.0) Cable Openings</b>	25	1 pkg.	0,05 (0.10)	<b>HX-K</b>
<b>For 71 (2.8) Cable Openings</b>	25	1 pkg.	0,06 (0.14)	<b>JX-K</b>
<b>For 86 (3.4) Cable Openings</b>	25	1 pkg.	0,08 (0.17)	<b>KX-K</b>
<b>For 102 (4.0) Cable Openings</b>	1	1 pkg.	0,10 (0.22)	<b>LX-K</b>
<b>For 112 (4.4) Cable Openings</b>	10	1 pkg.	0,12 (0.27)	<b>MX-K</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

## Accessories and Replacement Parts

#### Type/Order text

#### Ref.-No.

### Accessories/Replacement Parts for 3M 2-Type Closures and Fire Retardant 3M 4-Type Vault Closures

Descriptions / mm (in.)	Packaging	Min. Order	kg (lbs.)	
<b>Universal Plugging Spools (Fire Retardant)</b>				
For plugging unused cable openings in endplate openings. Grey in colour.				
<b>For 25 (1.0) Cable Openings</b>	25	1 pkg.	0,02 (0.04)	<b>FX-4-K</b>
<b>For 41 (1.6) Cable Openings</b>	1	1 pkg.	0,04 (0.08)	<b>GX-4-K</b>
<b>For 51 (2.0) Cable Openings</b>	1	1 pkg.	0,05 (0.10)	<b>HX-4-K</b>
<b>For 71 (2.8) Cable Openings</b>	1	1 pkg.	0,06 (0.14)	<b>JX-4-K</b>
<b>For 86 (3.4) Cable Openings</b>	1	1 pkg.	0,08 (0.17)	<b>KX-4-K</b>
<b>For 102 (4.0) Cable Openings</b>	1	1 pkg.	0,10 (0.22)	<b>LX-4-K</b>
<b>For 112 (4.4) Cable Openings</b>	1	1 pkg.	0,12 (0.27)	<b>MX-4-K</b>
<b>Universal Slotted Sealing Washers (Bulk Packaging)</b>				
For sealing cable entrances in endplate openings. Black in colour.				
<b>Cable Range – 10 - 25 (0.4 - 1.0)</b>	200	1 pkg.	0,9 (2)	<b>FS-B-M200</b>
<b>Cable Range – 10- 41 (0.4 - 1.6)</b>	200	1 pkg.	2,3 (5)	<b>GS-B-M200</b>
<b>Cable Range – 10 - 51 (0.4 - 2.0)</b>	200	1 pkg.	3,2 (7)	<b>HS-B-M200</b>
<b>Cable Range – 10 - 71 (0.4 - 2.8)</b>	200	1 pkg.	4,6 (10)	<b>JS-B-M200</b>
<b>Cable Range – 10 - 86 (0.4 - 3.4)</b>	200	1 pkg.	6,4 (14)	<b>KS-B-M200</b>
<b>Cable Range – 41 - 102 (1.6 - 4.0)</b>	100	1 pkg.	4,1 (9)	<b>LS-B-M100</b>
<b>Cable Range – 41 - 112 (1.6 - 4.4)</b>	100	1 pkg.	6,4 (14)	<b>MS-B-M100</b>
<b>Universal Slotted Sealing Washers (Fire Retardant - Bulk Packaging)</b>				
For sealing cable entrances in endplate openings. Grey in colour.				
<b>Cable Range – 10 - 25 (0.4 - 1.0)</b>	200	1 pkg.	0,9 (2)	<b>FS-4B-M200</b>
<b>Cable Range – 10 - 41 (0.4 - 1.6)</b>	200	1 pkg.	2,3 (5)	<b>GS-4-B-M200</b>
<b>Cable Range – 10 - 51 (0.4 - 2.0)</b>	200	1 pkg.	3,2 (7)	<b>HS-4-B-M200</b>
<b>Cable Range – 10 - 71 (0.4 - 2.8)</b>	200	1 pkg.	4,6 (10)	<b>JS-4-B-M200</b>
<b>Cable Range – 10 - 86 (0.4 - 3.4)</b>	200	1 pkg.	6,4 (10)	<b>KS-4-B-M200</b>
<b>Cable Range – 41 - 102 (1.6 - 4.0)</b>	100	1 pkg.	4,1 (9)	<b>LS-4-B-M100</b>
<b>Cable Range – 41 - 112 (1.6 - 4.4)</b>	100	1 pkg.	6,4 (14)	<b>MS-4-B-M100</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

#### Tools

##### Type/Order text

##### Ref.-No.

#### Tools for Pressurised Standard 3M 2-Type and 3M Fire Retardant 4-Type Closures

Descriptions / mm (in.)	Packaging	Min. Order	kg (lbs.)	
<b>Tools for Closure Assembly</b>				
Tools required for closure assembly but not included with cover or endplate kits.				
<b>Can Wrench 9,5 and 11,1 mm</b> (3/8 and 7/16") Ends	1	1 kit	0,2 (0.4)	<b>CW10K</b>
<b>Speed Wrench</b>	1	1 kit	5,9 (13)	<b>SPW10K *</b>
<b>Tabbing Shears</b>	1	1 kit	0,4 (1.0)	<b>TS10K</b>
<b>Torque Wrench 2,9 kgm (250"/lbs.)</b>	1	1 kit	1,0 (2.3)	<b>TWS10K **</b>
<b>China Thailand TKTSD Tool Kit</b>	1	1 kit	4,5 (10)	<b>TK-TSI ***</b>
<b>Universal Alignment Tool Kit</b>				
For maintaining endplate spacing and alignment.				
<b>Alignment Kit</b>	1	1 kit	5,9 (13)	<b>UAT20K</b>
<b>Washer Cutter Tool Kit</b>				
For cutting universal sealing washers.				
<b>Washer Cutter Tool Kit</b>	1	10 kits	5,9 (13)	<b>WCT11K</b>
<b>Replacement Blade Kit</b>	2	10 pkgs.	2,3 (5)	<b>WCB11K</b>

\* SPW10K does not include sockets.

\*\* TWS10K includes 12,7 and 11,1 mm (1/2 and 7/16") sockets and 3 socket extender.

\*\*\* WCT11K Washer Cutter Tool not included



## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ Z Watertight Closure System

#### Description

#### For Protection of Non pressurised Copper Cable Splice

The Z Watertight Closure is made of an impact-resistant plastic and is corrosion resistant.

The closure can be used for straight or multiple branch splices and there is a fire retardant version available for building applications. It is lightweight, watertight and re-enterable.

Z Watertight Closures may be aerial or wall mounted and accommodate up to 300 pairs of copper conductor splices. The system will also accommodate the entrance of up to four cables, 41mm (1.6") in diameter. All components are supplied in one kit and no special tools are required for assembly



MS<sup>2</sup> Modules see pg. 114 - 120  
 Shield Bonding see pg. 207 - 210  
 Scotchlok Connectors see pg. 108 - 113

#### Type/Order text

#### Ref.-No.

### 3M Z Watertight Closure System

Description	Max. Number	Length mm (in.) Cable Pairs	Width mm (in.)	Max. No. Height mm (in.)	Approx. Weight kg (lbs.)	Min. Order (each)
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#### Closure Selection

<b>Standard</b>	300	419 (16.5)	114 (4.5)	165 (6.5)	2,3 (5)	1	<b>2Z2AAA-510</b>
<b>Fire Retardant*</b>	300	419 (16.5)	114 (4.5)	165 (6.5)	2,7 (6)	1	<b>2Z4AAA-510</b>

Standard Package = Kit, Minimum Order/Ordering Multiple = 1 Kit.

\*Grey in colour.

### Accessories/Replacement Parts for 3M Z Watertight Series Closures

Descriptions / mm (in.)	Packaging	Min. Order/Multiple	kg (lbs.)
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#### Two Cable Branch Kit

Provides branching adapter spool and internal bonding for two additional cables. Up to 19 mm (0.75") each cable opening.

<b>Standard</b>	1	1/1 Kit	0,2 (.4)	<b>BKZ10-2</b>
<b>Fire retardant*</b>	1	1/1 Kit	0,2 (.4)	<b>BKZ10-2-4</b>

#### Re-entry Kit

Provides replacement R-Type re-enterable sealing tapes for each re-entry.

<b>Re-entry kit, Z-type closure</b>	1	1/1 Kit	0,5 (0.1)	<b>RKZ10</b>
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#### Plugging Spool Kit

Provides two plugging spools for plugging unused cable openings.

<b>Standard plugging spools</b>	2	1/1 Kit	0,1 (.2)	<b>GZX-K</b>
<b>Fire retardant plugging spools*</b>	2	-/1 Kit	0,1 (.2)	<b>GZX-4-K</b>

#### Back Cover Clip Kit

For supporting back cover to cables during splicing. Also keeps endplates parallel and properly spaced.

<b>Back cover clip kit kor Z-type covers</b>	2 clips w/cable ties	40/20 kit	2 (0.9)	<b>BCC10K</b>
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\*Grey in colour.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ K&B Vault and Riser Closures

#### Description

#### 3M K&B Vault Closures

K&B Closures are strong, lightweight, and protect a wide variety of vault splice configurations with an air and water tight seal. K&B closures offer a full product line that is simple to install and re-enter. This full product offering provides closures in standard kits to protect the majority of cable configurations and customised and special closures to meet your vault requirements.

All K&B closures are flame retardant. **RUS Listed**

#### Ordering 3M K&B Vault Closures

The key to ordering the correct K&B Vault Closures Kit is knowing what components suit the splice configuration. The kit can be a solid or split closure and have a collared end cap, multiple end cap, stainless steel hose clamps and cable lubricant.

Because the K&B vault closure is air and water tight, the closures collared and multiple end caps have to be sized precisely to the cables entering them. When ordering K&B closures, three pertinent facts are needed:



#### Technical characteristics

#### Chart A / Standard 3M K&B Closure Selection Guide

Maximum Pair Count		Solid Sleeve		Split Sleeve	
MS2*	Scotchlok	Kit Part Number	Diameter Length	Kit Part Number	Diameter Length
100	50	KB2-100-2	2-24		
200	100	KB3-175-1	3-24	KBS3-175-1	3DS-24
400	200	KB4-175-1 KB4-175-2	4-24 4-24		
600	300	KB5-100-6 KB5-130-6 KB5-175-2	5-26 5-26 5-26	KBS5-100-6 KBS5-130-6 KBS5-175-2	5DS-26 5DS-26 5DS-26
900	400	KB6-100-9 KB6-130-9 KB6-175-3	6-26 6-26 6-26	KBS6-100-9 KBS6-130-9 KBS6-175-3	6DS-26 6DS-26 6DS-26
1200	600	KB7-100-15 KB7-175-5	7-26 7-26	KBS7-100-15 KBS7-175-5	7DS-26 7DS-26
2400	800	KB8-100-24 KB8-130-18 KB8-175-8	8-26 8-26 8-26	KBS8-100-24 KBS8-130-18 KBS8-175-8	8DS-26 8DS-26 8DS-26
2700	900	KB9-100-27 KB9-130-24 KB9-175-9	9-26 9-26 9-26	KBS9-100-27 KBS9-130-24 KBS9-175-9	9DS-26 9DS-26 9DS-26
3600	–	KB10-100-36 KB10-100-36L	10-26 10-26	KBS10-100-36 KBS10-100-36L	10DS-26 10DS-24
4800	–	KB12-130-37	12-28		

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ K&B Vault and Riser Closures

#### Technical characteristics

- The diameter of all the cables, field and tip, to be spliced. This is needed for hole sizing of the end caps.
- The maximum number of cable pairs to be spliced and the type of connector to be used for splicing, an example is a 2700-pair field cable, spliced to 27-100 pair tip cable is a "2700-pair splice." This determines the size/diameter of the closure.
- The number of tip cables to be enclosed.

**NOTE:** If the application determines that the closure does not need to be air and water tight, then the use of a K&B riser closure should be considered.

The standard K&B Vault Closure Kit contains the following:

- One closure, solid or split
- One collared end cap
- One multiple end cap
- Hose Clamps:

Solid closure - two closure clamps, one collared clamp

Split closure - three closure clamps, one collared clamp

#### Steps to Ordering Standard 3M K&B Closures Kits

1. Determine the maximum number of cable pairs, entering into the closure. If a 1200-pair field cable enters the closure, but is only spliced to 6-100 pair tip cables, this is still sized at the 1200 potential pairs.
2. Determine the type of module or connector to be used for splicing. The 25-pair module/connector is recommended because this can make for a more compact splice bundle for a smaller closure diameter.
3. Use "Chart A" to make a selection from the standard kits available. With the standard kits, the Collared Cap opening can be up to 6,35 mm (1/4") larger than the cable diameters. The clamp will tighten it down, and the multiple cap needs to be within the stated diameter range.
4. Fill any vacant multiple holes with the appropriate plug.

