3M COLDSHRINK™ QS III SPLICING KIT 94–AC642–1/C

WITH COLDSHRINK JACKETING TUBE SUITABLE FOR POLYMERIC SINGLE CORE CABLES, COPPER TAPE SCREENED AND/OR LEAD ALLOY SHEATH AND ALUMINIUM WIRE ARMOUR JOINING TO COPPER WIRE SCREEN CABLE.
19/33 kV ACCORDING TO IEC 60502

KIT No.	DIAMETER OVER CABLE SHEATH MAX. (mm)	DIAMETER OVER INSULATION (mm)	CROSS SECTION (mm^2)	DIAMETER OVER CONNECTOR (mm)	CONNECTOR LENGTH MAX. (mm)
94–AC642–1/C	69	31.5 – 52.6	300 – 630	32.0 – 52.6	210

CROSS SECTIONAL AREA IS STATED AS A GUIDE ONLY. PLEASE SELECT THE KIT BASED UPON THE PRIMARY INSULATION DIAMETER OF THE CABLE.

PLEASE NOTE: WHEN USING THIS INSTRUCTION TO JOIN CWS/AWA CABLES, ADDITIONAL COMPONENTS ARE REQUIRED;
CABLE SIZE 300–500: REQUIRES ONE P65 CONSTANT FORCE SPRING PLUS 500mm OF 5313 MASTIC.
CABLE SIZE 630: REQUIRES ONE P66 CONSTANT FORCE SPRING PLUS 500mm OF 5313 MASTIC.

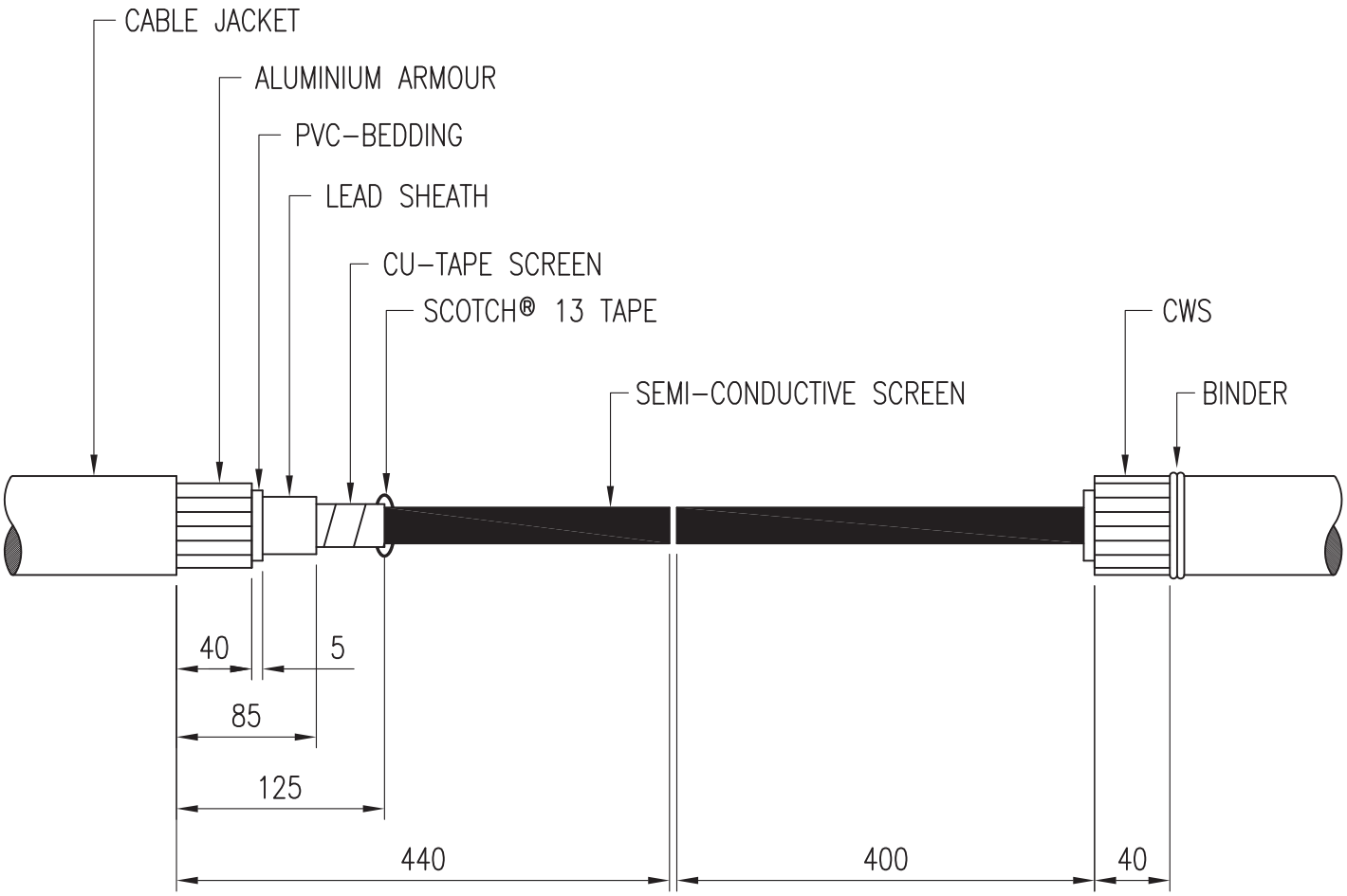
ISSUE	DESCRIPTION / ECO	BY	DATE
D	ADD ALU FOIL PATCHES	RS	17.04.24
3	LATEST REVISION	RS	30.08.22
2	LATEST REQUIREMENT.	ERH	06.10.11
1	RELEASED.	GW	22.02.11

