3M QUICK SPLICE 1000

11 kV INLINE COLDSHRINK TRANSITION JOINT FOR PAPER OR POLYMERIC 3 CORE CABLE WITH COPPER TAPE SCREEN AND LEAD SHEATH AND SWA 50 – 400 mm.² 92 AV (UK)

SELECTION CHART				
KIT No.	DIAMETER OVER INSULATION [E] (mm.)	CROSS SECTION (mm.²)	DIAMETER OVER CONNECTOR (mm.)	CONNECTOR LENGTH MAX. (mm.)
92–AV610–3/C	17.7 – 26.0	50 – 120	14.2 – 26.0	135
92–AV620–3/C	22.3 – 33.2	120 – 240	18.0 – 33.2	145
92–AV630–3/C	28.4 – 42.0	240 – 400	23.3 – 42.0	220

NOTE:–

1. FOR SCREENED PAPER CABLES A SCREENED PAPER MODULE (SPM2) IS REQUIRED.

ISSUE	DESCRIPTION / ECO	BY	DATE
B	ADD ALU FOIL PATCHES	RS	06.11.23
1	FOR RELEASE	GW	10.05.10

3M QUICK SPLICE 1000 11kV INLINE COLDSHRINK TRANSITION JOINT FOR PAPER OR POLYMERIC 3 CORE CABLE WITH COPPER TAPE SCREEN AND LEAD SHEATH AND SWA–92 AV(UK) INSTALLATION INSTRUCTIONS

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Cad File: XE–0091–3592–4	Checked:

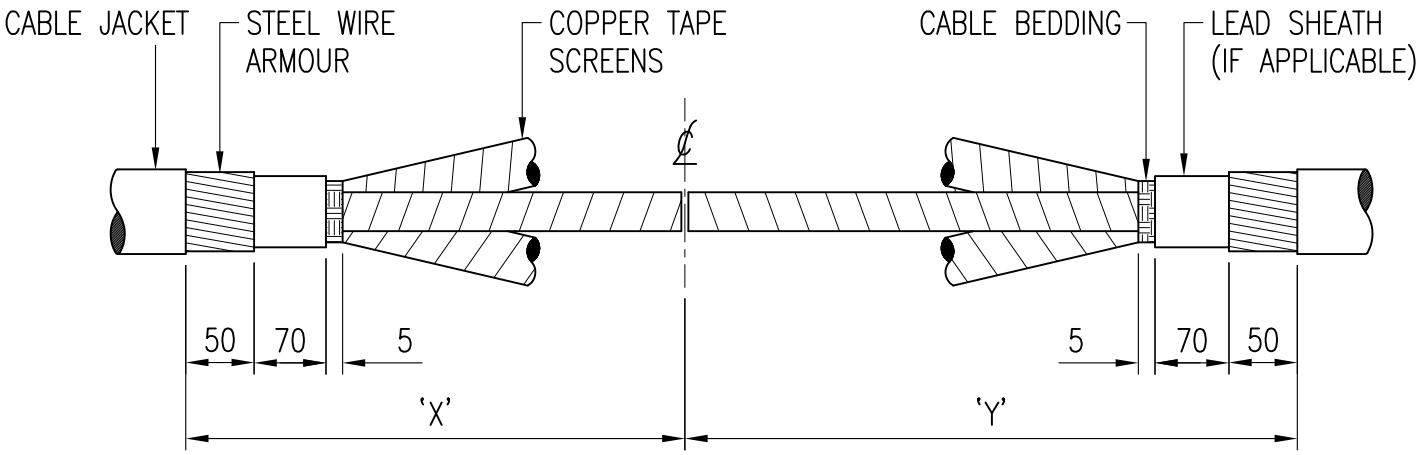
INDEX – JOINT CONFIGURATIONS

POLYMERIC INLINE JOINT

NOTE :- THE SMALLEST CROSS SECTIONAL AREA CABLE MUST BE ON THE LONG SIDE

KIT No.	DIM 'X'	DIM 'Y'
92-AV-610-3	460	650
92-AV-620-3	460	650
92-AV-630-3	470	740

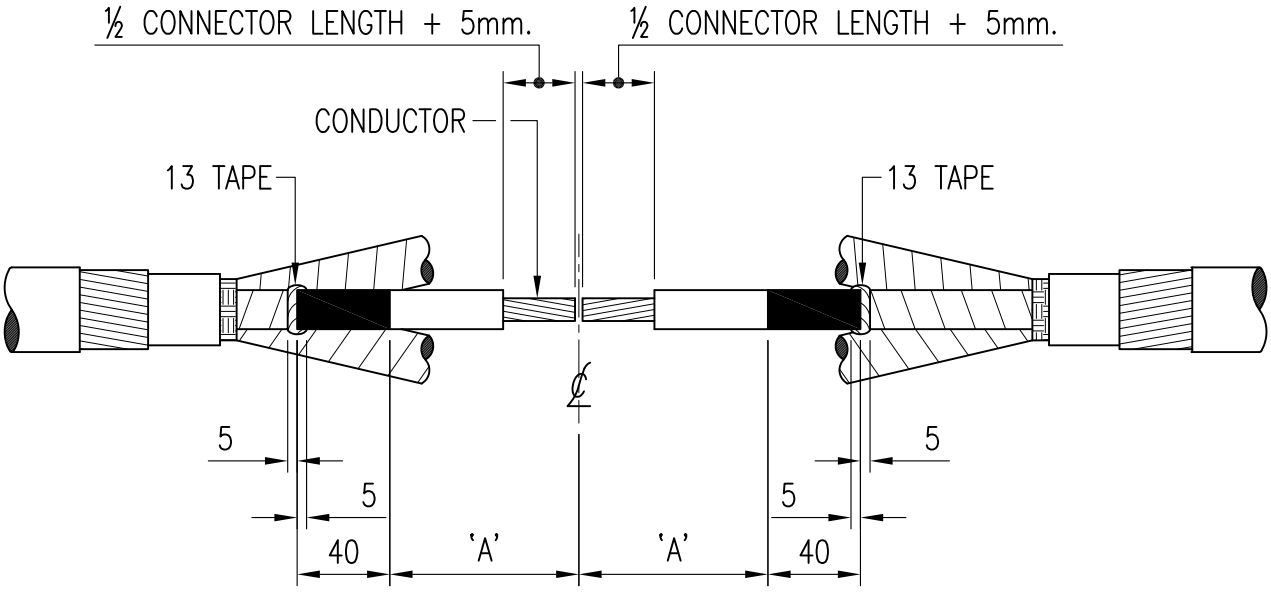
FIG.1



1.1 SET CORES INTO REQUIRED POSITION, IF REQUIRED CROSS ON THE LONG SIDE.
1.2 *** IF XLPE CABLE HAS NO LEAD SHEATH, REMOVE THE BEDDING 5mm IN FRONT OF ARMOUR. ***

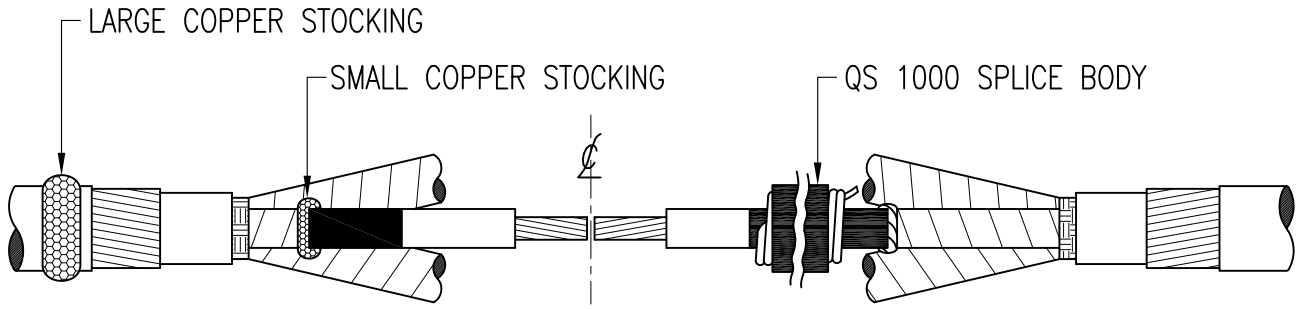
FIG.2

KIT No.	'A' DIM
92-AV-610-3	130
92-AV-620-3	130
92-AV-630-3	180



2.1 SET CORES AND ALLOW FOR CROSS WHERE APPLICABLE. BEFORE CUTTING CORES TO LENGTH PREPARE CABLE AS PER DIMENSIONS SHOWN.
2.2 FIX THE COPPER TAPE SCREEN WITH HIGHLY STRETCHED BINDER OF SCOTCH 13 TAPE AS SHOWN.