(continued)

Collared End Caps**		Multiple End Caps		Clamps	
Part Number	Hole Size mm (in.)	Part Number	Hole Size mm (in.)	Closure***	Collared
C2-2 (two)	6-24,1 (.24-.95) (2 holes & caps)			2SS	
C3-175-1C (two)	44,4 (1.75) (2 caps)			3SS	3-4CC
C4-175-1C (two)	44,4 (1.75) (2 caps)	C4-174-2	44,4 (1.75)	4SS	3-4CC
C5-275-1C	69,8 (2.75)	C5-100-6	21,5-26,0 (.85-1.06)	5SS	5-9CC
C5-275-1C	69,8 (2.75)	C5-130-6	27,4-33 (1.08-1.3)		
C5-275-1C	69,8 (2.75)	C5-175-2	31,7-41,4 (1.25-1.75)		
C6-275-1C	69,8 (2.75)	C6-100-9	21,5-26,0 (.85-1.06)	6-7SS	5-9CC
C6-275-1C	69,8 (2.75)	C6-130-9	27,4-33 (1.08-1.3)		
C6-275-1C	69,8 (2.75)	C6-175-3	31,7-41,4 (1.25-1.75)		
C7-275-1C	69,8 (2.75)	C7-100-15	21,5-26,0 (.85-1.06)	6-7SS	5-9CC
C7-275-1C	69,8 (2.75)	C7-175-5	31,7-41,4 (1.25-1.75)		
C8-300-1C	76,2 (3)	C8-100-24	21,5-26,0 (.85-1.06)	8SS	5-9CC
C8-300-1C	76,2 (3)	C8-130-18	27,4-33 (1.08-1.3)		
C8-300-1C	76,2 (3)	C8-175-8	31,7-41,4 (1.25-1.75)		
C9-300-1C	76,2 (3)	C9-100-27	21,5-26,0 (.85-1.06)	9-10SS	5-9CC
C9-300-1C	76,2 (3)	C9-130-24	27,4-33 (1.08-1.3)		
C9-300-1C	76,2 (3)	C9-175-9	31,7-41,4 (1.25-1.75)		
C10-360-1C	91,4 (3.6)	C10-100-36	21,5-26,0 (.85-1.06)	9-10SS	10-12CC
C10-360-1C	91,4 (3.6)	C10-100-27/300	21,5-26,0 (.85-1.06)		
C12-390-1C	99 (3.9)	C12-100-48	21,5-26,0 (.85-1.06)	12SS	10-12CC
C12-390-1C	99 (3.9)	C12-130-37	27,4-33 (1.08-1.3)		

\* Based on 2-bank In-line splice using 4000D/TR modules.

\*\* Collared Cap opening can be up to 6,35 mm (1/4") longer than the cable diameter, the clamp will tighten it down.

\*\*\* Two clamps are included with solid closure order. Three clamps are included with split closure order. One clamp is included with collared end cap.

\*\*\*\* 254 mm (10") cap with 27- 22 mm to 27 mm (.85" to 1.06") holes around 1- 76 mm (3.0") hole.

## 2.2 Splice Protection Products

### 2.2.1 Closures

## 3M™ K&B Vault and Riser Closures

#### Type/Order text

#### Ref.-No.

#### 3M K&B Vault Closure Kits

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,91 (2.0)/cs.	1 each	<b>KB2-100-2</b>
1/cs., 1,81 (4.0)/cs.	1 each	<b>KB3-175-1</b>
1/cs., 2,27 (5.0)/cs.	1 each	<b>KB4-175-1</b>
1/cs., 2,27 (5.0)/cs.	1 each	<b>KB4-175-2</b>
1/cs., 2,27 (5.0)/cs.	1 each	<b>KB5-100-6</b>
1/cs., 2,27 (5.0)/cs.	1 each	<b>KB5-130-6</b>
1/cs., 2,27 (5.0)/cs.	1 each	<b>KB5-175-2</b>
1/cs., 3,63 (8.0)/cs.	1 each	<b>KB6-100-9</b>
1/cs., 3,63 (8.0)/cs.	1 each	<b>KB6-130-9</b>
1/cs., 3,63 (8.0)/cs.	1 each	<b>KB6-175-3</b>
1/cs., 3,63 (8.0)/cs.	1 each	<b>KB7-100-15</b>
1/cs., 5,90 (13.0)/cs.	1 each	<b>KB7-175-5</b>
1/cs., 7,26 (16.0)/cs.	1 each	<b>KB8-100-24</b>
1/cs., 7,26 (16.0)/cs.	1 each	<b>KB8-130-18</b>
1/cs., 7,26 (16.0)/cs.	1 each	<b>KB8-175-8</b>
1/cs., 7,26 (16.0)/cs.	1 each	<b>KB9-100-27</b>
1/cs., 8,16 (18.0)/cs.	1 each	<b>KB9-130-24</b>
1/cs., 8,16 (18.0)/cs.	1 each	<b>KB9-175-9</b>
1/cs., 9,07 (20.0)/cs.	1 each	<b>KB10-100-36</b>
1/cs., 9,07 (20.0)/cs.	1 each	<b>KB10-100-36L</b>
1/cs., 12,70 (28.0)/cs.	1 each	<b>KB12-130-37</b>

#### 3M K&B Vault Closure Kits with Split Closure

Packaging & kg (lbs.)	Minimum Order	
1/cs., 1,81 (4.0)/cs.	1 each	<b>KBS3-175-1</b>
1/cs., 2,27 (5.0)/cs.	1 each	<b>KBS5-100-6</b>
1/cs., 2,27 (5.0)/cs.	1 each	<b>KBS5-130-6</b>
1/cs., 2,27 (5.0)/cs.	1 each	<b>KBS5-175-2</b>
1/cs., 3,63 (8.0)/cs.	1 each	<b>KBS6-100-9</b>
1/cs., 3,63 (8.0)/cs.	1 each	<b>KBS6-130-9</b>
1/cs., 3,63 (8.0)/cs.	1 each	<b>KBS6-175-3</b>
1/cs., 5,9 (13.0)/cs.	1 each	<b>KBS7-100-15</b>
1/cs., 5,9 (13.0)/cs.	1 each	<b>KBS7-175-5</b>
1/cs., 7,26 (16.0)/cs.	1 each	<b>KBS8-100-24</b>
1/cs., 7,26 (16.0)/cs.	1 each	<b>KBS8-130-18</b>
1/cs., 7,26 (16.0)/cs.	1 each	<b>KBS8-175-8</b>
1/cs., 8,16 (18.0)/cs.	1 each	<b>KBS9-100-27</b>
1/cs., 8,16 (18.0)/cs.	1 each	<b>KBS9-130-24</b>
1/cs., 8,16 (18.0)/cs.	1 each	<b>KBS9-175-9</b>
1/cs., 9,07 (20.0)/cs.	1 each	<b>KBS10-100-36 26"</b>
1/cs., 9,07 (20.0)/cs.	1 each	<b>KBS10-100-36L 34"</b>


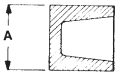
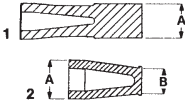
## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ K&B Vault and Riser Closures

#### Technical characteristics

#### 3M K&B Plugs

Rubber Bushes	Dimensional Diagram	Part Number	Dimension A	Dimension B	
<b>Plugs</b>					
		<b>Collared</b> 1 {	PC-175	1.75 (44)	
			PC-225	2.25 (57)	
			PC-275	2.75 (70)	
			PC-298	2.98 (76)	
		<b>Tapered</b>	PT-100	1.0 (25)	
			PT-120	1.2 (31)	
			PT-125	1.25 (32)	0.75 (19)
			PT-130	1.3 (33)	
			PT-175	1.75 (44)	1.25 (32)
			PT-225	2.25 (57)	1.75 (44)

NOTE: inches (mm) \*If inside diameter is less than 6,35 mm (0.25"), use KBS-1 to seal.

#### Type/Order text

#### Ref.-No.

#### 3M K&B Collared Plugs

Packaging & kg (oz.)	Minimum Order	Ref.-No.
1/cs., 0,06 (2)	1 each	<b>PC-175</b>
1/cs., 0,09 (3)	1 each	<b>PC-225</b>
1/cs., 0,14 (5)	1 each	<b>PC-275</b>
1/cs., 0,17 (6)	1 each	<b>PC-298</b>

#### 3M K&B Tapered Plugs

Packaging & kg (oz.)	Minimum Order	Ref.-No.
1/cs. 0,03 (1)/cs.	1 each	<b>PT-100</b>
1/cs. 0,03 (1)/cs.	1 each	<b>PT-120</b>
1/cs. 0,03 (1)/cs.	1 each	<b>PT-125</b>
1/cs. 0,06 (2)/cs.	1 each	<b>PT-130</b>
1/cs. 0,06 (2)/cs.	1 each	<b>PT-175</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ K&B Vault and Riser Closures

#### Description

#### Steps to Ordering a Customised 3M K&B Closure

If it is determined that a “standard” kit does not fit your cable precisely, a “customised” closure might be used for an air and water tight fit.

1. To customise a closure, use steps 1 through 4 on p. 175 to determine the approximate closure size for your cable's pair count, splice connections and number of tip cables.
2. Once the approximate closure size is determined, then you make it a precisely fit closure by sizing to the cables using K&B Bushes from “Chart B.”

#### As an example:

- You have a 1200-pair splice, with a 1200 pair field cable that has 50,8 mm (2.0") OD and 12-100 pair tip that has 25,4 mm (1.0") OD.




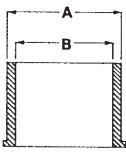

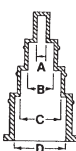

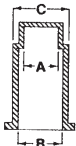
- The approximate closure size is a KB7-100-15. It has a multiple end cap with 15 openings of 25,4 mm (1.0") OD and a collared end cap with an opening of 69,9 mm (2.75") OD.
- The multiple end cap will give the tip cable a precise fit.
- The collared end cap is too big and needs a B275-200 bush to reduce the opening.

#### The order should be:

- One each KB7-100-15
- One each B-275-200-IC  
(this bush fits into the 69,9 mm (2.75") hole and reduces it down to 50,8 mm (2.0"). The “IC” stands for Insert and Cement)
- Three each PT100

#### Technical characteristics

Chart B: 3M K&B Bushes

Rubber Bushes	Dimensional	Part Number	Dimension A	Dimension B	Dimension C	Dimension D
		B-100-70	1.0 (28)	0.92 (23,4)	0.62 (15,7)	
		B-125-100	1.25 (32)	1.06 (26,9)	0.85 (21,8)	
		B-175-125	1,75 (44)	1,25 (32)		
		B-175-150	1.75 (44)	1.5 (38)		
		B-225-175	2.25 (57)	1.75 (44)		
		B-225-200	2.25 (57)	2.0 (51)		
		B-275-200	2.75 (70)	2.0 (51)		
		B-275-225	2.75 (70)	2.25 (57)		
		B-275-250	2.75 (70)	2.5 (64)		
		B-300-275	3.0 (76)	2.75 (70)		
		B-360-300	3.6 (91)	3.0 (76)		
		B-360-330	3.6 (91)	3.3 (84)		
		B-390-360	3.9 (99)	3.6 (91)		
<b>Variable Bushes</b>						
		B-1.00-0.25	0.49 (12,4)	0.69 (17,5)	0.79 (20,1)	1.0 (25,4)
		B-2.50-1.00	1.0 (25,4)	1.40 (35,6)	1.90 (48,3)	2.50 (63,5)
		B-1.75-1.50-1.00	1.12 (28,4)	1.50 (38,1)	1.75 (44,5)	

NOTE: inches (mm) \*If inside diameter is less than 6,35 mm (0.25"), use KBS-1 to seal.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ K&B Vault and Riser Closures

#### Description

#### Steps to Ordering a Special 3M K&B Closure

If it is determined that a “standard” or “customised” closure kit will not fit your cable needs, a “special” closure might be used for your air and water tight closure applications. The “special” closure consists of factory built specialty parts, i.e., multiple field cable Collared Caps, split Collared Caps, specific multiple cable Multiple Caps, closure Split Sleeves that are not in a kit form. These “special” closure parts need to be ordered separately and may have to be factory built.

1. For a special closure, use steps 1 through 4 on p. 175 to determine the approximate size of your closure to your cable's pair count, splice connections and number of tip cables. Once the approximate closure size is determined, make it a precise fit by piecing together the closure from “Chart C.”
2. The K&B Flat End Caps and Bushes are used in the factory to make the closure fit your requirements. Use the cable O.D. measurements to specify the proper bushes from

“Chart B” and the number of holes to be factory drilled. The “special” end caps will be shipped with holes drilled in the flat cap and bushes inserted and cemented.

3. When the “special” closure is used to cover an existing splice, the field cable collared end cap holes may need to be split so it can be installed. Multiple end caps cannot be split, a split Puddle Cap should be used. (See “Chart C” for the product number.) To seal the split of the end cap, use a KB-S1 Kit.
4. Both split and solid sleeves can also be factory cut to any length. See “Chart C” for the product number.
5. Order two closure clamps for a solid closure or three closure clamps for a split closure.
6. Order one collared clamp for each collared end opening or two collared clamps for a each split collared end opening.