3M UNITED KINGDOM PLC © 2011
3M CENTRE, CAIN ROAD, BRACKNELL
BERKS. RG12 8HT, ENGLAND

3M COLDSHRINK QS III SPLICING KIT 94–AC642–1/C WITH COLDSHRINK JACKETING TUBE SUITABLE FOR POLYMERIC SINGLE CORE CABLES, COPPER TAPED SCREENED, AND/OR LEAD ALLOY SHEATH AND AWA JOINING TO CWS CABLE – INSTALLATION INSTRUCTIONS

Drawn : G.WARKCUP	Des.Eng: J.ADDY
Cad File: XE–0091–3663–3	Checked:

FIG.1

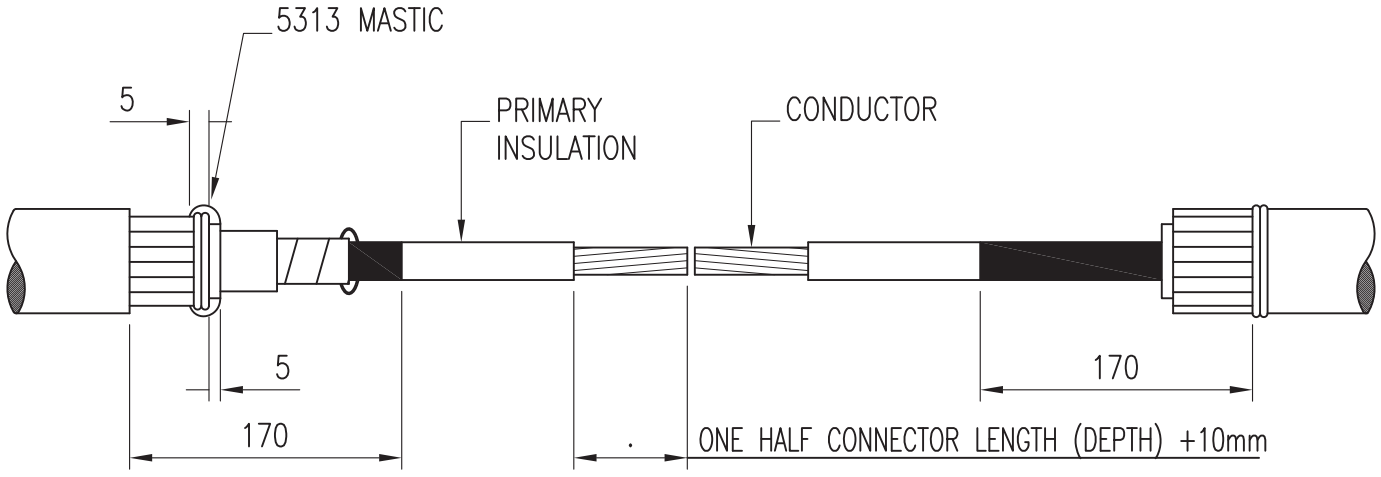


1.1 FIX THE END OF CU–TAPE SCREEN WITH SCOTCH® 13 TAPE

N.B FOR 500mm² CABLE AND 630mm² CABLE, ON THE RIGHT HAND SIDE OF THE JOINT REMOVE A FURTHER 70mm OF OVERSHEATH, THEREFORE EXPOSING 110mm OF ARMOUR.

