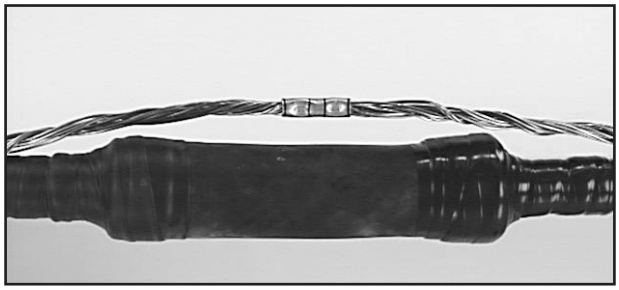
Cold Shrink QS-III Splicing Kit

Instructions

For Concentric Neutral (CN), Jacketed Concentric Neutral (JCN) and Flat Strap Neutral Cable

IEEE Std. 404
35 kV Class
250 kV BIL



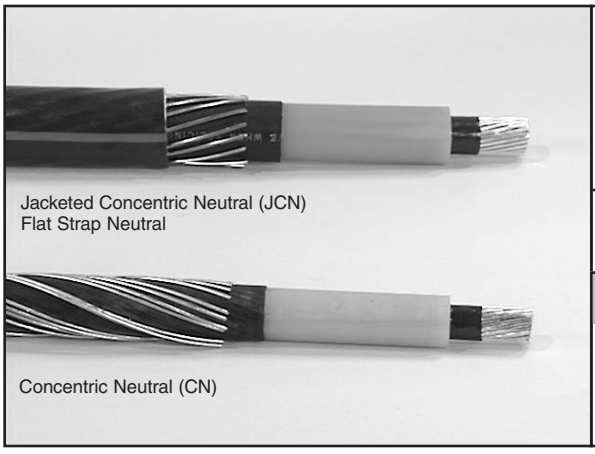
Selection Chart

Kit Number	Cable Insulation O.D. Range	Conductor Size Range
5467A-WG	1.07" to 1.70" (27,2 mm to 43,2 mm)	1/0 AWG–350 kcmil* (60–185 mm^2)

* Splices (including size transitions) can be made to smaller or larger conductors (but larger conductors may require special neutral handling), provided both cables are within the Insulation O.D. Range and the connector meets the dimensional requirements shown below.

Connector Dimensional Requirements

	Minimum inches (mm)	Maximum inches (mm)
Outside Diameter	0.51" (13,0 mm)	1.70" (43,2 mm)
Length Aluminum (Al/Cu)	------	6.00" (152 mm)
Length Copper (Cu)	------	6.50" (165 mm)



3M™ Cold Shrink QS-III Splicing Kit 5467A-WG

78-8126-0344-3-A

⚠CAUTION

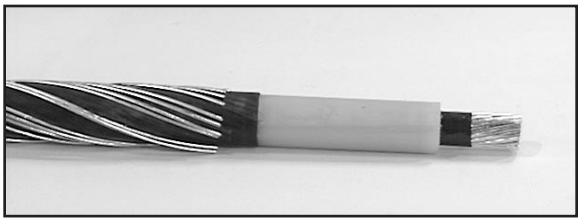
Working around energized high-voltage systems may cause serious injury or death. Installation should be performed by personnel familiar with good safety practice in handling high-voltage electrical equipment. De-energize and ground all electrical systems before installing product.

Kit Contents:

Quantity	Description
1	5467A-WG Splice Body
2	Tubes of P55/R Compound
1	5467A-WG Splice Instruction
2	Adapter Tubes
1	Cable Preparation Template
4	Scotch™ 2230 Mastic Sealing Strips, 6" length

Instructions for Jacketed Concentric Neutral (JCN), Concentric Neutral (CN), and Flat Strap Neutral Cable