#### Technical characteristics

Chart C 3M K&B Closure Component Selection Guide

Max. Pair Count		Sleeves		End Caps					Clamps	
MS <sup>2</sup>	Scotchlok	Solid Diameter length Part number	Split Diameter length Part number	Butt Part number	Flat Part number	Collared Part number	Multiple Part number	Puddle Part number	Closure	Collared
100	50	2-24	2DS-24	C2-2	C2				2SS	
200	100	3-24	3DS-24	C3-3	C3	C3-175-1C			3SS	3-4CC
400	200	4-24	4DS-24		C4	C4-175-1C	C4-175-2		4SS	3-4CC
600	300	5-26	5DS-26		C5	C5-275-1C	C5-100-6 C5-130-6 C5-175-2		5SS	5-9CC
900	400	6-26	6DS-26		C6	C6-275-1C	C6-100-9 C6-100-10 C6-130-9 C6-175-3		6-7SS	5-9CC
1200	600	7-26	7DS-26		C7	C7-275-1C	C7-100-15 C7-175-5	C7-5	6-7SS	5-9CC
2400	800	8-26	8DS-26		C8	C8-300-1C	C8-100-24 C8-130-18 C8-178-8	C8-7	8SS	5-9CC
2700	900	9-26	9DS-26		C9	C9-300-1C	C9-100-27 C9-130-24 C9-175-9 C9-275-3	C9-5 C9-7	9-10SS	5-9CC
3600	-	10-26 10-34	10DS-26 10DS-34		C10	C10-360-1C	C10-100-27 C10-100-36	C10-8	9-10SS	10-12CC
4800	-	12-28	12SS-28		C12	C12-390-1C	C12-100-48 C12-130-37	C12-8/6	12SS	10-12CC

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ K&B Vault and Riser Closures

#### Type/Order text

To complete the closure kit, include the additional K&B accessories in your order from the following pages once the end seals and closure components are selected.

#### Customised K&B Closure Components

##### Closure Sleeves Lengths

Split and Solid

KB-CSL

##### End Cap Hole

KB-ECH

##### End Cap Hole Split

KB-ECH/SPL

#### Ref.-No.

### 3M K&B Solid Sleeves

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,45 (1.0)/cs.	1 each	3-24
1/cs., 0,91 (2.0)/cs.	1 each	4-24
1/cs., 0,91 (2.0)/cs.	1 each	5-26
1/cs., 1,36 (3.0)/cs.	1 each	6-26
1/cs., 2,27 (5.0)/cs.	1 each	7-26
1/cs., 2,72 (6.0)/cs.	1 each	8-26
1/cs., 3,18 (7.0)/cs.	1 each	9-26
1/cs., 3,18 (7.0)/cs.	1 each	10-26
1/cs., 3,18 (7.0)/cs.	1 each	10-34
1/cs., 4,54 (10.0)/cs.	1 each	12-28

### 3M K&B Split Sleeves

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,45 (1.0)/cs.	1 each	2DS-24
1/cs., 0,45 (1.0)/cs.	1 each	3DS-24
1/cs., 1,36 (3.0)/cs.	1 each	4DS-24
1/cs., 1,36 (3.0)/cs.	1 each	5DS-26
1/cs., 1,81 (4.0)/cs.	1 each	6DS-26
1/cs., 2,27 (5.0)/cs.	1 each	7DS-26
1/cs., 3,18 (7.0)/cs.	1 each	8DS-26
1/cs., 3,63 (8.0)/cs.	1 each	9DS-26
1/cs., 3,63 (8.0)/cs.	1 each	10DS-26
1/cs., 3,63 (8.0)/cs.	1 each	10DS-34
1/cs., 4,99 (11.0)/cs.	1 each	12SS-28

### 3M K&B Multiple Caps

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,34 (.75)/cs.	1 each	C4-175-2
1/cs., 0,68 (1.5)/cs.	1 each	C5-100-6
1/cs., 0,68 (1.5)/cs.	1 each	C5-130-6
1/cs., 0,45 (1.0)/cs.	1 each	C5-175-2
1/cs., 0,79 (1.75)/cs.	1 each	C6-100-9
1/cs., 0,79 (1.75)/cs.	1 each	C6-100-10
1/cs., 0,9 (2.0)/cs.	1 each	C6-130-9
1/cs., 1,1 (2.5)/cs.	1 each	C6-175-3
1/cs., 1,2 (2.75)/cs.	1 each	C7-100-15
1/cs., 1,1 (2.5)/cs.	1 each	C7-175-5
1/cs., 1,7 (3.75)/cs.	1 each	C8-100-24
1/cs., 1,6 (3.5)/cs.	1 each	C8-130-18
1/cs., 1,6 (3.5)/cs.	1 each	C8-175-8
1/cs., 1,7 (3.75)/cs.	1 each	C9-100-27
1/cs., 1,6 (3.5)/cs.	1 each	C9-130-24



## 2.2 Splice Protection Products

### 2.2.1 Closures

## 3M™ K&B Vault and Riser Closures

#### Type/Order text

#### Ref.-No.

#### 3M K&B Multiple Caps (cont.)

Packaging & kg (lbs.)	Minimum Order	
1/cs., 1,6 (3.5)/cs.	1 each	C9-175-9
1/cs., 1,4 (3.0)/cs.	1 each	C9-275-3
1/cs., 2,3 (5.0)/cs.	1 each	C10-100-27/300 ESS
1/cs., 2,3 (5.0)/cs.	1 each	C10-100-36
1/cs., 3,1 (6.75)/cs.	1 each	C12-130-37
1/cs., 3,1 (6.75)/cs.	1 each	C12-100-48

#### 3M K&B Butt Caps

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,06 (0.13)/cs.	1 kit	C2-2
1/cs., 0,09 (0.19)/cs.	1 kit	C3-3

#### 3M K&B Collared End Caps

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,23 (0.5)/cs.	1 each	C3-175-1C
1/cs., 0,34 (0.75)/cs.	1 each	C4-175-1C
1/cs., 0,91 (2.0)/cs.	1 each	C5-275-1C
1/cs., 0,91 (2.0)/cs.	1 each	C6-275-1C
1/cs., 1,13 (2.5)/cs.	1 each	C7-275-1C
1/cs., 1,36 (3.0)/cs.	1 each	C8-300-1C
1/cs., 1,59 (3.5)/cs.	1 each	C9-300-1C
1/cs., 1,59 (3.5)/cs.	1 each	C10-360-1C
1/cs., 2,49 (5.5)/cs.	1 each	C12-390-1C

#### 3M K&B Flat Caps

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,09 (0.19)/cs.	1 each	C2 (2")
1/cs., 0,09 (0.19)/cs.	1 each	C3 (3")
1/cs., 0,23 (0.5)/cs.	1 each	C4 (4")
1/cs., 0,45 (1.0)/cs.	1 each	C5 (5")
1/cs., 0,45 (1.0)/cs.	1 each	C6 (6")
1/cs., 0,45 (1.0)/cs.	1 each	C7 (7")
1/cs., 0,9 (2.0)/cs.	1 each	C8 (8")
1/cs., 1,4 (3.0)/cs.	1 each	C9 (9")
1/cs., 1,4 (3.0)/cs.	1 each	C10 (10")
1/cs., 2,3 (5.0)/cs.	1 each	C12 (12")

## 2.2 Splice Protection Products

### 2.2.1 Closures

## 3M™ K&B Vault and Riser Closures

#### Type/Order text

#### Ref.-No.

### 3M K&B Puddle Caps

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,91 (2.0)/cs.	1 each	<b>C7-5</b>
1/cs., 0,91 (2.0)/cs.	1 each	<b>C8-7</b>
1/cs., 1,36 (3.0)/cs.	1 each	<b>C9-5</b>
1/cs., 0,91 (2.0)/cs.	1 each	<b>C9-7</b>
1/cs., 1,81 (4.0)/cs.	1 each	<b>C10-8</b>
1/cs., 1,27 (5.0)/cs.	1 each	<b>C12-8/6</b>

### 3M K&B Bushes

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,09 (3)/cs.	1 each	<b>B100-50</b>
1/cs., 0,09 (3)/cs.	1 each	<b>B100-70</b>
1/cs., 0,03 (1)/cs.	1 each	<b>B125-100</b>
1/cs., 0,06 (2)/cs.	1 each	<b>B175-125</b>
1/cs., 0,06 (2)/cs.	1 each	<b>B175-150</b>
1/cs., 0,09 (3)/cs.	1 each	<b>B225-175</b>
1/cs., 0,17 (6)/cs.	1 each	<b>B225-200</b>
1/cs., 0,17 (6)/cs.	1 each	<b>B275-200</b>
1/cs., 0,11 (4)/cs.	1 each	<b>B275-225</b>
1/cs., 0,06 (2)/cs.	1 each	<b>B275-250</b>
1/cs., 0,09 (3)/cs.	1 each	<b>B300-275</b>
1/cs., 0,11 (4)/cs.	1 each	<b>B360-300</b>
1/cs., 0,11 (4)/cs.	1 each	<b>B360-330</b>
1/cs., 0,11 (4)/cs.	1 each	<b>B390-360</b>

### 3M K&B Variable Bushes

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,09 (3)/cs.	1 each	<b>B-1.0-2.5</b>
1/cs., 0,09 (3)/cs.	1 each	<b>B-2.5-1.0</b>
1/cs., 0,09 (3)/cs.	1 each	<b>B-1.75-1.50-1.0</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

#### 3M™ K&B Vault and Riser Closures

##### Type/Order text

##### Ref.-No.

#### 3M K&B Collared Cap Clamps

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,03 (1)/cs.	1 each	<b>3-4CC</b>
1/cs., 0,03 (1)/cs.	1 each	<b>5-9CC</b>

#### 3M K&B Closure Clamps

Packaging & kg (lbs.)	Minimum Order	
1/cs., 0,03 (1)/cs.	1 each	<b>2SS</b>
1/cs., 0,03 (1)/cs.	1 each	<b>3SS</b>
1/cs., 0,03 (1)/cs.	1 each	<b>4SS</b>
1/cs., 0,06 (2)/cs.	1 each	<b>5SS</b>
1/cs., 0,09 (3)/cs.	1 each	<b>6-7SS</b>
1/cs., 0,11 (4)/cs.	1 each	<b>8SS</b>
1/cs., 0,11 (4)/cs.	1 each	<b>9-10SS</b>
1/cs., 0,11 (4)/cs.	1 each	<b>12SS</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ K&B Vault and Riser Closures Accessories

#### Description



#### 3M 5925 Fire Barrier Vault Rehabilitation Kit

For use in conjunction with an existing vertically installed K&B Vault Closure when specific fire retardancy requirements such as the Bell System Technical Reference PUB 55006 (Issue 1, Section 5.53) are required.

**Kit contents/size:**

- Fire Barrier Foil Mat 298 mm x 3,7 m (11 3/4" x 12')
- No. 69 Glass Cloth Tape 25 mm x 23 m (1" x 25 yds.)



#### 3M RC-100 Splice Supports

Designed to reduce closure support costs. The rack clips permit fast, multi-positioning of industry standard manhole racks or uni-struts and hooks to facilitate support of a closure. Two supports per set.



#### 3M KB-S1 Sealing Kit

Designed for sealing split K&B vault sleeves and split end caps. Each kit contains a "Mini-Semkit" of 38g of urethane adhesive, a 50,8 mm x 76,2 mm x 9,5 mm (2" x 3" x 3/8") ScotchBrite 7H Pad, a wooden spatula, and instructions.



#### 3M Cable Lubricant

Designed to make vault closure installation faster by lubricating tip cables before insertion into multiple end caps, the cable lubricant evaporates after use and does not damage closure elements in any way. Supplied in a 113,2 g (4 oz.) dauber-top bottle.



#### 3M Bonding Harness

For use in closure to ground shields of spliced cable; 14 AWG.

## 2.2 Splice Protection Products

### 2.2.1 Closures

#### 3M™ K&B Vault and Riser Closures Accessories

##### Type/Order text

##### Ref.-No.

##### 3M K&B Accessories

Description	Packaging & kg (lbs.)	Minimum Order	
<b>5925 Fire Barrier Vault Rehabilitation Kit</b>	1/cs., 4,0 (8.9)/cs.	1 kit	<b>5925</b>
<b>RC-100 Splice Supports</b>	10 sets/cs., 3,5 (7.8)/cs.	10 sets	<b>RC-100</b>
<b>KB-S1 Sealing Kit</b>	1 kit/cs., 0,15 (0.33)/cs.	1 kit	<b>KB-S1</b>

##### 3M K&B Bonding Harnesses and Cable Lubricant

Description	Packaging & kg (lbs.)	Minimum Order	
(2,3,4,5,6" closure)	1/cs., 0,23 (0.5)/cs.	1 set	<b>BH2-6</b>
(7" closure)	1/cs., 0,45 (1.0)/cs.	1 set	<b>BH7</b>
(8-9" closure)	1/cs., 0,68 (1.5)/cs.	1 set	<b>BH8-9</b>
(10-12" closure)	1/cs., 0,91 (2.0)/cs.	1 set	<b>BH10-12</b>
	1/cs., 0,11 (0.25)/cs.	1 bottle	<b>Cable Lubricant</b>

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ K&B Building Riser Closures

#### Description

#### 3M K&B Building Riser Closure



R-6 10 Port/Single Entry Closure

The K&B Riser Closure has the same proven qualities of the K&B Vault Closure but are used in applications that do not require an air or water tight closure. Because of this, the end caps do not need to precisely fit the cable and are more versatile and user friendly. Use "Closure Selection Guide" for determining the proper closure size for your application. All K&B Riser Closures are flame retardant.