1.2 FOLD THE CWS BACK AS SHOWN, SECURE WITH A BINDER AND CUT TO LENGTH.

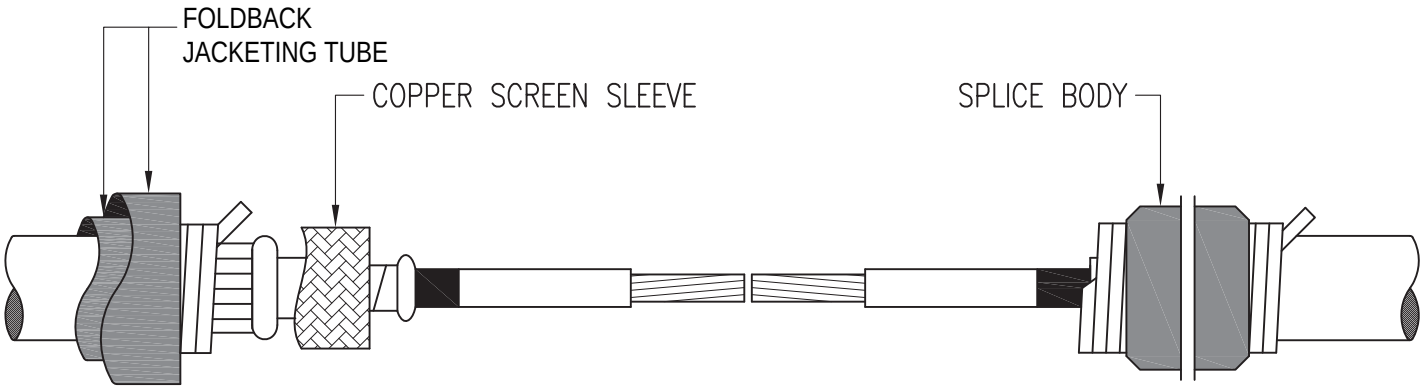
FIG.2



2.1 FIX THE ALUMINIUM ARMOUR WITH A BINDING.

2.2 APPLY ONE LAYER OF 5313 MASTIC ONTO THE ARMOUR AS SHOWN.

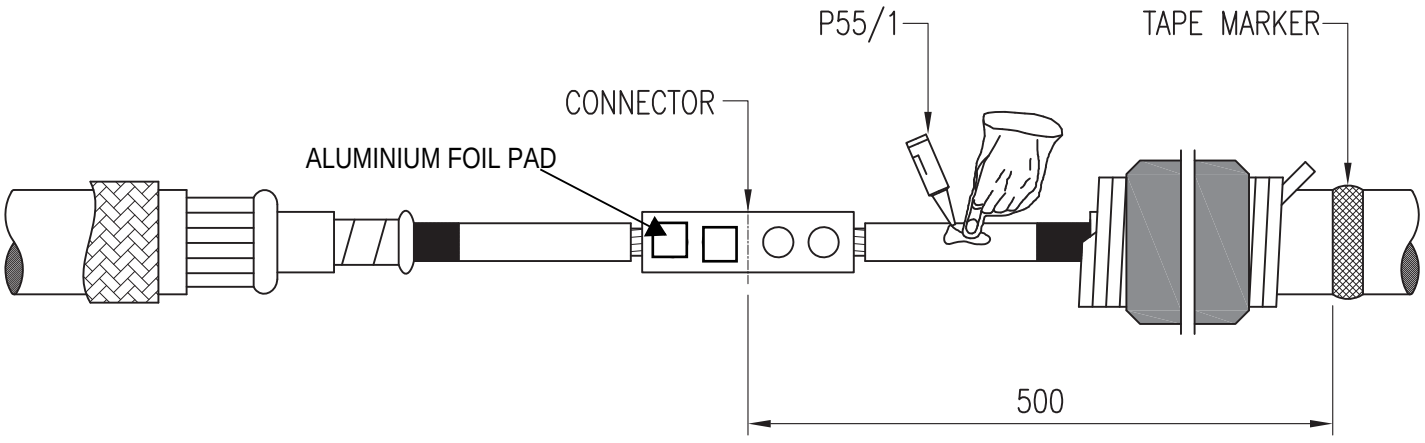
FIG.3



3.1 SLIDE THE JACKETING TUBE , COPPER SCREEN SLEEVE AND THE SPLICE BODY ONTO THE CABLE ENDS.