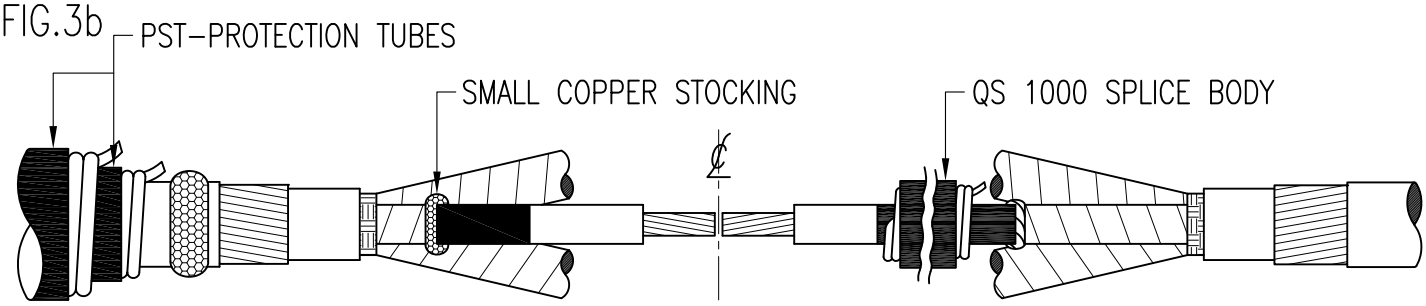
FIG.3



3.1 PARK LARGE COPPER STOCKING ON ONE SIDE OF JOINT.
3.2 WORKING ON ONE PHASE AT A TIME COMPLETE THE FOLLOWING :-
3.3 PARK THE QS 1000 SPLICE BODY.
3.4 PARK SMALL INDIVIDUAL STOCKING ON THE CORE.

*** COLDSHRINK OUTER PROTECTION ONLY *** POLYMERIC TO POLYMERIC CABLES ONLY

FIG.3b

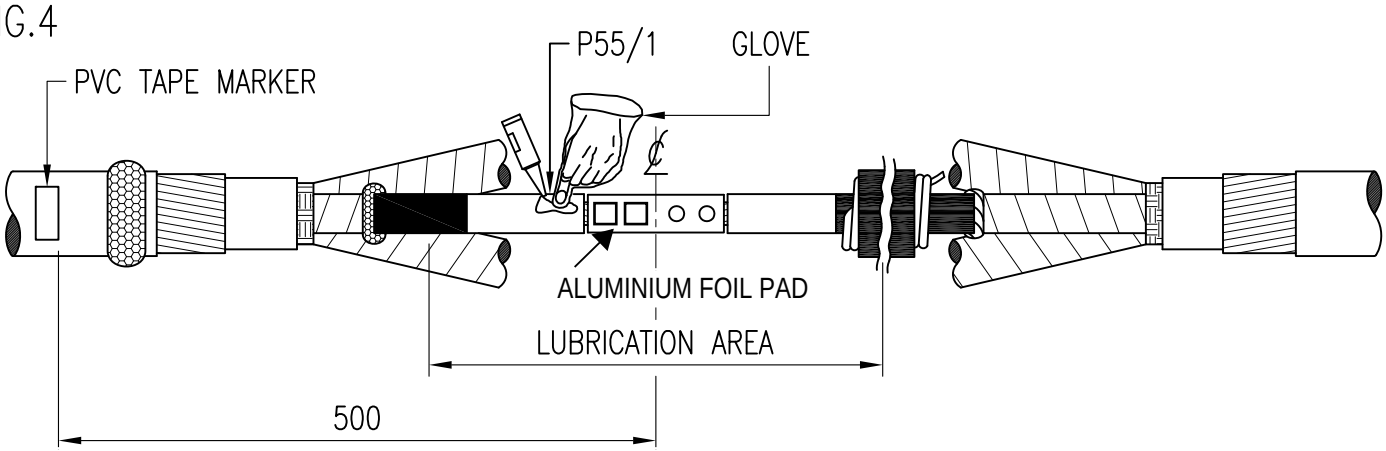


3b.1 PARK THE PST-PROTECTION TUBES ON THE CABLE ENSURING THAT THE PULL CORDS OF THE SUPPORT CORES OF THE PST'S ARE POSITIONED TOWARDS THE CENTRE OF THE JOINT, ON THE LONG-CORES.

