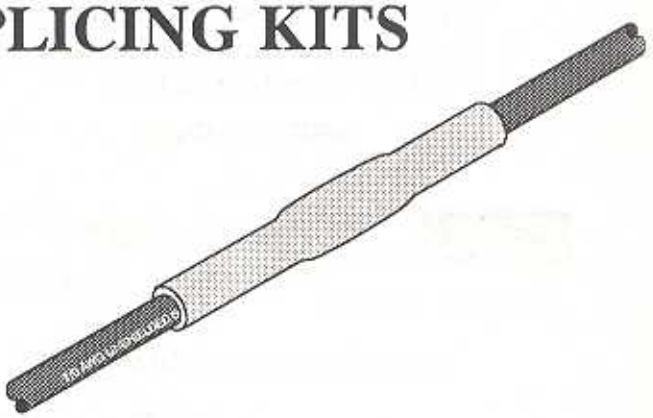
Instructions for 3M

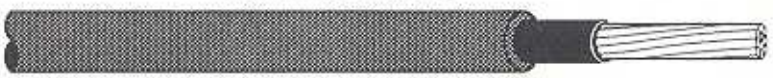
COLD SHRINK RUBBER SPLICING KITS

Inline
for Non-Shielded Cables
5 - 8 kV



Non-Shielded, Wet or Dry

Non-Shielded, Dry



5 and 8 kV Kit Selection Chart

Kit No.	Cable Insulation / Jacket O. D. Range	Conductor Size Range (AWG & kcmil)
5741	0.38– 0.70 in. (9,7 – 17,8 mm)	8 – 4
5742	0.63 – 1.20 in. (16,0 – 30,5 mm)	2 – 300
5743	0.90 – 2.10 in. (22,9 – 53,3 mm)	350 – 1000 Cu 350 – 750 Al

Table 1

NOTE: With additional jacketing material, Splice Kits can be used to splice 3–conductor non-shielded cables, 5–8 kV. *(See page 4)*

Kit Contents:

3 Cold Shrink Splices
3 Rolls, Scotch™ 2228 Rubber Mastic Tape
(Except 5743 Kit which contains 6 rolls)
3 Cleaning Pad Kits
1 Instruction Sheet

Technical Information:
For use on Non-Shielded Cables
Copper or Aluminum Conductors
5 and 8 kV Class
Cable Size Range:
8 AWG – 1000 kcmil

Issue	Date	Rev.	Ch.
1	7/27/90	B	

Not to scale	Ch. W. L. Taylor
Dr. D. A. Tracy	App R. L. Goodman

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3M Electrical Products Division
Austin, Texas 78769–2963 Made in U.S.A.

3M Cold Shrink Rubber Splicing Kits
Inline
for Non-Shielded Cables
5 – 8 kV
5741 5743
5742

A. Prepare Cable

1. Check to be sure cable size fits within kit range as shown in *TABLE 1* on *page 1*.
2. Remove insulation / jacket as shown in *FIGURE 1* and *TABLE 2*.

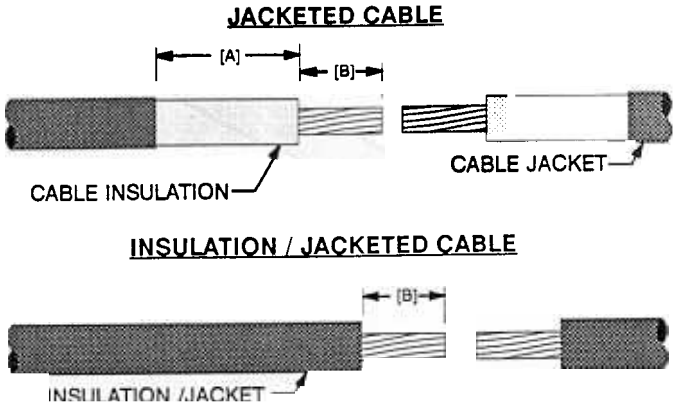


FIGURE 1

Kit No.	Dimension [A]	* Dimension [B]
5741	2″ (51 mm)	½ Connector Length
5742		
5743		