**NOTE:** Single port SRC end caps are optional and must be ordered separately.

#### Kit contents:

- Split Closure Cover
- Stainless steel hose clamps (2)
- Flex strips (4)
- End caps (2)
  - R3 and R5 – 2 each of double (2) entry conical end caps
  - R6-10 – 1 each of a single (1) entry conical end cap and 1 each of a ten (10) port rubber end cap. Also 1 each of a 4 ounce bottle of cable lubricant.
  - R7 and R9 – 2 each of triple (3) entry conical end caps



R3, R5, R7 and R9 Closures

### Closure Selection Guide

Product Number	R-3	R-5	R-6	R-7	R-9
Closure inside dimensions					
Diameter, mm (in.)	76 (3)	127 (5)	152 (6)	178 (7)	228 (9)
Length, mm (in.)	24 (607)	660 (26)	660 (26)	660 (26)	660 (26)
Approx. splice bundle capacity (Super-Mini)	300-pr. 24 AWG or less*	900-pr. 24 AWG*	900-pr. 24 AWG*	1800-pr. 24 AWG*	3000-pr. 26 AWG*

#### Maximum allowable cable diameter

#### Multiple entry end caps

Port 1, mm (in.)	30 (1.2)	51 (2.0)	84 (3.3)	79 (3.1)	96 (3.8)
Port 2, mm (in.)	30 (1.2)	51 (2.0)	Ports 1-10	61 (2.4)	79 (3.1)
Port 3, mm (in.)	—	—	28 (1.1)	51 (2.0)	61 (2.4)
Optional single entry end caps, mm (in.)					
	SRC-3 43 (1.7)	SRC-5 61 (2.4)		SRC-7 91 (3.6)	SRC-9 96 (3.8)

\*Based on 2-Bank Straight Splice using 4000-D/TR Modules.

## 2.2 Splice Protection Products

### 2.2.1 Closures

# 3M™ K&B Building Riser Closures


#### Type/Order text

#### Ref.-No.

### 3M K&B Building Riser Closure Kits

Description	Packaging & kg (lbs.)	Minimum Order	
<b>R3</b> (Double Cap/Double Cap)	10/cs., 11,62 (25.6)/cs.	10 kits	<b>R3</b>
<b>R5</b> (Double Cap/Double Cap)	1/cs., 2,86 (6.3)/cs.	1 each	<b>R5</b>
<b>R7</b> (Triple Cap/Triple Cap)	1/cs., 4,18 (9.2)/cs.	1 each	<b>R7</b>
<b>R9</b> (Triple Cap/Triple Cap)	1/cs., 5,08 (11.2)/cs.	10 kits	<b>R9</b>
<b>R6</b> (Multiple Port End Cap)	1/cs., 4,63 (10.2)/cs.	1 each	<b>R6</b>

### 3M Riser closure end caps —Single entry (optional)

Description	Packaging & kg (lbs.)	Cap Dimension	
 Riser Closure End Cap		76 (3)	<b>SRC-3</b>
Riser Closure End Cap		127 (5)	<b>SRC-5</b>
Riser Closure End Cap		178 (7)	<b>SRC-7</b>
Riser Closure End Cap		229 (9)	<b>SRC-9</b>

### 3M K&B Riser Closure End Caps-Single Entry

Packaging & kg (lbs.)	Minimum Order	
10/cs., 1,22 (2.7)/cs.	10 each	<b>SRC-3</b>
10/cs., 2,8 (6.1)/cs.	10 each	<b>SRC-5</b>
1/cs., 0,63 (1.4)/cs.	1 each	<b>SRC-7</b>
1/cs., 0,77 (1.7)/cs.	1 each	<b>SRC-9</b>

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# Compounds and Sealing Kits

#### Description

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



#### The best all-around buried splice protection

Consider the time and costs of splicing a buried cable. Then consider the time and costs of going back to repair the splice because your encapsulating compound couldn't weather the elements. With these considerations in mind, 3M developed High Gel – a completely re-enterable encapsulant designed for superior performance at a low cost. Using an advanced compound technology, High Gel yields a higher level of adhesion than encapsulants costing much more. This is because High Gel is designed to absorb cable-filling materials, yet remain easily and completely re-enterable. Even when splicing filled cable, little or no cable cleaning is required prior to using High Gel. Application is quick and easy, since High Gel accepts forced-compound techniques as well as gravity-fill. High Gel also provides better penetration of splice bundles at low temperatures due to its lower viscosity and longer gel time. With its

increased hydrolytic stability, High Gel stays firm at high temperatures. You get greater moisture protection and overall performance that's superior – yet High Gel costs no more than most encapsulants of lesser quality. Many encapsulants on the market today contain isocyanate compounds, which can cause allergic reactions in certain persons. High Gel contains no isocyanates, so the risk of an allergic reaction is greatly reduced.

#### Built-in quality

When you use High Gel for your splicing jobs, you get more than the performance of a superior encapsulant. You get the assurance of quality that's built into every 3M product. As a leader in the telecommunications industry, 3M has built a reputation of reliability at an affordable price. And with High Gel, you can count on getting the job done right-the first time.

#### Highlights:

Features	Advantages	Benefits
Advanced compound technology	Does not contain isocyanates	Reduces the risk of allergic reaction
High adhesion	Greater moisture protection; no cable cleaning required	Saves time, repair costs and money
High performance	Easy to re-enter; prevents ingress of moisture	Saves man-hours and money
Unipak Packaging	Eliminates worker exposure to vapors during mixing; No unreacted material after mixing	Reduces exposure to chemicals Eliminates the need for special disposal





## 2.2 Splice Protection Products

### 2.2.2 Accessories

## Compounds and Sealing Kits

#### Type/Order text

#### Ref.-No.

Size	Packaging	
<b>8882 High Gel Re-enterable Encapsulant</b>		
<b>500C (521 ml) Unipak</b>	10 kits per case	<b>8882 High Gel 500C</b>
<b>750C (781 ml) Foil Unipak</b>	4 kits per case	<b>8882 High Gel 750C</b>
<b>1900C (1979 ml) Foil Unipak</b>	1 kit per case	<b>8882 High Gel 1900C</b>
<b>5000C (5203 ml) Pouch in Pail</b>	2 kits per case	<b>8882 High Gel 5000C</b>
<b>8000C (8333 ml) Pouch in Pail</b>	1 kit per case	<b>8882 High Gel 8000C</b>
<b>Size A (90 ml) Unipak</b>	10 kits per case	<b>8882 High Gel Size A</b>
<b>Size C (385 ml) Unipak</b>	10 kits per case	<b>8882 High Gel Size C</b>
<b>Size D (659 ml) Unipak</b>	10 kits per case	<b>8882 High Gel Size D</b>
<b>Size E (292 ml) Unipak</b>	10 kits per case	<b>8882 High Gel Size E</b>
<b>750F (824 ml) Foil Unipak</b>	4 kits per case	<b>8882 High Gel 750F</b>
<b>1500F (1648 ml) Foil Unipak</b>	2 kits per case	<b>8882 High Gel 1500F</b>
<b>3000F (3297 ml) Foil Unipak</b>	1 kit per case	<b>8882 High Gel 3000F</b>
<b>6000 (6593 ml) Pouch in Pail</b>	1 kit per case	<b>8882 High Gel 6000</b>

To order, specify the size of packages and number of cases.

## 2.2 Splice Protection Products

### 2.2.2 Accessories

## Compounds and Sealing Kits

#### Description

### 3M Scotchcast 4407 Encapsulating and Blocking Compound



Developed for splice encapsulation and pressure blocking, Scotchcast 4407 compound is a two-part compound. It features excellent wetting properties and low viscosity, which means it flows quickly and freely. Its low temperature cure properties mean that it may be

used in almost any type of weather. Cure time is fast; approximately 1 hour at 22°C (72°F) and 20 hours at -4°C (20°F). 4407 is usable to -18°C (0°F). Designed for both splice encapsulation and cable blocking, Scotchcast 4407 eliminates the need to stock more than one compound.

### 3M Scotchcast 4416 Duct Sealing Kit



The 4416 Duct Sealing Kit prevents water and other liquids from running out of a cable duct and entering a manhole or central office.

#### Kit contents:

- Foam strip
- Spacer web strip
- Scotchcast cleaning pads (4)
- Scotchcast expandable sealant (4)
- Plastic tubes

**RUS Listed**

### 3M 4408 Haplec Blocking Compound



4408 Haplec Blocking Compound is a patented high-performance two-part resin providing high shear adhesion to plastic insulated conductors (PIC), even when the insulation is grease coated (as in filled cable). It was designed to make combination moisture/

pressure blocks (especially in filled cable) and pressure dams for transition splices between pressurised and grease filled cable. 4408 Haplec Blocking Compound is conveniently packaged in Unipak Containers.

### 3M Pull 'N' Shrink Tubing (Cold Shrink)



Pull 'N' Shrink Tubing is an open-ended tubular rubber sleeve (of high stretch EPDM rubber) which has been factory expanded and assembled into a removable hollow core. To use, the core mounted tubing is correctly positioned over a coaxial cable connector and then shrunk in place by pulling out the specially designed core allowing elastic recovery of the tube. This

results in protection of the connector from the ambient environment by the rubber sleeve. The Pull 'N' Shrink Tubing is available in 6 sizes covering coaxial cable diameter range from 6,9 mm (0.27") to a maximum of 45,7 mm (1.80"). Each size is available in two lengths — the long (L) version is designed for splice connector protection and the short (S) is for use with connections to taps, amplifiers and splitters.

### 3M Scotchcast 4411 Pedestal Base Sealant Kit



A two-part expanding sealant used to fill pedestal bases to prevent ground moisture from entering the pedestal. The sealant protects the cables against rodents, insects and moisture.

An "A" size unipak bag will expand to fill about 753,80 cubic cm (46 cubic inches); a "B" size will fill about 56,77 cubic cm (95 cubic inches), and a "D" size will expand to fill about 4096,77 cubic cm (250 cubic inches). **RUS Listed**

### 3M Scotchcast 4430-F Foam Kit



Open cell polyurethane foam strips used for cable duct sealing or for containing expandable sealants. Kit contents: 8 rolls foam, 25,4 mm x 76,2 mm x 1,8 m (1" x 3" x 72").



## 2.2 Splice Protection Products

### 2.2.2 Accessories

## Compounds and Sealing Kits

#### Type/Order text

#### Ref.-No.

Description	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>4407 Encapsulating and Blocking Compound</b>			
89 ml (94 g)	1 bag/box, 10/cs., 1,6 (3.5)	10 bags	<b>Size A</b>
197 ml (209 g)	1 bag/box, 10/cs., 3,2 (7.0)	10 bags	<b>Size B</b>
396 ml (420 g)	1 bag/box, 10/cs., 5,4 (12.0)	10 bags	<b>Size C</b>
637 ml (675 g)	1 bag/box, 10/cs., 8,7 (19.1)	10 bags	<b>Size D</b>
283 ml (300 g)	1 bag/box, 10/cs., 4,2 (9.3)	10 bags	<b>Size E</b>
1415 ml (1500 g)	1 unit/cs., 2,04 (4.5)	1 unit	<b>Size 1500 F</b>
2830 ml (3000 g)	1 unit/cs., 3,4 (8.8)	1 unit	<b>Size 3000 F</b>
<b>4408 Haplec Blocking Compound</b>			
632 ml (600 g)	1 bag/box, 10/cs., 7,5 (16.5)	10 bags	<b>Unipak Bag Size D</b>
316 ml (300 g)	1 bag/box, 10/cs., 4,1 (9.1)	10 bags	<b>Unipak Bag Size E</b>
<b>4411 Pedestal Base Sealant Kit</b>			
795 ml (96.3 g)	4/box, 16/cs., 2,7 (6.0)	16 bags	<b>"A" bag</b>
1570 ml (190 g)	4/box, 16/cs., 4,3 (9.5)	16 bags	<b>"B" bag</b>
4130 ml (500 g)	4/box, 16/cs., 10,3 (22.8)	16 bags	<b>"D" bag</b>
6195 ml (750 g)	4 units/cs., 4,7 (10.4)	4 units	<b>750 F bag</b>
<b>4416 Duct Sealing Kit</b>			
	4/cs., 1,5 (3.3)	1 kit	<b>4416 Duct Sealing Kit</b>
<b>Pull 'N' Shrink Tubing (Cold Shrink)</b>			
4626L PST Drop Wire	10/cs., 1,5 (3.3)	10 each	<b>4626L PST Drop Wire</b>
4627L PST (0.412)	10/cs., 1,8 (4)	10 each	<b>4627L PST</b>
4628L PST (0.500)	10/cs., 1,5 (3.3)	10 each	<b>4628L PST</b>
4629L PST (0.625)	10/cs., 2,0 (4.5)	10 each	<b>4629L PST</b>
4630L PST (0.750)	10/cs., 1,5 (3.3)	10 each	<b>4630L PST</b>
4631L PST (1.00)	10/cs., 2,7 (6)	10 each	<b>4631L PST</b>
4626S PST Drop Wire	10/cs., 0,3 (0.7)	10 each	<b>4626S PST Drop Wire</b>
4627S PST (0.412)	10/cs., 1,0 (2.1)	10 each	<b>4627S PST</b>
4628S PST (0.500)	10/cs., 1,1 (2.4)	10 each	<b>4628S PST</b>
4629S PST (0.625)	10/cs., 1,2 (2.6)	10 each	<b>4629S PST</b>
4630S PST (0.750)	10/cs., 1,3 (2.8)	10 each	<b>4630S PST</b>
4631S PST (1.00)	10/cs., 1,5 (3.3)	10 each	<b>4631S PST</b>
<b>4430-F Duct Foam Kit</b>			
	8 rolls/kit, 1 kit/cs. 1,6 (3.6)	1 kit	<b>4430-F Duct Foam Kit</b>

Note: Volume in milliliters (ml) is equal to 3,785.4 ml/1 gallon.