NOTES:- FOR KIT No. 92-AV620-3, BOTH TUBES ARE THE SAME, THEREFORE MUST BE PARKED ONE ON EITHER SIDE OF THE JOINT.
FOR KIT No. 92-AV630-3 POSITION 2 SMALL PST-PROTECTION TUBES, ONE ON EITHER SIDE OF THE JOINT.

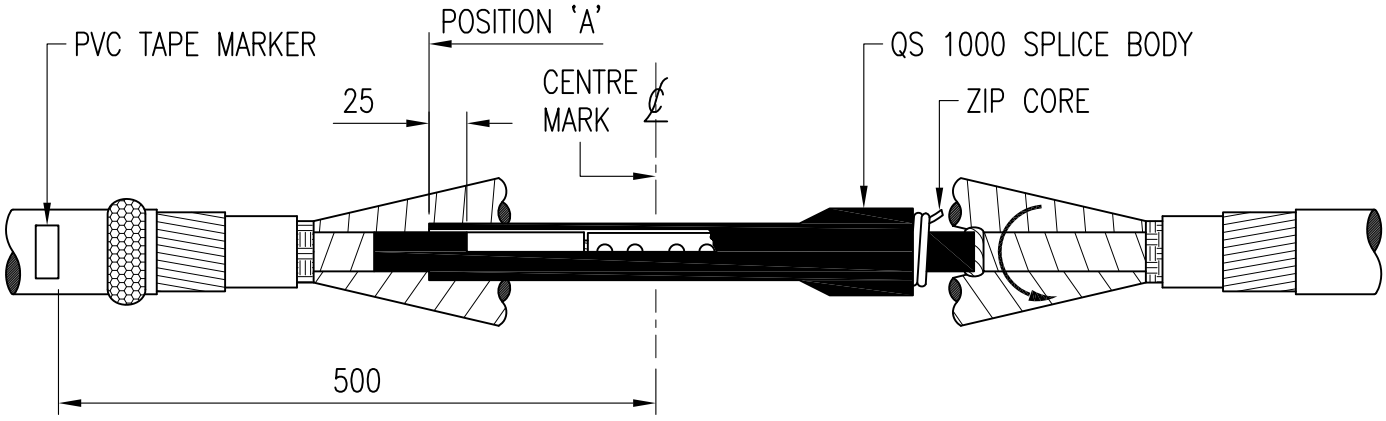
3b.2 CARRY ON WITH STANDARD INSTALLATION FROM FIG.4 ONWARDS TO FIG.9.

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 LIBERAL AMOUNT OF P55/1 OVER THE END OF THE SEMI-CONDUCTIVE LAYER, ON TO THE EXPOSED PRIMARY INSULATION AND CONNECTOR USING THE PROVIDED PLASTIC GLOVE.
4.3 PLACE A PVC TAPE MARKER ON THE CABLE SHEATH AT A DISTANCE OF 500mm FROM THE CONNECTOR CENTRE.

FIG.5



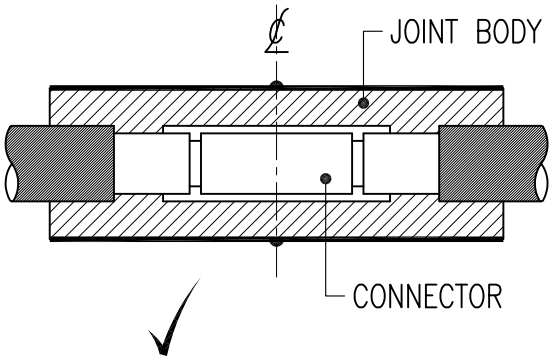
5.1 SLIDE THE QS 1000 BODY OVER THE CONNECTOR UP TO POSITION 'A'.

5.2 USING POSITION 'A' AS A STARTING POINT, SHRINK THE BODY ON TO THE CORE BY UNWINDING THE SPIRAL.

5.3 ONCE THE BODY HAS BEEN SHRUNK PAST ITS CENTRE MARK, AND BEFORE IT HAS BEEN SHRUNK FULLY ACROSS THE CONNECTOR, ENSURE THAT THE BODY IS IN POSITION USING THE PVC TAPE AND CENTRE MARKERS. IF NOT CORRECTLY POSITIONED, MAKE CORRECTION BY DISPLACEMENT.