N.B ENSURE THAT THE SPLICE BODY IS PARKED ON THE SIDE OF THE JOINT WITH ADDITIONAL ARMOUR WIRES EXPOSED, THE RIGHT HAND SIDE.

FIG.4



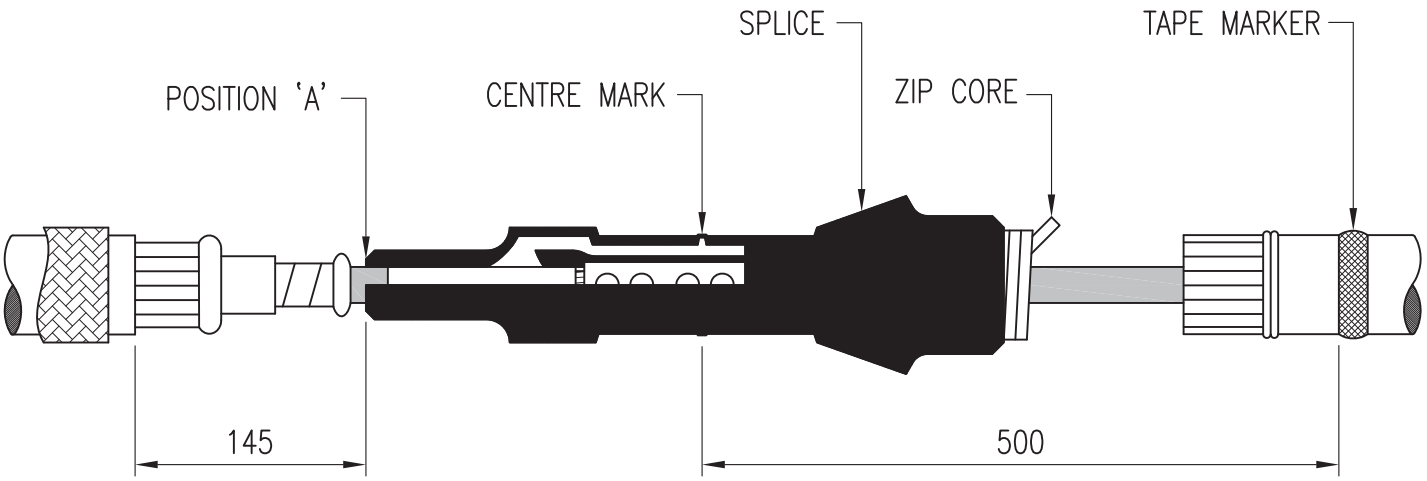
4.1 INSTALL CONNECTOR TO MANUFACTURER'S INSTRUCTIONS. REMOVE EXCESS GREASE, SMOOTH AND CLEAN THE CONNECTOR.
APPLY ALUMINIUM FOIL PADS OVER THE SHEAR BOLT HOLES TO ENSURE A SMOOTH PROFILE.