* Note: Total Connector Length Must Not Exceed Maximum Shown in Table 4

TABLE 2

3. Clean cable insulation / jacket with solvent cleaning pads provided. *(FIGURE 2)* and *(TABLE 3)*

FIGURE 2

Kit No.	Dimension [C]
5741	5″ (127mm)
5742	6″ (152 mm)
5743	8″ (203 mm)

TABLE 3

4. Slide cold shrink splice onto one cable. *(FIGURE 3)*

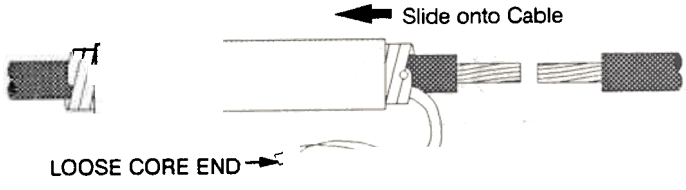


FIGURE 3

B. Install Connector

1. Install connector according to manufacturer's direction.

NOTE: Connector length must not exceed maximum shown in Table 4.

Kit No.	Maximum Connector Length (Copper or Aluminum)
5741	2½″ (64 mm)
5742	4¼″ (108 mm)
5743	6¼″ (159 mm)

TABLE 4

2. See *page 3* if 3M Scotchlock™ connector is used.

C. Install Splice

1. Smoothly overwrap connector with rubber-mastic tape provided. Apply with mastic side in, towards connector. Build-up thickness to level of cable insulations, overlapping ½″ (13 mm) onto insulations. *(FIGURE 4)*

NOTE: Rubber-mastic tape should be stretched during application, so its width is reduced to approximately 1½″ (38 mm) or less. CAUTION: Do not apply an excess amount of Rubber-mastic – apply only to the thickness instructed.

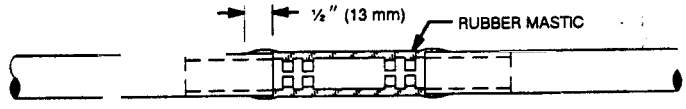


FIGURE 4

2. Carefully center splice over connector area. Remove core by unwinding counter-clockwise, starting with loose core end. On jacketed cable, this starting point must be at least 1″ (25 mm) onto cable jacket. *(FIGURE 5)*

TIP: An occasional tug of the core strand while unwinding will aid in core removal.