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

5.4 COMPLETE OTHER PHASES.



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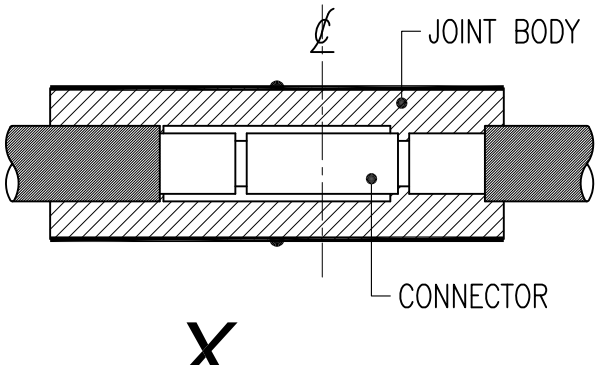
CORRECT ALIGNMENT OF JOINT BODY



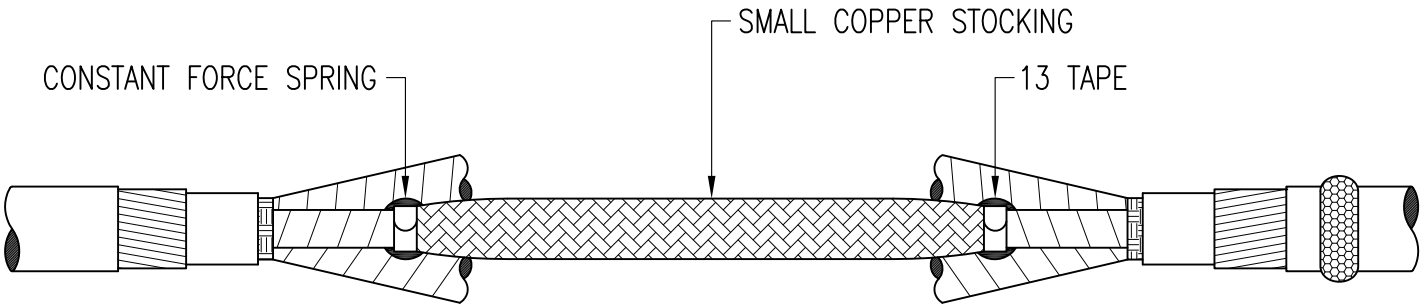
X

JOINT WILL FAIL

FIG.6

SHORT SIDE

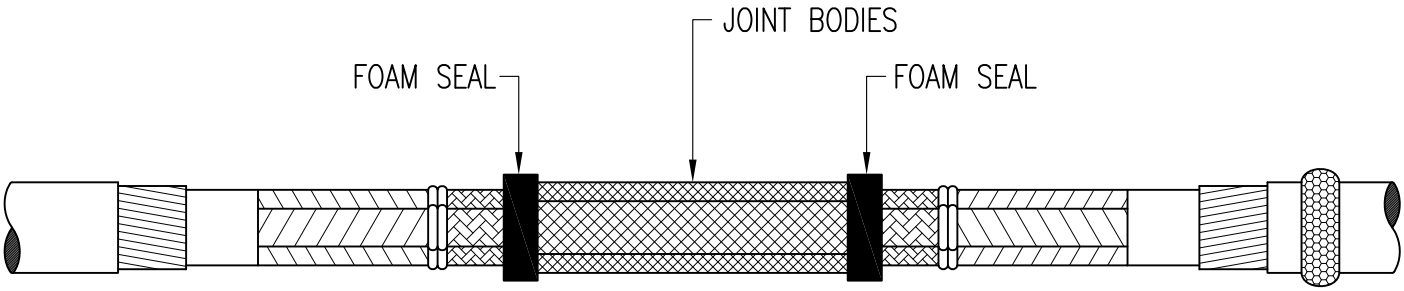
LONG SIDE



6.1 SLIDE THE SMALL COPPER STOCKING ACROSS EACH CORE.
6.2 CONNECT THE STOCKING TO THE COPPER TAPE SCREEN ON EACH SIDE OF THE JOINT USING CONSTANT FORCE SPRINGS.
6.3 COVER THE SPRINGS WITH SCOTCH 13 TAPE, APPLY IN THE SAME DIRECTION AS THE SPRINGS.