4.2 APPLY A TAPE MARKER TO CABLE JACKET BY MEASURING 500mm FROM CENTER OF CONNECTOR.

4.3 ENSURE THE MIN DIAMETER OVER THE CONNECTOR. IF NECCESSARY OVERWRAP THE CONNECTOR WITH CONDUCTIVE SCOTCH® 13 TAPE UP TO THE GIVEN DIAMETER.

4.4 APPLY A LIBERAL AMOUNT OF P55/1 LUBRICANT ON THE CABLE INSULATIONS AND CONNECTORS SURFACE, MAKING CERTAIN TO FILL IN EDGE OF THE CABLE SEMI-CONDUCTIVE LAYERS USING THE PLASTIC GLOVE PROVIDED.

FIG.5



5.1 POSITION THE SPLICE BODY OVER THE CONNECTOR AREA.

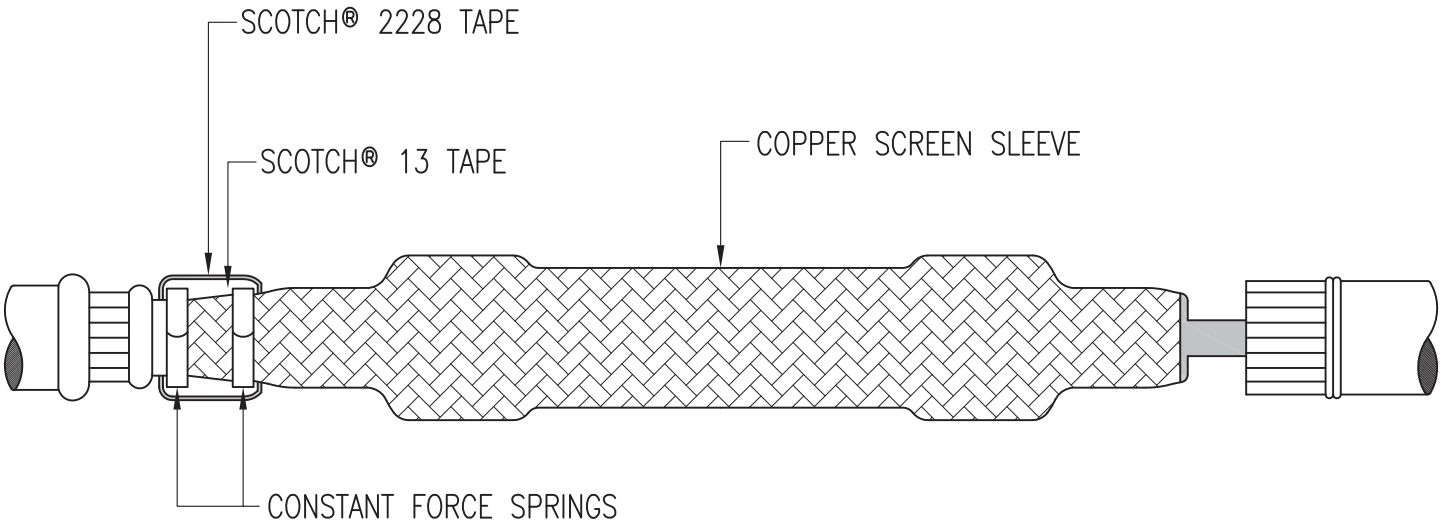
5.2 INSTALL THE SPLICE BY PULLING AND UNWINDING THE CORE COUNTER-CLOCKWISE. START SHRINKING AT POSITION 'A'.