FIGURE 5

3. Splice is completed.

Copper Connectors

Cable Size	Scotchlok™ Copper Connector Number	CRIMPING TOOL-DIE SETS (NO. OF CRIMPS/END)							
		Burndy Corporation				Thomas & Betts Corporation			Square D Co. Anderson Div.
		MD6	MY29	Y34A	Y35, Y39, Y45*, Y46*	TBM 5	TBM 8	TBM 15	VC6-3, VC6-FT**
6	10001	–	6 AWG(1)	–	U5CRT(1)	Blue(1)	Blue(1)	–	Universal(1)
4	10002	W161(1)	4 AWG(1)	A4CR(1)	U4CRT(1)	Grey(1)	Grey(1)	–	Universal(1)
2	10003	W162(2)	2 AWG(1)	A2CR(1)	U2CRT(2)	Brown(1)	Brown(1)	33(1)	Universal(2)
1	10004	–	1 AWG(1)	A1CR(1)	U1CRT(2)	Green(1)	Green(1)	37(1)	Universal(2)
1/0	10005	W163(2)	1/0(1)	A25R(1)	U25RT(1)	Pink(2)	Pink(2)	42(2)	Universal(1)
2/0	10006 11006	W241(2) W241(3)	2/0(1) 2/0(2)	A26R(1) A26R(2)	U26RT(2) U26RT(3)	Black(2) Black(3)	Black(2) Black(3)	45(1) 45(2)	Universal(1) Universal(2)
3/0	10007 11007	W243(2) W243(3)	3/0(1) 3/0(2)	A27R(1) A27R(2)	U27RT(2) U27RT(3)	Orange(2) Orange(3)	Orange(2) Orange(3)	50(1) 50(2)	Universal(1) Universal(2)
4/0	10008 11008	BG(3) BG(4)	4/0(1) 4/0(2)	A28R(2) A28R(3)	U28RT(2) U28RT(3)	Purple(2) Purple(3)	Purple(2) Purple(3)	54H(2) 54H(3)	Universal(2) Universal(3)
250	10009 11009	W166(3) W166(4)	250(1) 250(2)	A29R(2) A29R(3)	U29RT(2) U29RT(3)	Yellow(2) Yellow(3)	Yellow(2) Yellow(3)	62(2) 62(3)	Universal(2) Universal(3)
300	10010 11010	–	–	A30R(2) A30R(3)	U30RT(2) U30RT(3)	–	White(2) White(3)	66(2) 66(3)	Universal(2) Universal(3)
350	10011 11011	–	–	A31R(2) A31R(3)	U31RT(2) U31RT(3)	–	Red(3) Red(4)	71H(3) 71H(4)	–
500	10014 11014	–	–	A34R(2) A34R(4)	U34RT(2) U34RT(3)	–	Brown(3) Brown(4)	87H(3) 87H(4)	–
750	10019 11019	–	–	–	Y39, Y45, Y46: U39RT(3) Y39, Y45, Y46: U39RT(5)	–	–	106H(3) 106H(4)	–
1000	10024 11024	–	–	–	Y45: S44RT(4) Y46: P44RT(4) Y45: S44RT(6) Y46: P44RT(6)	–	–	125H(3) 125H(4)	–

*Y45 and Y46 accept all Y35 dies ("U" series). For Y45 use PT6515 adapter. For Y46 use PUADP adapter.
**Anderson VC6-3 and VC6-FT require no die set