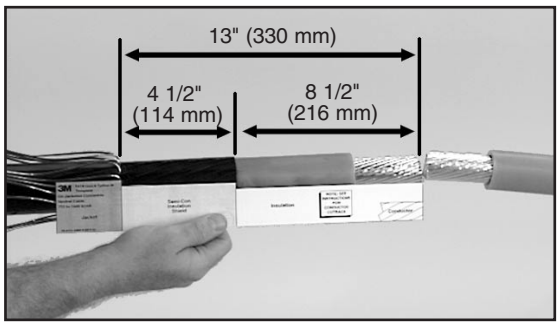
Jacketed Concentric Neutral (JCN) or Flat Strap Neutral



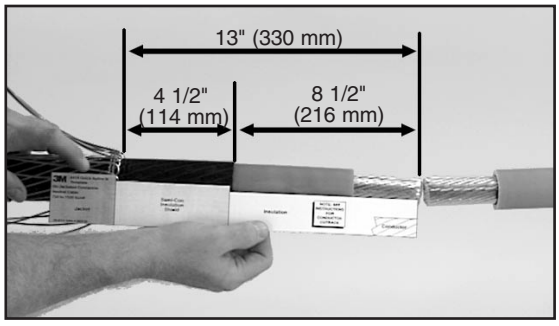
Concentric Neutral (CN)

1.0 Prepare Cables

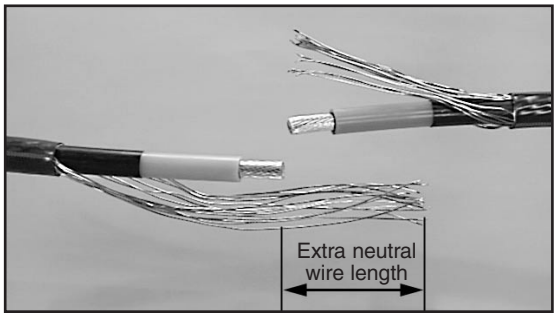
1.1 Prepare cables according to standard procedures. Refer to illustration below for proper dimensions. Additional distance is required on one cable to provide extra neutral wire length for connecting the neutrals.



Jacketed Concentric Neutral (JCN) or Flat Strap Neutral



Concentric Neutral (CN)

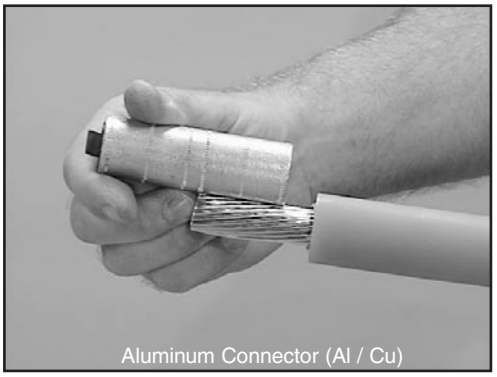


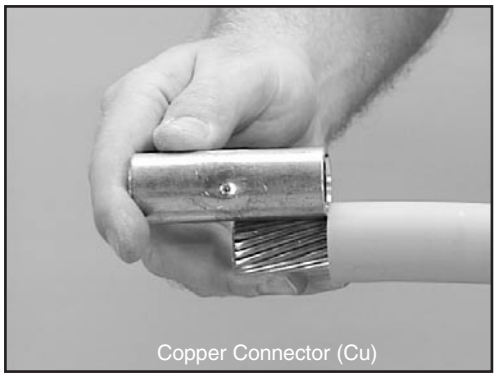
Note: Cables must be within Insulation OD range of splice kit and the connector must meet the dimensional requirements shown on the front page.

1.2 Carefully bend neutral wires back over edge of cable jackets or bindings (CN). Press them firmly against cables and temporarily secure with vinyl tape.

1.3 Remove cable insulation for 1/2 connector length plus an allowance* for increases in connector length due to crimping. Insulation removal length shall not exceed 3 1/4" (83 mm) from conductor end. **Do not install connector now.**

Note:** **This assumes that the installer has determined the increased length of an aluminum connector crimped with a specific tool and die.