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# Pressure and Moisture Blocking Kits

#### Description

#### 3M Scotchcast 8964 Pedestal Pressure/Moisture Blocking Kit



A system for PIC air core cable blocking. Used to make a pressure block and moisture seal at the pedestal interface. The kit contains a universal closure and the pourable Haplec 4408 compound conveniently packaged in a unipak container. The 8964 kit includes:

1 closure body 254 mm x 355,6 mm (10" x 12"), 1 spacer web 127 mm x 228,6 mm (5" x 9"), 1 mastic strip 254 mm (10"), 1 fibreglas strip roll 38,1 mm x 0.9 mm (1 1/2"x 36"), 1 4408 Haplec blocking compound D bag 600 g (21.2 oz.), 1 Instruction sheet.

#### 3M Scotchcast 4530, 4530-L, 4530-S/NB/4408 Open Sheath Blocking Closures



This system provides full pressure blocking on air core cable (paper or pulp insulated cable that has not been treated with anti-wetting agents and PIC).

Compound filling of the cable block can be accomplished by pouring and injecting or, when cable is under air pressure, by injecting alone. Scotchcast 4407 Encapsulating and Blocking Compound is used with the 4530 and 4530-L closure kits. Scotchcast 4407 compound is a two-part polyurethane compound characterised by excellent wetting properties and low viscosity which is ideal for pressure blocking applications. The 4407 compound is sold separately from the closure kit to permit optimisation of the amount of compound used.

#### 3M Scotchcast 4477 and 4477-R Plugging Under Pressure (PUP) Kit (Air Pressure Blocking)



This easy-to-use kit is a system that allows the craftsman to make a pressure block without cable line air pressure shut-down. The Scotchcast 4477 PUP Kit saves time in making a pressure block because it contains all the necessary components in a system package. The 4477-R kit is a replenishment kit that permits use of 4477 kit components that are

removed after plug curing for other pressure block applications. The PUP kit's relief valve and bypass tube automatically equalise pressure to 5 p.s.i. on both sides of the injection point. The system's injection valve permits compound injection without loss or mess while the cross fitting permits the addition of an "F" valve for adding buffered air or monitoring. The 4477-R kit includes 60 plungers for SCS usage.

#### 3M Scotchcast 4407/SCS Single Cartridge System for Plugging



The Scotchcast Cable Blocking System features a reusable injection cartridge which can be used for as many as six injections of Scotchcast 4407 compound, or up to 72 oz. (2 kg) of compound, depending on the size of the block. The Single Cartridge System can be used on both open and direct sheath applications, on vertical as well as horizontal blocks, & on plugs made under pressure. The cable blocking system comes

with an injection gun. The empty cartridge is screwed onto the injection port of the sheath or 4530 closure. After the compound is poured, a plunger is inserted, the injection gun is placed on the cartridge, and the compound is injected into the sheath or the closure. This is repeated using the same cartridge until the block is completed or six plungers have been used.

#### Type/Order text

#### Ref.-No.

#### 3M Pressure Blocking Kits

Descriptions	Packaging & kg (lbs)/cs.	Minimum Order	
<b>Scotchcast 8964</b>	1/cs., 1,1 (2.4)	1 kit	<b>Scotchcast 8964</b>
<b>Plugging Under Pressure (PUP) Kits</b>			
	1/cs., 0,58 (1.3)	1 kit	<b>4477 PUP Kit</b>
<b>Replenishment Kit</b>	10 petcocks & 60 plungers/kit, 1/cs., 0,49 (1.1)	1 kit	<b>4477-R PUP</b>

## 2.2 Splice Protection Products

### 2.2.2 Accessories

## Pressure and Moisture Blocking Kits

### Description

#### Kit Components for the 3M 4530 Series Pressure and 3M Moisture Blocking Kits

Kit contents	Kit Product Numbers		
	4530	4530-L	4530-S/NB/4408
Injection closure	•	•	•
Fill port caps (2)	•	•	•
W9 channeling wedges (12)	•	•	•
4460-S shield bond connectors (2)	•	•	•
25T grounding braid (356 mm (14") strip)	•	•	•
Fibreglass tape (2 strips)	•	•	•
Spacer web	•	•	•
Air vent plugs (2)	•	•	•
Mastic strip	•	•	•
Stainless steel hose clamps (2)	•	•	•
378 mm (1/10 gal.) injection cartridge	•	•	•
Stackable plungers (5)	•	•	•
Injection caps (2)	•	•	•
13 mm (1/2") O.D. tubing 4"	•	•	•
3 mm (1/8") O.D. tubing 6"	•	•	•
Fibreglass strips (2)	•	•	•
Funnel		•	•
"E" size bag of 4408 Haplec Blocking Compound			•

#### Kit Components for the 3M 4407 Series Single Cartridge System Kits

Kit Contents	Kit Product Numbers		
	4407/SCS Kit with injection gun	4407/SCS-D Single cartridge system	4407/SCS Direct sheath injection kit
Plungers	12	12	1
Cartridge	6	1	1
4478 Flanges	6		1
Petcocks	6	1	1
"B" Bag 4407			1
"D" Bags 4407	6	1	
W9 Channeling wedges	100		6
4470 Injection gun	1		

### Type/Order text

### Ref.-No.

Packaging & kg (lbs.)	Minimum order	Ref.-No.
1/box, 10/cs., 7,4 (16.4)	10 kits	4530
1/cs., 1,2 (2.7)	1 kit	4530-L
1/box, 10/cs.	10 kits	4530-S/NB/4408
1/cs., 6,3 (13.9)	1 kit	4407/SCS Kit
1/box, 10/cs., 10,5 (23.1)	10 each	4407/SCS-D
10/cs., 5,1 (11.3)	10 kits	4407/SCS

## 2.2 Splice Protection Products

### 2.2.2 Accessories

## 3M™ Specialty Tapes

#### Description

### 3M Splicing Tapes

#### 3M 2183 E-Z Wrap Elastic Vinyl

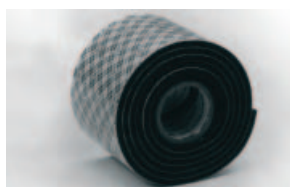


E-Z Wrap is a tough, thin elastic vinyl material which sticks to itself when wrapped in layers. It forms a compact, durable, flexible, moisture-proof covering. Protects wire groups, splice bundles and pulp and

paper insulated wire. Recommended for Foam Sealed, and Better Buried, Compound Compression closures.

**Size:** 3.0 mil thick, 101,6 mm x 30,4 m (4" x 100')

#### 3M Scotch 26-FC Foam Collar Tape



An open-cell (similar to foam rubber), black construction collar with pressure-sensitive adhesive (slight tack) on both sides. Excellent co-adhesion properties and compatibility with encapsulating compo-

unds. For all enclosure collar applications.

**Size:** 51 mm x 1,01 m (2" x 40')

### 3M Mastic Sealing Tapes

#### 3M Scotch VM Vinyl Mastic Tape



VM Tape seals out moisture and protects against corrosion without the need for heating tools. Two tapes in one (vinyl and mastic) VM is especially designed for cable sheath repair, splice case and load coil case protection, auxiliary closure and cable reel end sealing, drop wire insulating, conduit repair and protection of CATV

components plus many other general taping applications. VM Tape is a rubber based mastic laminated to an all weather 0.18 mm (7 mil) vinyl, which provides double duty protection in one wrap. Four sizes to meet all possible applications are available.

**Size:** 38,1 mm x 6,1 m (1-1/2" x 20'), 101,6 mm x 3,1 m (4" x 10'), 152 mm x 3,1m (6" x 10'), 559 mm x 13,5 m (22" x 10')

#### 3M 2178-125 Mastic Tape



2178-125 Mastic Tape is a non-conductive black mastic that provides excellent sealing properties and does not degrade with gasoline or encapsulating compounds. The tape is 3,2 mm (1/8") thick and is available in rolls.

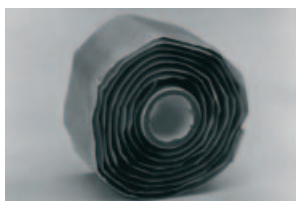
**Size:** 38,1 mm x 1,1 m (1-1/2" x 45')

#### 3M 2178-281 Cord Re-enterable Mastic



The 2178 Cord Re-enterable Mastic is available in rolls 1,85 m (6') in length with a 8,7 mm (1/3") cord diameter.

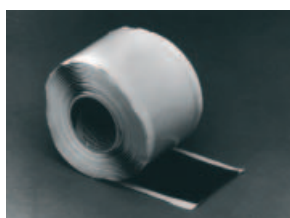
#### 3M Scotch 2900-R Sealing Tape



A non-conductive grey mastic tape with good compression qualities is resistant to solvents and maintains its form in temperatures in excess of 140° C. It can be substituted for B Sealant tape.

**Size:** 38,1 mm x 1,52 m (1-1/2" x 5')

#### 3M RM2228 Rubber/Mastic Sealing Tape



2228 Sealing Tape conforms to irregular shapes and is available in 51 mm x 3,1 m (2" x 10') rolls.



## 2.2 Splice Protection Products

### 2.2.2 Accessories

## 3M™ Specialty Tapes

### Description

### 3M All Weather Protection Tapes



#### 3M Scotch 88T All Weather Telephone Vinyl Plastic Tape

Taping end caps, wrapping for abrasion protection or temporarily securing—88T Tape will suit your needs for inside or outside plant applications as the handiest tool in your kit. The special formula adhesive and extra-tough backing offer you superior adhesion and excellent conformability over extended temperature ranges, thus reducing your inventory needs to one vinyl tape.

Available in craftsman size rolls to fit your specific in-the-field use, this 0,22 mm (8-1/2 mil) tape releases smoothly from the roll in zero weather and will not ooze adhesive in hot climates. The 38 mm x 13,5 m (1-1/2" x 44') roll is especially suited as the Splicer's roll, for outside plant usage.

88T Tape resists: water, acids, alkalis, and is flame retardant. It is weather resistant and not affected by sunlight.

#### 3M Scotchrap 50 All Weather Corrosion Protection Vinyl Tape

50 All Weather Tape is used for outdoor corrosion applications and is available in rolls 25 mm x 30,4 m (1" x 100') and 51 mm x 30,4 m (2" x 100').

### 3M Build-up Tapes



#### 3M 26-FC Foam Collar Tape

26-FC Build-up Tape is used for closure sealing end collars for compression type closures and comes in a 51 mm x 1,00 m (2" x 40") roll.

#### 3M 130C Linerless Rubber Splicing Tape

130C Build-up Tape is used for build-up and moisture protection and comes in two sizes: 38 mm x 9,1 m x 0,761 mm (1.5" x 30' [10 yds.] x 0.030") and 50,7 mm x 9,1 m x 0,761 mm (2" x 30' [10 yds.] x 0.030").

#### 3M Scotchfil Build-up Tape

Scotchfil Build-up Tape is used for rapid build-up for sealing collars. It is available in 38 mm x 1,5 m (1-1/2" x 60") rolls.

### 3M Identification Tapes



#### 3M Scotch 35 Vinyl Identification Tape

35 Identification Tape is used for identifying special applications. It is available in blue, orange, green, brown, grey, red, violet, white and yellow. It is available in two sizes: 12,5 mm x 6,1 m (1/2" x 20') and 19 mm x 20 m (3/4" x 66').

## 2.2 Splice Protection Products

### 2.2.2 Accessories

## 3M™ Specialty Tapes

#### Description

### 3M Special Use Tapes



#### 3M 3 Paper Tape

3 Tape is used for repair and identification of pulp/paper insulation. It comes in 12,5 mm x 18,3 m (1/2" x 20 yd.) rolls.



#### 3M 27 Glass Cloth Tape

27 Tape is used for high strength repair requirements. It comes in three sizes: 19 mm x 32.9 m (3/4" x 36 yd.), 25 mm x 32.9 m (1" x 36 yd.), and 51 mm x 54,8 m (2" x 60 yd.).



#### 3M 49 Aluminum Foil Tape

49 Tape is used for EMI and moisture protection. It is available in two sizes: 51 mm x 6,1 m (2" x 20') and 101,6 mm x 6,1 m (4" x 20').



#### 3M 69 Glass Cloth Tape

69 Tape is used for high temperature and high strength requirements. It is available in 25 mm x 22,8 m (1" x 25 yd.) rolls.



#### 3M 77 Fire and Arc Proofing Tape

77 Tape is used for fire and arc protection of cable sheath material. It is available in two sizes: 38 mm x 6,1 m (1-1/2" x 20') and 76,1 mm x 6,1 m. (3" x 20').