Copper/Aluminum Connectors

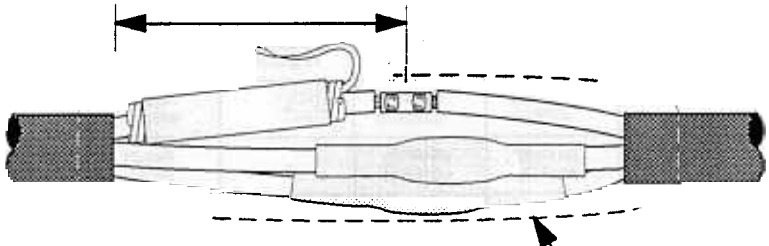
Cable Size AWG/ kcmil	Scotchlok™ Aluminum Connector Number	CRIMPING TOOL-DIE SETS (NO. OF CRIMPS/END)										
		Burndy Corporation					Thomas & Betts Corporation			Square D Co. Anderson Div.	ITT Black-burn Co.	Kearney-Nat'l Div.
		MD6	MY29	Y34A	Y35, Y39, Y45*, Y46*	Y1000**	TBM 5	TBM 8	TBM 15	VC6-3** VC6-FT**	OD58	TYPE 0
6	20001	W161(1)	6 AWG(1)	A6CAB(1)	U6CABT(1)	Universal(1)	Grey(1)	Grey(1)	29(1)	Universal(1)	BY19(3)	J(3)
4	20002	W162(3)	4 AWG(1)	A4CAB(1)	U4CABT(1)	Universal(1)	Green(2)	Green(2)	37(1)	Universal(1)	BY53(3)	P(3)
2	20003	W163(3)	2 AWG(1)	A2CAB(1)	U2CABT(1)	Universal(1)	Pink(2)	Pink(2)	42H(2)	Universal(1)	BY23(3)	1/2(3)
1	20004	W163(3)	1 AWG(1)	A1CAR(1)	U1CART(1)	Universal(1)	Gold(2)	Gold(2)	45(1)	Universal(1)	BY23(3)	1/2(3)
1/0	20005	W241(2)	1/0 (1)	A25AR(1)	U25ART(1)	Universal(1)	Tan(2)	Tan(2)	50(1)	Universal(1)	BY25(3)	5/8-1(3)
2/0	20006	BG(4)	2/0(1)	A26AR(2)	U26ART(2)	Universal(1)	Olive(2)	Olive(2)	54H(2)	Universal(2)	BY31C(3)	5/8-1(3)
3/0	20007	W166(4)	3/0(1)	A27AR(2)	U27ART(2)	Universal(1)	Ruby(2)	Ruby(2)	60(2)	Universal(2)	–	737(3)
4/0	20008	W660(4)	4/0(2)	A28AR(2)	U28ART(2)	Universal(1)	–	White(4)	66(4)	Universal(2)	BY35C(4)	840(4)
250	20009	W249(3)	–	A29AR(2)	U29ART(2)	–	–	Red(3)	71H(2)	Universal(2)	–	–
300	20010	–	–	A30AR(2)	U30ART(2)	–	–	Blue(4)	76(1)	–	–	–
350	20011	–	–	–	U31ART(2)	–	–	Brown(4)	87H(2)	–	–	–
400	20012	–	–	–	U32ART(4)	–	–	–	94H(4)	–	–	–
500	20014	–	–	–	U34ART(4)	–	–	–	106H(3)	–	–	–
600	20016	–	–	–	U36ART(4)	–	–	–	115H(2)	–	–	–
750	20019	–	–	–	Y39, Y45, Y46, U39ART-2(4)	–	–	–	125H(3)	–	–	–
800	20020	–	–	–	Y45 S40ART(4) Y46 P40ART(4)	–	–	–	125H(3)	–	–	–
1000	20024	–	–	–	Y45 S44ART(4) Y46 P44ART(4)	–	–	–	–	–	–	–

* Y45 and Y46 accept all Y35 dies ("U" series). For Y45 use PT6515 adapter. For Y46 use PUADP adapter.
** Anderson VC6-3, VC6-FT and Burndy Y1000 require no die set

Supplement for 3-Conductor Cable Applications

NOTE: 3M 5740 Series Cold Shrink Rubber Splicing Kits contain the materials required to splice the 3 phase conductors of a 5 or 8 kV 3-conductor non-shielded power cable. Although not included with these kits, optional materials and methods are available for rejacketing over the spliced connections. For example, the 3-conductor cable can be rejacketed using one of the following optional methods:

NOTE: Remove additional jacketing from one cable to allow space for Cold Shrink Tube while connector is being installed



Optional Splice Jacket (not included in 5740 Series Kit).

Tape Method — Overwrap splice and at least 2 in. (51 mm) of cable jackets with 4 half-lapped layers of Scotch™ 130C Linerless Rubber Splicing Tape. Wrap 2 half-lapped layers of Scotch™ Super 33+ Vinyl Plastic Electrical Tape over entire splice, overlapping an additional 1 in. (25 mm) onto cable jackets.

Alternate Tape Method — Overwrap splice and at least 2 in. (51 mm) of cable jackets with 1 or 2 half-lapped layers of Scotch™ 2228 Rubber Mastic Tape, depending on the application.

Resin Method — For example, 3M Scotchcast™ M-20, M-30 or M-40 Jacket Repair Kits with Scotchcast™ 2130 Flame Retardant Compound. Kit selection is based on the splice and cable size combination.

Cold Shrink Method — For example, 3M SJ-A Series Cold Shrink Jacket Kits, properly selected to fit the splice and cable size combination. Or 3M 8420 Series Cold Shrink Connector Insulators, using at least 2 applied in tandem, overlapped a minimum of 1 in. (25 mm) where they join, and sized to fit the splice and cable size combination.

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