Aluminum Connector (Al / Cu)

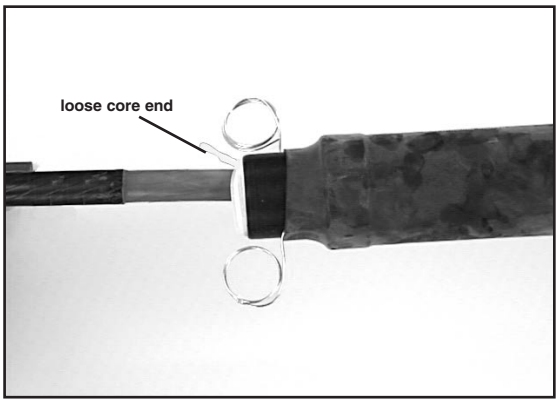

Copper Connector (Cu)

Aluminum (Al/Cu) Connector Growth Chart

Conductor Size	Typical length allowance (per end)
1/0 AWG	1/8" (3 mm)
2/0 AWG	1/8" (3 mm)
3/0 AWG	1/8" (3 mm)
4/0 AWG	1/4" (6 mm)
250 kcmil	1/4" (6 mm)
350 kcmil	1/4" (6 mm)

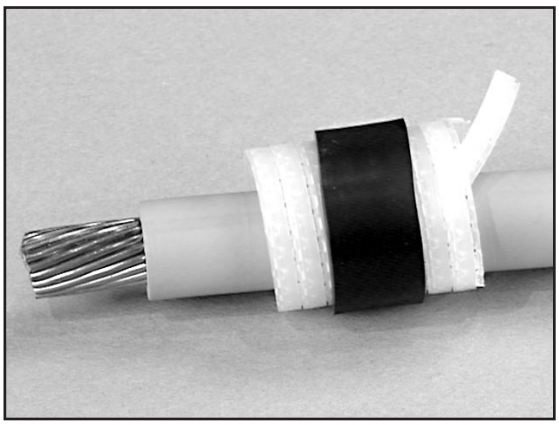
Note:** **1) Copper connectors do not require a length change allowance.
2) Maximum aluminum connector crimped length allowed is 6.50" (165 mm).

1.4 Slide splice body onto cable, loose core end first.



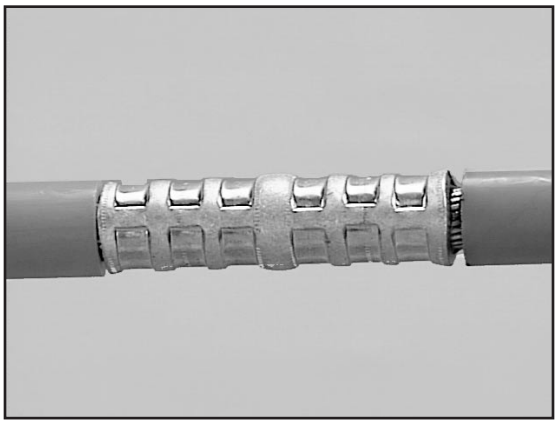
1.5 **For 1/0 through 3/0 AWG connectors, or connectors with an O.D. between 0.51–0.76" (13,0–19,3 mm):** Slide the cold shrink adapter tube with the **WHITE CORE** onto the insulation with the loose core ribbon end going on first, away from the cable end.

For 4/0 AWG through 350 kcmil connectors, or connectors with an O.D. between 0.68–1.07" (17,3–27,2 mm): Slide the cold shrink adapter tube with the **RED CORE** onto the insulation with the loose core ribbon end going on first, away from the cable end.



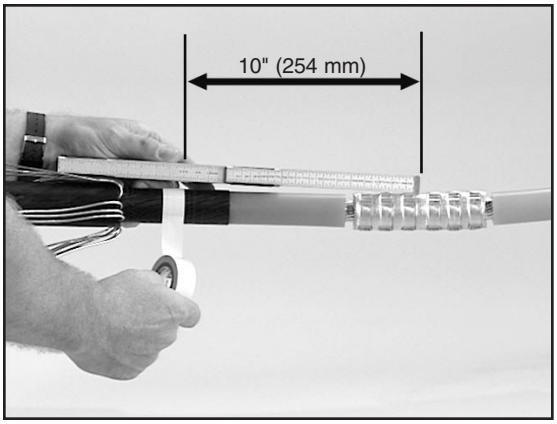
2.0 Install Splice

2.1 Install connector. See table (on cover) for proper connector dimensions. (For standard 3M™ connectors, refer to the table at the end of this instruction for crimping information.) Remove any excess oxidation inhibitor from connector ends if using an aluminum connector.