5.3 ONCE THE SPLICE BODY HAS BEEN SHRUNK PAST ITS CENTRE MARK, AND BEFORE IT HAS BEEN SHRUNK FULLY ACROSS THE CONNECTOR, ENSURE THAT THE CENTRE MARK OF THE BODY IS CORRECTLY POSITIONED USING THE PVC TAPE MARKER AT 500mm. IF NOT CORRECTLY POSITIONED, MAKE CORRECTION BY DISPLACEMENT.

** PLEASE NOTE THAT THE SYMMETRICAL POSITION OF THE SPLICE BODY IS CRITICAL **

5.4 REMOVE THE TAPE MARKER.

FIG.6



6.1 CLEAN THE CABLE JACKET FOR APPROX. 150mm. THOROUGHLY CLEAN AND DEGREASE THE LEAD SHEATH AND ARMOUR.

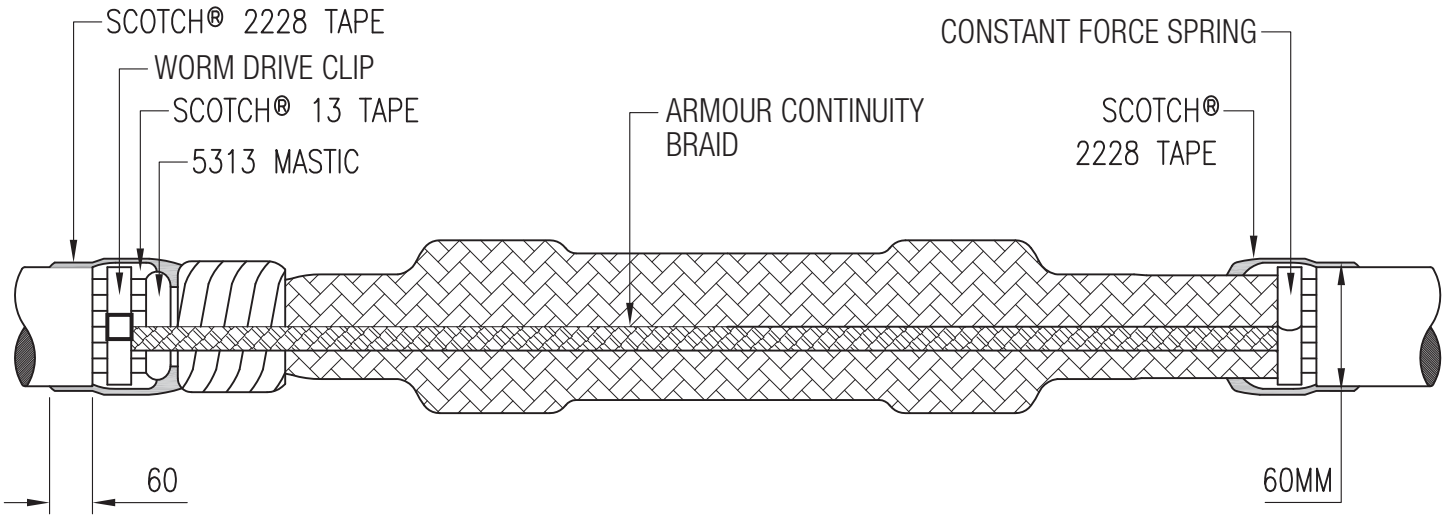
6.2 CENTRE THE COPPER SCREEN SLEEVE OVER THE SPLICE AND FIX IT BY MEANS OF CONSTANT FORCE SPRING ON THE LEAD SHEATH AND CU-TAPE SCREEN. CUT OFF THE REMAINING WIRES OF THE SLEEVE.