#### 3M P-4 Cloth Tape

P-4 Cloth Tape is used for restriction for cable blocking and comes in 25 mm x 9 m (1" x 30') rolls.





## 2.2 Splice Protection Products

### 2.2.2 Accessories

## 3M™ Specialty Tapes

### Technical characteristics

#### Tape Application Chart

Application	Tape Type	Used For	Sizes
All Weather Protection	88T	General outdoor use	3/4" x 36', 1"x36", 1-1/2" x 44'
	50	For outdoor applications in corrosive environments	1" x 100', 2" x 100'
Sealing	VM	Sealing out moisture and corrosion	1-1/2" x 20', 4" x 10', 6" x 10", 22" x 10'
	2900-R	Closure sealing collars	1-1/2" x 60'
	2228	Conforming to irregular shapes	2" x 10'
	130C	Build-up and moisture protection	3/4" x 30', 2" x 30'
Build-Up	26-FC	Closure sealing end collars (for compression type closures)	2" x 40'
	130C	Build-up and moisture protection	3/4" x 30', 2" x 30'
	Scotchfil	Rapid build-up for sealing collars	1-1/2" x 60'
Identification	35	Identifying special applications Available colours: Blue, Orange, Green, Brown, Grey, Red, Violet, White, Yellow	1/2" x 20', 3/4" x 66'
Special Use	3	Repair and identification of pulp/paper insulation	1/2" x 20 yds.
	27	High strength repair requirements	3/4" x 36 yds., 1" x 36 yds., 2" x 60 yds.
	49	EMI and moisture protection	2" x 20', 4" x 20'
	69	High Temperature/high strength requirements	1" x 25 yds.
	77	Fire and arc protection of cable sheath material	1-1/2" x 20', 3" x 20'
	2183	Wrapping splice bundles prior to closure application	4" x 100'
	P-4	Restriction for cable blocking	1" x 30'
	2176		

### Type/Order text

### Ref.-No.

#### Tapes and Sealing Products

Product	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>Splicing Film</b>			
<b>2183 E-Z Wrap Elastic Vinyl</b> (3.0 mils thick), Size: 101,6 mm x 30,4 m (4" x 100')	12/cs., 3,6 (8)	12 rolls	<b>2183</b>
<b>Mastic Tapes</b>			
<b>VM Tape Vinyl/Mastic</b>			
Size: 38 mm x 6,1 m (1-1/2" x 20')	1/box, 10/cs., 2,5 (5.5)	10 rolls	<b>VM-1.5x20</b>
101,6 mm x 3,048 m (4" x 10')	1/box, 10/cs., 6,2 (13.7)	10 rolls	<b>VM-4x10</b>
152 mm x 3,048 m (6" x 10')	1/box, 1/cs., 0,9 (2)	1 roll	<b>VM-6x10</b>
559 mm x 3,048 m (22" x 10')	1/box, 1/cs., 2,9 (6.5)	1 roll	<b>VM-22x10</b>
<b>2900-R Sealing Tape</b>			
Size: 38,1 mm x 1,52 m (1-1/2" x 5')	5 /box, 50/cs., 14,42 (31.8)	50 rolls	<b>2900-R</b>
<b>2178-125 Mastic Tape</b>			
Size: 38,1 mm x 1,1 m (1-1/2" x 45")	1/box, 8/cs., 2,7 (6)	8	<b>2178-125 Mastic Tape</b>
<b>2178 Cord Re-enterable Mastic</b>			
Size: 8,7 mm x 1,85 m (1/3" x 6')	1/box, 14/cs., 2,7 (6)	14 rolls	<b>2178-CORD</b>
<b>2228 Sealing Tape</b>			
Size: 51 mm x 3,048 m (2" x 10')	1/box, 10/cs., 4,23 (9.41)	10 rolls	<b>2228</b>
<b>All Weather Protection</b>			
<b>88T All Weather Telephone Vinyl Plastic Tape</b>			
Size: 19 mm x 11 m (3/4" x 36')	1/bag, 12/ctn., 48/cs., 3,5 (7.8)	48 rolls	<b>88T-0.75x36</b>
19 mm x 18 m (3/4" x 60')	1/bag, 10/ctn., 100/cs., 11 (24.2)	100 rolls	<b>88T-0.75x60</b>
25 mm x 11 m (1" x 36')	1/bag, 12/ctn., 48/cs., 4,5 (9.9)	48 rolls	<b>88T-1x36</b>
38 mm x 13,5 m (1-1/2" x 44')	1/bag, 10/ctn., 100/cs., 16,5 (36.8)	100 rolls	<b>88T-1.5x44</b>
<b>50 All Weather Tape</b>			
Size: 25 mm x 30,4 m (1" x 100')	1/box, 10/cs., 2,7 (6)	10 rolls	<b>50-1x100</b>
51mm x 30,4 m (2" x 100')	1/box, 10/cs., 5,4 (12)	10 rolls	<b>50-2x100</b>

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# 3M™ Specialty Tapes

#### Type/Order text

#### Ref.-No.

#### Tapes and Sealing Products

Product Number	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>Build-up Tapes</b>			
<b>26-FC Build-up Tape</b>			
Size: 51 mm x 1,00 m (2" x 40")	24/cs., 0,8 (1.8)	24 rolls	<b>26-FC</b>
<b>130C Linerless Rubber Splicing Tape</b>			
Size: 19 mm x 9 m (3/4" x 30')	10/ctn., 50/cs., 9,9 (22.2)	50 rolls	<b>130C-0.75x30</b>
51 mm x 9 m (2" x 30')	50/cs., 25,76 (57.25)	50 rolls	<b>130C-2x30</b>
<b>Scotchfil Build-up Tape</b>			
Size: 38 mm x 1,5 m (1-1/2" x 60")	1/box, 10/ctn., 50/cs., 13 (29)	50 rolls	<b>Scotchfil</b>
<b>Identification Tapes</b>			
<b>35 Identification Tape</b>			
<b>Size: 12,8 mm x 6 m (1/2" x 20')</b>			
<b>Red</b>	1/box, 10/ctn., 4,5 (10)	10 rolls	<b>35-RD20</b>
<b>White</b>	1/box, 10/ctn., 4,5 (10)	10 rolls	<b>35-WH20</b>
<b>Blue</b>	1/box, 10/ctn., 4,5 (10)	10 rolls	<b>35-BL20</b>
<b>Yellow</b>	1/box, 10/ctn., 4,5 (10)	10 rolls	<b>35-YL20</b>
<b>Green</b>	1/box, 10/ctn., 4,5 (10)	10 rolls	<b>35-GN20</b>
<b>Orange</b>	1/box, 10/ctn., 4,5 (10)	10 rolls	<b>35-OR20</b>
<b>Grey</b>	1/box, 10/ctn., 4,5 (10)	10 rolls	<b>35-GY20</b>
<b>Brown</b>	1/box, 10/ctn., 4,5 (10)	10 rolls	<b>35-BN20</b>
<b>Size: 19 mm x 20 m (3/4" x 66')</b>			
<b>Red</b>	1/box, 10/ctn., 100/cs., 14,5 (32)	10 rolls	<b>35-RD66</b>
<b>White</b>	1/box, 10/ctn., 100/cs., 14,5 (32)	10 rolls	<b>35-WH66</b>
<b>Blue</b>	1/box, 10/ctn., 100/cs., 14,5 (32)	10 rolls	<b>35-BL66</b>
<b>Yellow</b>	1/box, 10/ctn., 100/cs., 14,5 (32)	10 rolls	<b>35-YL66</b>
<b>Green</b>	1/box, 10/ctn., 100/cs., 14,5 (32)	10 rolls	<b>35-GN66</b>
<b>Orange</b>	1/box, 10/ctn., 100/cs., 14,5 (32)	10 rolls	<b>35-OR66</b>
<b>Grey</b>	1/box, 10/ctn., 100/cs., 14,5 (32)	10 rolls	<b>35-GY66</b>
<b>Brown</b>	1/box, 10/ctn., 100/cs., 14,5 (32)	10 rolls	<b>35-BN66</b>
<b>Violet</b>	1/box, 10/ctn., 100/cs., 14,5 (32)	10 rolls	<b>35-VL66</b>
<b>Special Use Tapes</b>			
<b>3 Tape</b>			
Size: 12,5 mm x 18,2 m (1/2" x 20 yd.)	1/box, 10/ctn., 50/cs., 2,7 (6)	50 rolls	<b>3 Tape</b>
<b>27 Tape</b>			
Size: 19 mm x 32,9 m (3/4" x 36 yd.)	48/cs., 7,82 (17.25)	48 rolls	<b>27Tape-19</b>
Size: 25 mm x 32,9 m (1" x 36 yd.)	48/cs., 10,32 (22.75)	48 rolls	<b>27Tape-25</b>
Size: 51 mm x 54,8 m (2" x 60 yd.)	48/cs., 9,07 (20)	20 rolls	<b>27Tape-51</b>
<b>49 Tape</b>			
Size: 51 mm x 6,1 m (2" x 20')	1/box, 10/ctn., 50/cs., 5,7 (13.5)	50 rolls	<b>49-2x20</b>
Size: 101,6 mm x 6,1 m (4" x 20')	1/box, 10/ctn., 50/cs., 11,1 (24.4)	50 rolls	<b>49-4x20</b>
<b>69 Tape</b>			
Size: 25 mm x 22,8 m (1" x 25 yd.)	10/cs., 1,59 (3.5)	10 rolls	<b>69</b>
<b>77 Tape</b>			
Size: 38 mm x 6,1 m (1-1/2" x 20')	1/box, 10/cs., 2,9 (6.4)	10 rolls	<b>77-1.5x20</b>
Size: 76,1 mm x 6,1 m (3" x 20')	1/box, 10/cs., 5,5 (12.1)	10 rolls	<b>77-3x20</b>
<b>2183 Tape</b>			
Size: 101,6 mm x 30,4 m (4" x 100')	12/cs., 3,6 (8)	12 rolls	<b>2183 Tape</b>
<b>P-4 Tape</b>			
Size: 25 mm x 9 m (1" x 30')	1/box, 10/ctn., 50/cs., 4,5 (10)	50 rolls	<b>P-4 Tpaе</b>

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# Identification Products and Reflective Tapes

#### Description

## Identification Products

### 3M Scotchlite Custom Decals

Decals are made to customer requirements from Scotchlite reflective material. 76 mm x 127 mm (3" x 5") size. Three ink and Scotchlite material colours are available. Prices for special sizes and quantities available on request. Minimum order: 5,000 labels.

**Scotchlite Material Colours:**

- Orange
- Silver
- Yellow

**Ink Colours:**

- Black
- Blue
- Red

## 3M Lettering Kits and Replenishment Decals



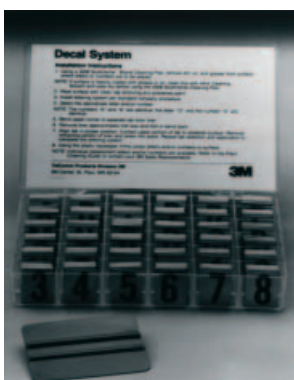
### 3M Scotchcal 5003 Non-Reflective Lettering System

For in-plant, interior vault and pedestal cabinet applications. Self-spacing letter blocks are easy to apply for a neat, professional appearance. Highly visible white letters on a black background. Self-sticking adhesive and glossy vinyl base will stand up for years in severe weather and handling conditions. Assortment of 58 characters each: A–Z, 0–9, blank and dash are all provided in a 36-compartment box, with applicator tool. Characters are 19,05 mm x 25,4 mm (3/4" x 1").



### 3M Scotchlite 5005 Reflective Lettering System

Black characters on a "safety orange" background conform to the American National Standards Institute (ANSI) Z53.1-1979. Convenient and easy to use, letters and numbers are self-spacing, with self-sticking adhesive. Highly visible characters stand out at wide angles and remain visible in wet weather. Using the Scotchlite reflective system proven in millions of highway applications, the 5000 lettering systems offers long-term durability. 25,4mm x 38,1 mm (1"x1-1/2"). Each kit contains 25 each A-Z, 0-9, blank and dash characters, packaged in a clear, 36-compartment box, including an application tool. **RUS Listed**



### 3M Scotchlite 5025 Reflective Lettering System

A complete A–Z lettering and numbering system in black on "safety" orange. Characters are 48 mm x 76 mm (1-7/8" x 3"). Packaged in a clear, 36-compartment box. Contains 25 each of the letters A–Z, numbers 0–9, blank and dash. All characters are self-sticking and self-spacing. Application tool is included. Minimum order, 100 each.

## 2.2 Splice Protection Products

### 2.2.2 Accessories

## Identification Products and Reflective Tapes

#### Description



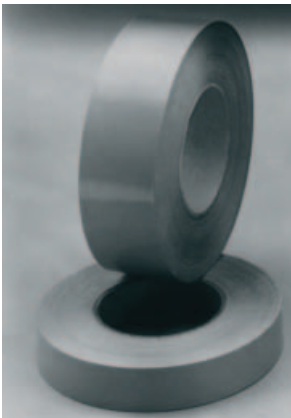
#### 3M 5012 Decal Strip Holder

Designed for easy attachment to aerial or underground cables, poles and other structural hardware, the 5012 holder holds 4–18 characters to identify splices, load points, poles, etc. Polyethylene plastic strip can be attached with cable ties or nailed to poles.