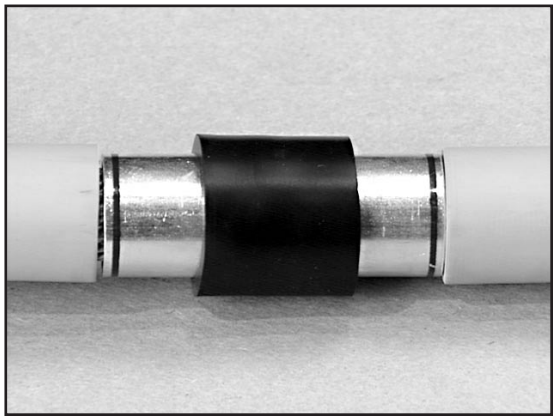


2.2 Apply a tape marker to semi-con insulation shield on cable which does not contain splice.

Measure 10" (254 mm) from center of connector.



2.3 Position adapter tube over the connector. Shrink adapter near center of connector by pulling and unwinding the loose core end in a counter-clockwise direction.

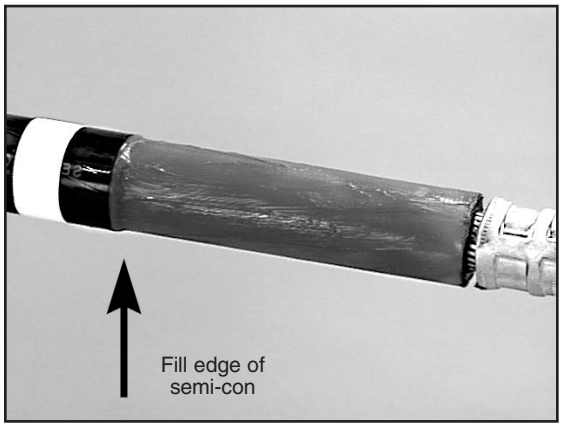


2.4 Clean cables using standard practice:

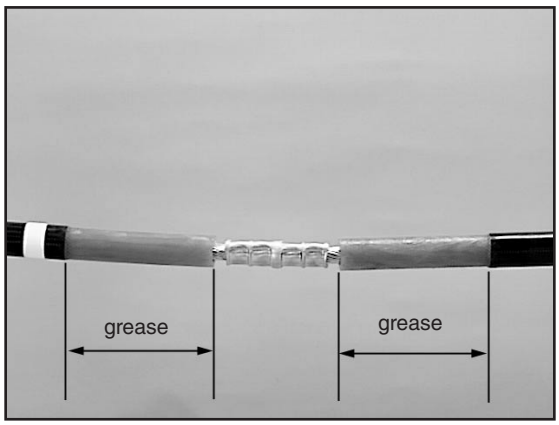
a. Do not use solvent or abrasive on cable semi-conductive insulation shield.
b. If abrasive is used on cable insulation, do not reduce diameter below the 1.07" (27,2 mm) minimum specified for the splice.

2.5 Apply red compound on cable insulation, making certain to fill in edge of cable semi-cons.

Do not use silicone grease.