6.3 OVERWRAP THE CONSTANT FORCE SPRINGS WITH TWO HALF-LAPPED LAYERS OF SCOTCH® 13 TAPE AS SHOWN.

6.4 WRAP TWO HALF-LAPPED LAYERS OF SCOTCH® 2228 TAPE OVER THE SCOTCH® 13 TAPE.

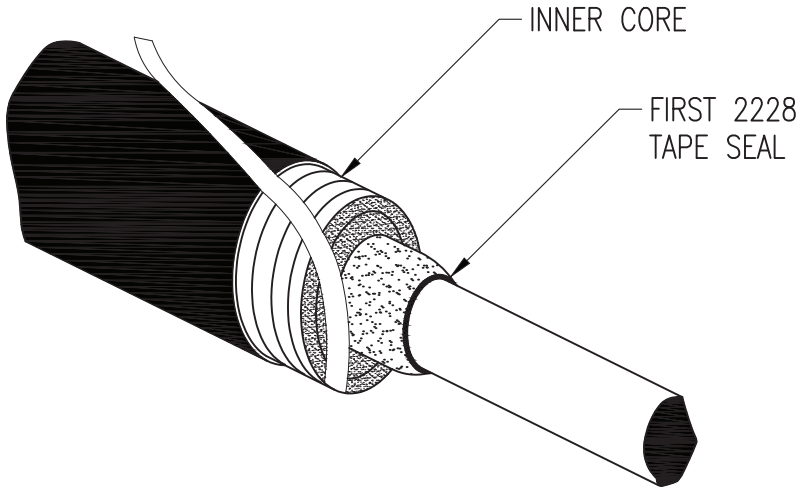
6.5 APPLY ONE LAYER OF 5313 MASTIC ONTO ARMOUR/CABLE SHEATH.