**RUS Listed**

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## Reflective Tapes



#### 3M 5016-1 and 5016-2 Reflective Tape

This orange, reflective adhesive-backed tape with high-tack adhesive suitable for use at low temperatures provides high visibility at night or during daylight conditions. For marking pedestal cabinets located in right-of-way areas to warn users of cabinet locations. Highly visible markings are designed to prevent injury and reduce property damage. Use only on flat surfaces. Will not adhere well over rivets, nor on vehicular surfaces.



#### 3M 5016-FO Fibre Optic Warning Labels

Orange, reflective adhesive-backed tape with high-tack adhesive is suitable for use at low temperatures. Imprinted "Caution Fibre Optic" on 152 mm (6") spacings. Letters are 19,0 mm (3/4") and 9,5 mm (3/8") high, 288 labels per roll.



## 2.2 Splice Protection Products

### 2.2.2 Accessories

## Identification Products and Reflective Tapes

#### Type/Order text

#### Ref.-No.

#### Identification Products

Product Number	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>Custom Decals</b>			
76 mm x 127 mm (3" x 5")	5000/cs.	5000 each	054007-17640
<b>Lettering Kits and Replenishment Decals</b>			
5003 Non-Reflective Lettering System Kit	1000/cs., 1,04 (2.3)	1 kit	5003
5005 Reflective Lettering System Kit	1000/cs., 1,09 (2.4)	1 kit	5005
5012 Decal Strip Holder	25/cs., 0,86 (1.9)	1 box	5012
5025 Reflective Lettering System Kit	100/cs., 2,68 (5.9)	1 kit	5025
<b>Reflective Tapes</b>			
5016-1 Reflective Tape	1/box, 0,6 (1.4)	1 roll	5016-1
5016-2 Reflective Tape	1/cs., 0,64 (2.6)	1 roll	5016-2
5016-FO Fibre Optic Warning Labels	1/cs., 0,6 (1.4)	1 roll	5016-FO

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# Identification Products and Reflective Tapes

#### Type/Order text

#### Ref.-No.

### 3M Scotchcal 5003 Non-Reflective Lettering System Kit

Product Description	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>Non-reflective lettering system</b>	1 kit/cs., 1,0 (2.3)	1000 each	<b>5003-kit</b>
Replenishment decal <b>"A"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "A"</b>
Replenishment decal <b>"B"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "B"</b>
Replenishment decal <b>"C"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "C"</b>
Replenishment decal <b>"D"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "D"</b>
Replenishment decal <b>"E"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "E"</b>
Replenishment decal <b>"F"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "F"</b>
Replenishment decal <b>"G"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "G"</b>
Replenishment decal <b>"H"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "H"</b>
Replenishment decal <b>"I"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "I"</b>
Replenishment decal <b>"J"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "J"</b>
Replenishment decal <b>"K"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "K"</b>
Replenishment decal <b>"L"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "L"</b>
Replenishment decal <b>"M"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "M"</b>
Replenishment decal <b>"N"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "N"</b>
Replenishment decal <b>"O"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "O"</b>
Replenishment decal <b>"P"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "P"</b>
Replenishment decal <b>"Q"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "Q"</b>
Replenishment decal <b>"R"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "R"</b>
Replenishment decal <b>"S"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "S"</b>
Replenishment decal <b>"T"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "T"</b>
Replenishment decal <b>"U"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "U"</b>
Replenishment decal <b>"V"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "V"</b>
Replenishment decal <b>"W"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "R"</b>
Replenishment decal <b>"X"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "X"</b>
Replenishment decal <b>"Y"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "Y"</b>
Replenishment decal <b>"Z"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "Z"</b>
Replenishment decal <b>"_"</b>	1000/cs., 2,9 (6.5)	1 kit	<b>5003 decal "_"</b>
Replenishment decal <b>"BLANK"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "BLANK"</b>
Replenishment decal <b>"0"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "0"</b>
Replenishment decal <b>"1"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "1"</b>
Replenishment decal <b>"2"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "2"</b>
Replenishment decal <b>"3"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "3"</b>
Replenishment decal <b>"4"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "4"</b>
Replenishment decal <b>"5"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "5"</b>
Replenishment decal <b>"6"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "6"</b>
Replenishment decal <b>"7"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "7"</b>
Replenishment decal <b>"8"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "8"</b>
Replenishment decal <b>"9"</b>	1000/cs., 2,9 (6.5)	1000 each	<b>5003 decal "9"</b>

## 2.2 Splice Protection Products

### 2.2.2 Accessories

## Identification Products and Reflective Tapes

#### Type/Order text

#### Ref.-No.

### 3M Scotchlite 5005 Reflective Lettering System Kit

Product Description	Packaging kg & (lbs.)/cs.	Minimum Order	
<b>Reflective lettering kit</b> (orange and black)	1 kit/cs., 1,0 (2.4)	1 kit	<b>5005 decal "kit"</b>
Replenishment decal <b>"A"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "A"</b>
Replenishment decal <b>"B"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "B"</b>
Replenishment decal <b>"C"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "C"</b>
Replenishment decal <b>"D"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "D"</b>
Replenishment decal <b>"E"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "E"</b>
Replenishment decal <b>"F"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "F"</b>
Replenishment decal <b>"G"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "G"</b>
Replenishment decal <b>"H"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "H"</b>
Replenishment decal <b>"I"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "I"</b>
Replenishment decal <b>"J"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "J"</b>
Replenishment decal <b>"K"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "K"</b>
Replenishment decal <b>"L"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "L"</b>
Replenishment decal <b>"M"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "M"</b>
Replenishment decal <b>"N"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "N"</b>
Replenishment decal <b>"O"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "O"</b>
Replenishment decal <b>"P"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "P"</b>
Replenishment decal <b>"Q"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "Q"</b>
Replenishment decal <b>"R"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "R"</b>
Replenishment decal <b>"S"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "S"</b>
Replenishment decal <b>"T"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "T"</b>
Replenishment decal <b>"U"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "U"</b>
Replenishment decal <b>"V"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "V"</b>
Replenishment decal <b>"W"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "W"</b>
Replenishment decal <b>"X"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "X"</b>
Replenishment decal <b>"Y"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "Y"</b>
Replenishment decal <b>"Z"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "Z"</b>
Replenishment decal <b>"—"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "—"</b>
Replenishment decal <b>"BLANK"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "BLANK"</b>
Replenishment decal <b>"0"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "0"</b>
Replenishment decal <b>"1"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "1"</b>
Replenishment decal <b>"2"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "2"</b>
Replenishment decal <b>"3"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "3"</b>
Replenishment decal <b>"4"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "4"</b>
Replenishment decal <b>"5"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "5"</b>
Replenishment decal <b>"6"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "6"</b>
Replenishment decal <b>"7"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "7"</b>
Replenishment decal <b>"8"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "8"</b>
Replenishment decal <b>"9"</b>	1000/cs., 0,9 (2.0)	1000 each	<b>5005 decal "9"</b>

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# Identification Products and Reflective Tapes

#### Type/Order text

#### Ref.-No.

### 3M Scotchlite 5025 Reflective Lettering System Kit

Product Description	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>Reflective lettering system kit</b>	1 kit/cs., 2,7 (6.0)	1 kit	<b>5025 kit</b>
Replenishment decal <b>"A"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "A"</b>
Replenishment decal <b>"B"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "B"</b>
Replenishment decal <b>"C"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "C"</b>
Replenishment decal <b>"D"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "D"</b>
Replenishment decal <b>"E"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "E"</b>
Replenishment decal <b>"F"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "F"</b>
Replenishment decal <b>"G"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "G"</b>
Replenishment decal <b>"H"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "H"</b>
Replenishment decal <b>"I"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "I"</b>
Replenishment decal <b>"J"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "J"</b>
Replenishment decal <b>"K"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "K"</b>
Replenishment decal <b>"L"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "L"</b>
Replenishment decal <b>"M"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "M"</b>
Replenishment decal <b>"N"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "N"</b>
Replenishment decal <b>"O"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "O"</b>
Replenishment decal <b>"P"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "P"</b>
Replenishment decal <b>"Q"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "Q"</b>
Replenishment decal <b>"R"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "R"</b>
Replenishment decal <b>"S"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "S"</b>
Replenishment decal <b>"T"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "T"</b>
Replenishment decal <b>"U"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "U"</b>
Replenishment decal <b>"V"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "V"</b>
Replenishment decal <b>"W"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "W"</b>
Replenishment decal <b>"X"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "X"</b>
Replenishment decal <b>"Y"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "Y"</b>
Replenishment decal <b>"Z"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "Z"</b>
Replenishment decal <b>"—"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "—"</b>
Replenishment decal <b>"BLANK"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "BLANK"</b>
Replenishment decal <b>"0"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "0"</b>
Replenishment decal <b>"1"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "1"</b>
Replenishment decal <b>"2"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "2"</b>
Replenishment decal <b>"3"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "3"</b>
Replenishment decal <b>"4"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "4"</b>
Replenishment decal <b>"5"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "5"</b>
Replenishment decal <b>"6"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "6"</b>
Replenishment decal <b>"7"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "7"</b>
Replenishment decal <b>"8"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "8"</b>
Replenishment decal <b>"9"</b>	100/cs., 2,7 (6.0)	100 each	<b>5025 decal "9"</b>





## 2.2 Splice Protection Products

### 2.2.2 Accessories

#### Miscellaneous Accessories

##### Description



#### 3M Scotchcast 4413 Filled Cable Cleaning Kit

A specially formulated cleaning solvent for cleaning grease and Flex-Gel filling compound from filled core cable without damaging connectors, cable or individual conductors. One bag will clean both cable ends at splice point. Comes complete with the right amount of solvent sealed in the bag. No special tools are required. Virtually no personnel contact with the solvent or solvent vapors occurs during cleaning because of the unique packaging concept.

**Kit contents:**

- Heat-sealed cleaning bag with solvent
- Pair gloves
- Puncture-protection bags (2)

Four different sizes are available to meet a wide range of applications.



#### 3M Scotchcast 4414 Filled Cable Cleaning Kit

The Scotchcast 4414 Filled Cable Cleaning Kit provides all the necessary materials for cleaning the filling compound from filled copper and fibre optic cables in an easy-to-transport kit. This kit includes 15 pads saturated in cleaning solvent, five scraper pads and 10 towels. The specially formulated cleaning solvents are contained in premeasured portions on saturated pads for fast, easy, convenient solvent application to cable core after sheath has been removed. The solvent and wet pads effectively remove cable filling compound from conductors and connectors with no damage to either.

**Kit contents:**

- Solvent Saturated Pads (15)
- Scraper Pads (5)
- Towels (10)

**Additional materials required:**

- Scotchcast 4435 Sheath Scuff
- Scotch 88T Vinyl Tape



#### 3M Scotchcast W-9 Channeling Wedge

The Scotchcast W-9 Channeling Wedge is used in separating bundles of conductors when plugging cable. Made of flexible plastic, tapered at one end and grooved, the W-9 wedge separates conductors to ensure maximum penetration of the compound when forming a plug.



#### 3M Scotchcast 4415 Service Wire Cleaning Kit

Everything needed to clean troublesome filled service wire is included in the 4415 Kit. Solvent saturated pads are individually bagged for convenience. No extra tools are needed, and an instruction sheet is included in each kit.

**Kit contents:**

- Towels (10)
- Solvent Saturated Pads (10)

## 2.2 Splice Protection Products

### 2.2.2 Accessories

## Miscellaneous Accessories

#### Description



#### 3M Scotchcast 4435 Sheath Scuff

This flexible 80 grit, non-conductive, aluminum oxide strip is used to clean and rough up cable sheath. The clean, scuffed sheath greatly enhances the bond between the compound and sheath. Since the strip is 25.4 mm (1") wide, it encourages the craftsman to scuff around the sheath rather than along it, thus eliminating moisture paths along the sheath, and also makes it easy to get into tight places.

**Size:** 25,4 mm x 22,86 m (1" x 75') roll



#### 3M Scotchcast 4458, 4458-W Pair Saver

Protect cable pairs from the sharp edges of the shield and template, while permitting standard bond connector installations.