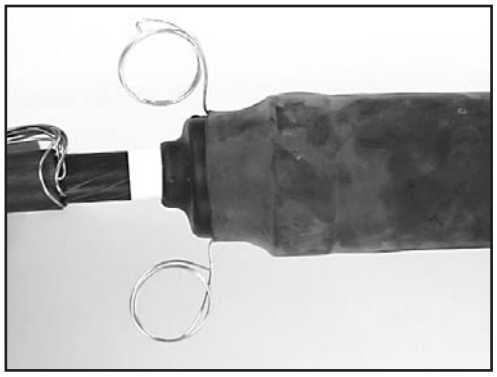


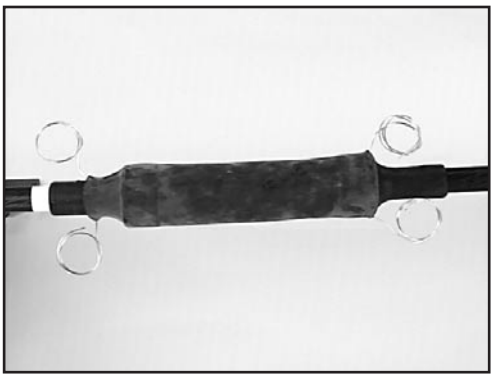
Compound filled at edge of semi-cons



Greased areas as noted

2.5 Position the splice body over connector area, aligning its end at the center of the tape marker. Slowly start to remove the splice core by pulling and unwinding the loose end counterclockwise, allowing only 1/4" (6 mm) of the splice to shrink onto the tape marker. Carefully slide the body off of the tape by pulling and twisting until the entire tape marker is exposed. Continue removing core to complete the splice body installation.





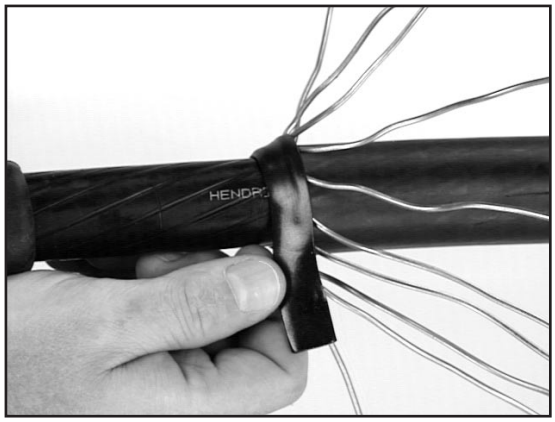
Note: ***The splice ends must overlap onto the semi-conducting layer of each cable, 1/2" (13 mm) minimum.***

Note: ***While removing core, hold only onto the shrunk portion of the splice to maintain its alignment with the tape marker.***

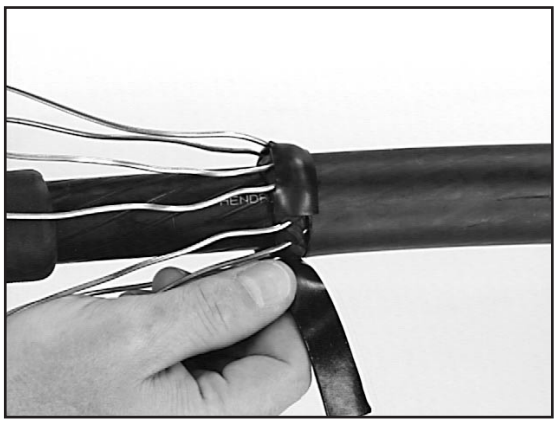
Note: ***Do not push the splice body towards the tape marker, as this may cause the end to roll under. If the end does roll under, DO NOT use sharp edged tools to pull it out as this could cut and damage the splice.***

3.0 Optional - Sealing Jacket on JCN Cables

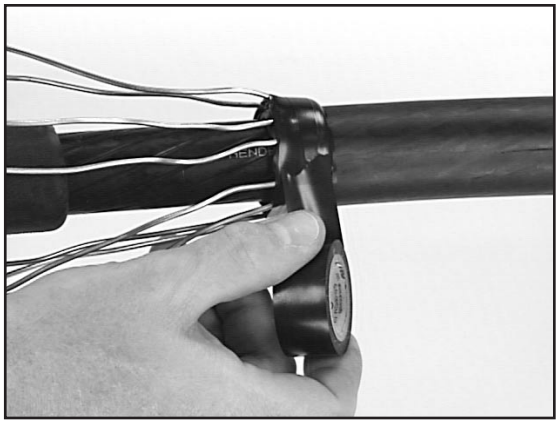
3.1 Wrap a mastic sealing strip against the neutral wires at the end of cable jacket.