FIG.7



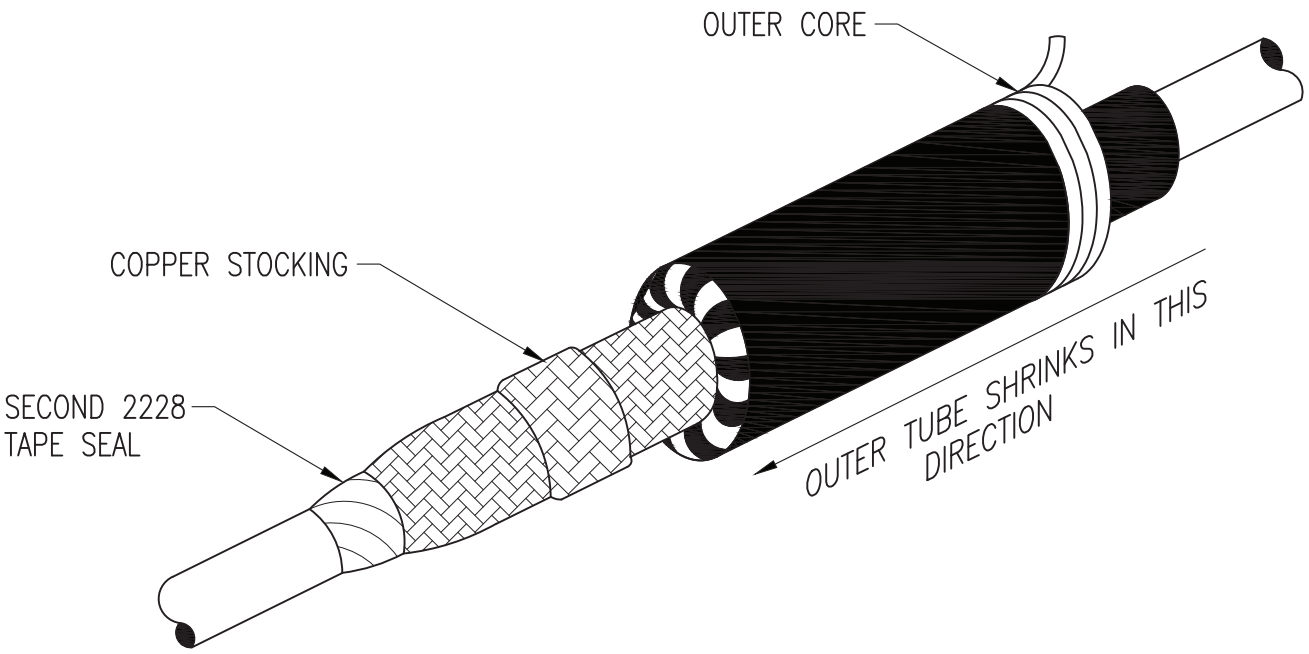
7.1 LAY THE ARMOUR CONTINUITY BRAIDS/BRAID OVER THE SPLICE AND FIT IT TO THE ALUMINIUM WIRE ARMOUR WITH THE WORM DRIVE CLIP.
7.2 SECURE SECOND HALF OF COPPER STOCKING AND BRAID/BRAIDS TO CWS USING CFS.
7.3 APPLY A SECOND LAYER OF 5313 MASTIC OVER THE FIRST LAYER TO SANDWICH THE ARMOUR BRAID.
7.4 OVERWRAP THE WORM DRIVE CLIP AND CFS WITH TWO HALF LAPPED LAYERS OF SCOTCH® 13 TAPE, AS SHOWN.
7.5 WRAP SCOTCH® 2228 TAPE OVER THE CABLE JACKET AND THE SCOTCH® 13 TAPE, ENSURE MINIMUM DIAMETER OF 60mm OVER THIS AREA. ENSURE THAT ANY EXPOSED ARMOUR WIRES ARE FULLY PROTECTED WITH SCOTCH® 2228 TAPE.

FIG.8



8.1 BEGIN TO INSTALL THE OUTER PROTECTION COLD SHRINK TUBE BY COMPLETELY COVERING THE FIRST 2228 TAPE AND SLOWLY PULLING AND UNWINDING THE INNER CORE COUNTERCLOCKWISE TOWARD THE SPLICE BODY. THE OUTER CORE SHOULD REMAIN RELATIVELY STATIONARY WHILE UNWINDING THE INNER CORE. IF THE OUTER CORE BEGINS TO MOVE TOWARDS THE FIRST 2228 TAPE SEAL, GENTLY PULL THE OUTER CORE AND PROTECTION TUBE TOWARDS THE SECOND 2228 TAPE AND CONTINUE UNWINDING THE INNER CORE.

FIG. 9



9.1 CONTINUE TO INSTALL THE COLD SHRINK TUBE OVER THE SECOND 2228 TAPE SEAL ON THE OTHER SIDE OF THE JOINT BY SLOWLY PULLING AND UNWINDING THE OUTER CORE COUNTER CLOCKWISE. THIS PORTION OF THE COLDSHRINK TUBE INSTALLS DIFFERENTLY THAN TYPICAL COLDSHRINK PRODUCTS IN THAT AS THE TUBE SHRINKS, THE END ROLLS UNDER. THE TUBE MIGHT NEED A SLIGHT PUSH TO GET OVER THE SECOND 2228 TAPE SEAL.

NOTE: FOR AREAS WHERE PROTECTION AGAINST HYDROCARBONS/CHEMICALS IS REQUIRED A SUPPLEMENTARY KIT CONSISTING OF A SPECIAL MOULD AND RESIN MUST BE INSTALLED AROUND THE JOINT.