**4458 Size:** 21,6 mm x 5,4 m (0.85" x 18') rolls

**4458-W Size:** 38,0 mm x 5,5 m (1.5" x 18') rolls

#### Type/Order text

#### Ref.-No.

### Miscellaneous Accessories

Product	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>4413 Filled Cable Cleaning Kit</b>			
for up to 200-pair cables)	8/cs., 5,18 (11.5)	8 kits	<b>4413-S</b>
(for up to 600-pair cables)	4/cs., 4,95 (11)	4 kits	<b>4413-L</b>
(for 600- to 900-pair)	2/cs., 5,40 (12)	2 kits	<b>4413-XL</b>
(for 900-pair and more)	2/cs., 9,54 (21.2)	2 kits	<b>4413-SXL</b>
<b>Filled Cable Cleaning Kit</b>	1/cs., 0,63 (1.4)	1 kit	<b>4414</b>
<b>Service Wire Cleaning Kit</b>	10/kit, 10 kits/cs., 3,3 (7.3)	10 kits	<b>4415</b>
<b>Sheath Scuff</b>	1/box, 10/cs., 5,9 (13)	10 rolls	<b>4435</b>
<b>4458, 4458-W Pair Saver</b>			
21,6 mm x 5,4 m (.85" x 18') rolls	1/box, 10/cs., 1,9 (4.0)	10 rolls	<b>4458</b>
38 mm x 5,5 m (1.5" x 18') rolls	1/box, 10/cs., 3,7 (7.9)	10 rolls	<b>4458-W</b>
<b>Scotchcast W-9 Channeling Wedge</b>	100/box, 1000/cs., 1,8 (4)	1000 each	<b>W-9</b>

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# 3M™ Shield Bonding Products

#### Description



#### 3M Scotchlok 4460 Shield Bond Connector (No Tabbing Required)

The 4460 Shield Bond Connector is designed to make a stable, low-resistance electrical connection between the shield of a communications cable and a conductor such as a strap, bar, or wire. The connector consists of four parts: lower member (base), upper member (top), and two securing nuts (lock nuts). The base teeth are set at such an angle as to permit easy insertion under the cable shield. Top and base members are made of tin-plated tempered brass, slightly curved to exert a continuous spring force on sheath and shield after clamping.



#### 3M Scotchlok 4460-S Shield Bond Connector

The 4460-S Shield Bond Connector is designed to make a stable, low-resistance electrical connection between the shield of a communications cable and a conductor such as a strap, bar, or wire. The connector consists of five parts: lower member (base), upper member (top), two securing nuts (lock nuts) and a plastic shoe to aid connector insertion and to protect conductors. The base teeth are set at such an angle as to permit easy insertion under the cable shield. Top and base members are made of tin-plated tempered brass, slightly curved to exert a continuous spring force on sheath and shield after clamping.



#### 3M Scotchlok 4460-D Shield Bond Connector

The 4460-D Shield Bond Connector is a downsized version of the 4460 Shield Bond Connector. Its small size makes it an excellent choice for cables of 100-pair or less. Its current-carrying capacity is equal to or better than aluminum-shielded cables of 100-pair or less and can be used on all cable with 20,3 mm (0.8") or smaller O.D.



#### 3M Scotchlok 4460-D/FO Shield Bond Connector Assembly

The 4460-D/FO Shield Bond Connector is specifically designed to meet the bonding needs of fibre optic cables that contain metallic or fibreglass strength members. The connector is a version of the 4460-D Connector Assembly which utilises two additional plates to capture and secure the strength members. Its current-carrying capacity is equal to or better than aluminum-shielded fibre optic cable and can be used on all cables with 20,3 mm (0.8") or smaller O.D.

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# 3M™ Shield Bonding Products

#### Description

### 3M CCP Shield Bond Connector

Connection Element to give continuity to the shield of telephone cables. Universal - for cables from 10 to 84 mm diameter.



#### Features

- Reduced size: 43 x 14 x 15 mm
- Re-usable
- Cable connection independent of the continuity bridges, until 2 continuity bridges installed
- Installation without cutting the cable jacket
- Low contact resistance

#### Electrical:

- Contact resistance: < 5mΩ
- Electrical wave shock: 5 applications of 20 KA (waveshape 8/20μs)

#### Mechanical:

- Traction strength: > 400 N
- Torque strength of screws: > 5 Nm
- Vibration: > 2 h. 10-55-10 kHz<sup>2</sup> in 20 min max. 1,5 mm

#### Environmental

- Temperatures: -40°C - 80 °C
- HR related humidity: > 95 %
- Corrosion: > 72 h. Salt fog.

#### Materials

- Base and Cover: Still zinc bicromated
- Connection plate: Alpaca
- Screws: Still zinc bicromated
- Nuts: Still inoxidable
- Terminal: Copper tinned for cables 6 mm<sup>2</sup> Section



### 3M Scotchlok 4462 Shield Bond Connector (Designed Specifically For C.A.C.S.P. Cable)

The 4462 Shield Bond Connector is designed to make a stable, low resistance electrical connection between the shield of a communications cable and a conductor such as a strap, bar, wire or braid.

### 3M Scotchlok 4462-FN Shield Bond Connector

Includes flanged nuts.



### 3M Scotchlok 4462-SN Shield Bond Connector

The 4462-SN Shield Bond Connector is an improved version of the popular 4462 Shield Bond Connector, with a longer and stronger stud to easily accommodate two bond braids (with eyelets). It is specifically designed to supply greater pullout strength than the 4462 Shield Bond Connector. The nuts have been deepened, too, making them much easier to hold and tighten. The 4462-SN Shield Bond Connector is also designed for use with coated cables and has superior electrical properties for the protection of data circuits.

### 3M Scotchlok 4462-SNA

The 4462-SNA has a longer stud, deepened nuts and an insulating shoe.

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# 3M™ Shield Bonding Products

#### Description



#### Scotchlok 4463 Service Wire Shield Connector

The 4463 Service Wire Shield Connector is designed to make a stable, low resistance electrical connection between the shield of a buried service wire and the ground stud of a house terminal box or other shield connector. The 4463 can be used on service wire with an O.D. up to 11 mm (0.45").



#### Scotchlok 4464 Shield Bond Connector

The 4464 Shield Bond Connector is a strip of tin-plated brass, punched with mounting holes and two sets of sharp teeth. Each connector can join the shields of up to four two-pair service wires to a stud type shield connector. In addition to providing a stable, low-resistance electrical contact, the connector provides excellent strain relief and occupies a minimum of space. Each connector will accommodate up to four service wires with a shield diameter of up to 5,6 mm (0.21") or two service wires with a shield diameter up to 819 mm (0.35").



#### Scotch 25T Grounding Braid

This flat, tin-plated copper braid conductor is supplied for use with Scotchlok shield bond connectors. When clamped firmly, 25T Braid provides low electrical resistance connections for dependable shield bonding, and its physical strength contributes to strain relief across spliced cables. 25T Braid is 13 mm (1/2") wide, and is supplied in 7,6 m (25') rolls.

**Size:** 13 mm x 7,6 m (1/2" x 25')



#### Scotch 25T Grounding Braid with Eyelets

Provides low electrical resistance connections, contributes to strain relief across cables. Eyelets fit shield connector studs up to 6 mm (1/4") diameter.

**Size:** 13 mm x 7,6 m (1/2" x 25'), eyelets spaced 76 mm (3")

**Size:** 13 mm x 7,6 m (1/2" x 25'), eyelets spaced 152 mm (6")



#### 25/4467 Grounding Braid Dispenser Pack

The 25/4467 Grounding Braid Dispenser Pack is a combination of our dependable grounding braid and insulation closure in one convenient package. Equal lengths of each can be dispensed from the 7.6 m (25') roll.

**Size:** Braid 13 mm x 7,6 m (1/2"x 25') Closure 13 mm x 7,6 m (1/2" x 25') 25/4467 without eyelets

## 2.2 Splice Protection Products

### 2.2.2 Accessories

# 3M™ Shield Bonding Products

#### Type/Order text

#### Ref.-No.

### Shield Bonding Products

Product	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>Shield Bond Connector</b> (No Tabbing Required)	100/cs., 1,8 (4)	100 each	<b>4460</b>
<b>Shield Bond Connector</b>	100/cs., 2,1 (4.4)	100 each	<b>4460-S</b>
<b>Shield Bond Connector</b>	100/cs., 2,1 (4.6)	100 each	<b>4460-D</b>
<b>Shield Bond Connector Assembly</b>	100/cs.	100 each	<b>4460-D/FO</b>
<b>CCP Shield Bond Connector</b>	15/bag (kit) 40 kits/cs	800 each	<b>M004484A</b>
<b>Shield Bond Connector</b>	100/box, 500/cs., 8,8 (19.4)	500 each	<b>4462</b>
<b>Shield Bond Connector</b>	100/box, 500/cs., 10,0 (22.1)	500 each	<b>4462-FN</b>
<b>Shield Bond Connector</b>	100/box, 500/cs., 11,0 (24.3)	500 each	<b>4462-SN</b>
<b>Shield Bond Connector with Shoe</b>	100/box, 500/cs., 10,9 (24)	500 each	<b>4462-SNA</b>
<b>Service Wire Shield Connector</b>	10/bag, 1000/cs., 3,90 (8.6)	1000 each	<b>4463</b>
<b>Shield Bond Connector</b>	20/bag, 1000/cs., 7,03 (15.5)	1000 each	<b>4464</b>
<b>25T Grounding Braid</b> Size: 13 mm x 7,6 m (1/2" x 25')	1/cs., 1 (2.1)	1 roll	<b>25T Grounding Braid</b>
<b>25T Grounding Braid with Eyelets</b> Size: 13 mm x 7,6 m (1/2" x 25')			
<b>Eyelets spaced 78 mm (3")</b>	1/cs., 1,08 (2.3)	1 roll	<b>25T-BBE3</b>
<b>Eyelets spaced 156 mm (6")</b>	1/cs., 1,08 (2.3)	1 roll	<b>25T-BBE6</b>
<b>25/4467 Grounding Braid Dispenser Pack</b> Size: Braid 13 mm x 7,6 mm (1/2"x 25') Closure 13 mm x 7,6 mm (1/2" x 25')	1/box, 5/cs., 6,7 (14.7)	5 packs	<b>25/4467</b>

## 2.2 Splice Protection Products

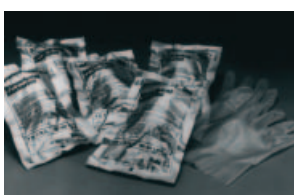
### 2.2.2 Accessories

## 3M™ Sheath Repair Products

#### Description

### 3M Armorcast Structural Material

Aarmorcast Structural Material is a flexible fibreglass knit fabric strip saturated with black resin syrup then dried. No heat is required in the installation process, just water. It forms a tough durable covering that cures in just 20 minutes. For use on pressurised, non-pressurised, polyethylene or lead sheathed cable.



### 3M Armorcast 4560 Structural Material Bulk

Available in rolls of 1,5 m (5'), 3 m (10') and 4,57 m (15'), each 101,6 mm (4") wide. Each package contains five rolls and five pairs of gloves.

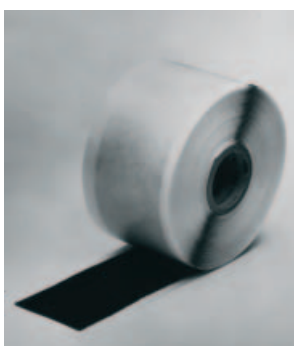


### 3M Armorcast 4561 Sheath Repair Kit

Aarmorcast 4561 Sheath Repair Kit contains all products required to repair damaged Cable Sheath. Kit components are designed for use with Armorcast materials.

#### Kit contents:

- 1 roll Armorcast material, 101,6 mm x 4,57 m (4" x 15')
- 1 roll Scotch VM Tape, 101,6 mm x 3 m (4" x 10')
- 1 roll Scotch 50 Tape, 50 mm x 30 m (2" x 100')
- 1 pair gloves



### 3M Scotch VM Tape Vinyl/Mastic

VM Tape seals out moisture and protects against corrosion without the need for heating tools. Two tapes in one (Vinyl and Mastic)—VM tape is especially designed for cable sheath repair, splice case and load coil case protection, auxiliary closure and cable reel end sealing, drop wire insulating, conduit repair and protection of CATV components plus many other general taping applications.

VM tape is a rubber based mastic laminated to an all weather 0,18 mm (7 mil) vinyl, which provides double duty protection in one wrap. Four sizes to meet all possible applications are available; 38 mm – 559 mm (1-1/2" – 22") width.

- Size:** 38 mm x 6 m (1-1/2" x 20')
- 101,6 mm x 3 m (4" x 10')
- 152 mm x 3 m (6" x 10')
- 559 mm x 3 m (22" x 10')

## 2.2 Splice Protection Products

### 2.2.2 Accessories

## 3M™ Sheath Repair Products

#### Type/Order text

#### Ref.-No.

### 3M Sheath Repair Products

Product	Packaging & kg (lbs.)/cs.	Minimum Order	
<b>4560 Armorcast Structural Material Bulk</b>			
(Bulk, 1,5 m (5'))	5 rolls, 0,63 (1.4)	5 rolls	<b>4560-5</b>
(Bulk, 3 m (10'))	5 rolls, 1,27 (2.8)	5 rolls	<b>4560-10</b>
(Bulk, 4,5 m (15'))	5 rolls, 1,86 (4.1)	5 rolls	<b>4560-15</b>
<b>Armorcast Sheath Repair Kit</b>			
	1 kit/cs., 1,68 (3.7)	1 kit	<b>4561</b>
<b>VM Vinyl/Mastic Tape</b>			
Size: <b>38 mm x 6 m (1-1/2" x 20')</b>	1 roll/box, 10/cs., 2,5 (5.7)	10 rolls	<b>VM-1.5x20</b>
<b>101,6 mm x 3 m (4" x 10')</b>	1 roll/box, 10/cs., 6,2 (11.6)	10 rolls	<b>VM-4x10</b>
<b>52 mm x 3 m (6" x 10')</b>	1 roll/box, 1/cs., 0,9 (2)	1 roll	<b>VM-6x10</b>
<b>559 mm x 3 m (22" x 10')</b>	1 roll/box, 1/cs., 2,9 (6.9)	1 roll	<b>VM-22x10</b>