3.2 Fold neutral wires over splice body and wrap another mastic sealing strip over the cable jacket end and the first mastic sealing strip.



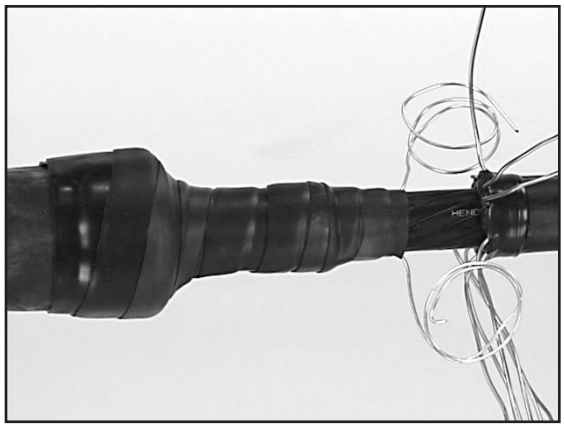
3.3 Cover mastic seals at each cable jacket with two wraps of vinyl tape.



4.0 Optional - Additional Protection for Splice Body

4.1 To further enhance protection of splice body from physical damage cover the splice body end seals with Scotch™ 2228 Rubber Mastic Tape (not supplied with kit).

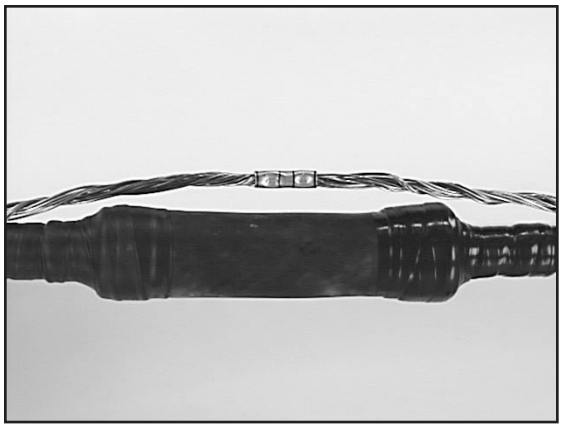
Beginning 2" (25 mm) on splice wire cover tube apply one half-lapped layer onto the cable semi-con.



5.0 Connect Neutral Wires

5.1 Connect neutral wires and splice wires together using an appropriate "C", "H" or butt type connector.

5.2 Splice is complete.



Crimping Tool - Die Sets (number of crimps/end)

3M™ Connector Number	Conductor Size (AWG or kcmil)	Burndy					Thomas & Betts Corp				Square D Co. Anderson Div.	Kearney
		MD6	MY29	Y34A	Y35, Y39 Y45*, Y46*	Y1000**	TBM 5	TBM 8	TBM 12	TBM 15	VC6-3** VC6-FT**	Type O
10005 (Cu)	1/0	W163 (2)	1/0 (1)	A25R (1)	U25RT (1)	—	Pink (2)	Pink (2)	—	42 (2)	(1)	—
20005 (Al/Cu)	1/0	W241 (2)	1/0 (1)	A25AR (1)	U25ART (1)	(1)	Tan (2)	Tan (2)	—	50 (1)	(1)	5/8-1 (3)
CI-1/0 (Al/Cu)	1/0	BG (3)	—	U243 (1)	U25ART (1)	—	—	Olive (2)	—	50 (1)	(1)	5/8-1 (3)
10006 (Cu)	2/0	W241 (2)	2/0 (1)	A26R (1)	U26RT (2)	—	Black (2)	Black (2)	—	45 (1)	(1)	—
20006 (Al/Cu)	2/0	BG (4)	2/0 (1)	A26AR (2)	U26ART (2)	(1)	Olive (2)	Olive (2)	—	54H (2)	(2)	5/8-1 (3)
11006 (Cu)	2/0	W241 (3)	2/0 (2)	A26R (2)	U26RT (2)	—	Black (3)	Black (3)	—	45 (2)	(2)	—
CI-2/0 (Al/Cu)	2/0	W249 (3)	—	—	U28ART (2)	—	—	Blue (4)	—	76 (2)	(2)	840 (4)
10007 (Cu)	3/0	W243 (2)	3/0 (1)	A27R (1)	U27RT (2)	—	Orange (2)	Orange (2)	—	50 (1)	(1)	—
20007 (Al/Cu)	3/0	W166 (4)	3/0 (1)	—	U27ART (2)	(1)	Ruby (2)	Ruby (2)	—	60 (2)	(2)	737 (3)
11007 (Cu)	3/0	W243 (3)	3/0 (2)	A27R (2)	U27RT (3)	—	Orange (3)	Orange (3)	—	50 (2)	(2)	—
CI-3/0 (Al/Cu)	3/0	W249 (3)	—	—	U28ART (2)	—	—	Blue (4)	—	76 (2)	(2)	840 (4)
10008 (Cu)	4/0	BG (3)	4/0 (1)	A28R (2)	U28RT (2)	—	Purple (2)	Purple (2)	—	54H (2)	(2)	
20008 (Al/Cu)	4/0	W660 (4)	4/0 (2)	A28AR (2)	U28ART (2)	(1)	—	White (4)	—	66 (4)	(2)	840 (4)
11008 (Cu)	4/0	BG (4)	4/0 (2)	A28R (3)	U28RT (3)	—	Purple (3)	Purple (3)	—	54H (3)	(3)	—
CI-4/0 (Al/Cu)	4/0	W249 (3)	—	—	U28ART (2)	—	—	Blue (4)	—	76 (2)	(2)	840 (4)
10009 (Cu)	250	W166 (3)	250 (1)	A29R (2)	U29RT (2)	—	Yellow (2)	Yellow (2)	—	62 (2)	(2)	—
20009 (Al/Cu)	250	W249 (3)	—	A29AR (2)	U29ART (2)	(1)	—	—	71H (2)	71H (2)	(3)	—
11009 (Cu)	250	W166 (4)	250 (2)	A29R (3)	U29RT (3)	—	Yellow (3)	Yellow (3)	—	62 (3)	(3)	—
CI-250 (Al/Cu)	250	—	—	—	U31ART (2)	—	—	—	87H (2)	87H (2)	(2)	—
10010 (Cu)	300	—	—	A30R (3)	U30RT (2)	—	—	White (2)	—	66 (2)	(2)	—
20010 (Al/Cu)	300	—	—	A30AR (2)	U30ART (2)	(1)	—	—	76H (3)	76 (1)	(2)	—
11010 (Cu)	300	—	—	A30R (3)	U30RT (3)	—	—	White (3)	—	66 (3)	(3)	—
CI-300 (Al/Cu)	300	—	—	—	U31ART (2)	—	—	—	87H (2)	87H (2)	(2)	—
10011 (Cu)	350	—	—	A31R (2)	U31RT (2)	—	—	Red (3)	—	71H (3)	(2)	—
20011 (Al/Cu)	350	—	—	—	U31ART (2)	(1)	—	—	87H (3)	87H (3)	(2)	—
11011 (Cu)	350	—	—	A31R (3)	U31RT (3)	—	—	Red (4)	—	71H (4)	(3)	—
CI-350 (Al/Cu)	350	—	—	—	U31ART (2)	—	—	—	87H (2)	87H (2)	(3)	—

*Y45 and Y46 accept all Y35 dies ("U Series"). For Y45, use PT6515 adapter. For Y46, use PUADP adapter.
**Anderson VC6-3, VC6-FT, VC8C and Burndy Y1000 require no die set.

Note: The core material being removed from the Splice Body and Jacket Tubes are mixed polymers and can be recycled with other waste.

Important Notice

Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use.

Warranty; Limited Remedy; Limited Liability. This product will be free from defects in material and manufacture as of the date of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any loss or damage arising from this 3M product, whether direct, indirect, special, incidental or consequential regardless of the legal theory asserted.**

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