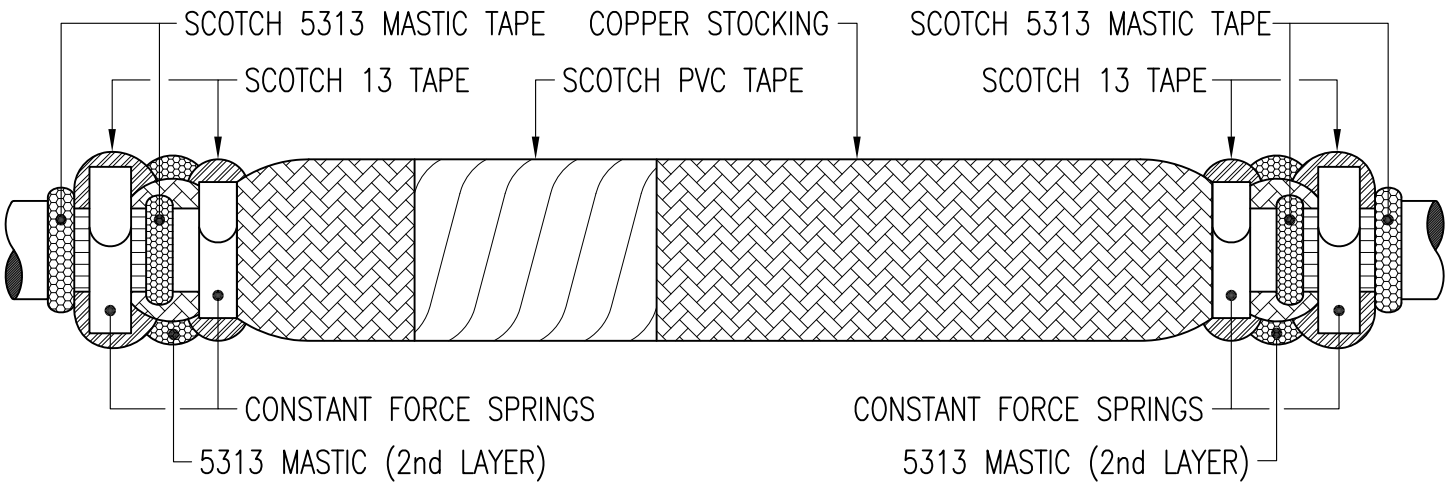
N.B:- ONLY FOR JOINTS INSTALLED IN A MOULD AND RESIN.

FIG.7



7.1 FIT A FOAM SEAL AT BOTH ENDS OF THE SPLICE BODIES.

FIG.8 SHORT SIDE LONG SIDE



XLPE CABLE WITHOUT LEAD SHEATH

SHORT SIDE

8.1 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOUR AND AT THE END OF CABLE JACKET.
8.2 SLIDE THE COPPER STOCKING ACROSS THE JOINT AND CONNECT TO THE ARMOUR USING CONSTANT FORCE SPRINGS.
8.3 PULL THE COPPER STOCKING ACROSS THE JOINT AND TAPE THE AREA OF THE JOINT BODIES WITH THE WIDE PVC TAPE. (TAPE BETWEEN FOAM SEALS.)

LONG SIDE

8.4 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOUR AND AT THE END OF CABLE JACKET.
8.5 CONNECT THE COPPER STOCKING TO THE ARMOUR USING A CONSTANT FORCE SPRING.

BOTH SIDES

8.6 COVER THE CONSTANT FORCE SPRINGS WITH SCOTCH 13 TAPE, APPLY IN THE SAME DIRECTION AS THE SPRINGS.
8.7 APPLY A LAYER OF MASTIC AT BOTH ENDS OF THE JOINT BETWEEN THE SHEATH AND THE ARMOUR AND A SECOND LAYER OVER THE 5313 MASTIC, SANDWICHING THE COPPER STOCKING.

XLPE CABLE WITH LEAD SHEATH

SHORT SIDE

8.8 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOUR, LEAD SHEATH AND AT THE END OF THE CABLE JACKET.
8.9 SLIDE THE COPPER STOCKING ACROSS THE JOINT AND CONNECT TO THE ARMOUR AND LEAD SHEATH USING THE CONSTANT FORCE SPRINGS.
8.10 PULL THE COPPER STOCKING ACROSS THE JOINT AND TAPE THE AREA OF THE JOINT BODIES WITH THE WIDE PVC TAPE, (TAPE BETWEEN FOAM SEALS).

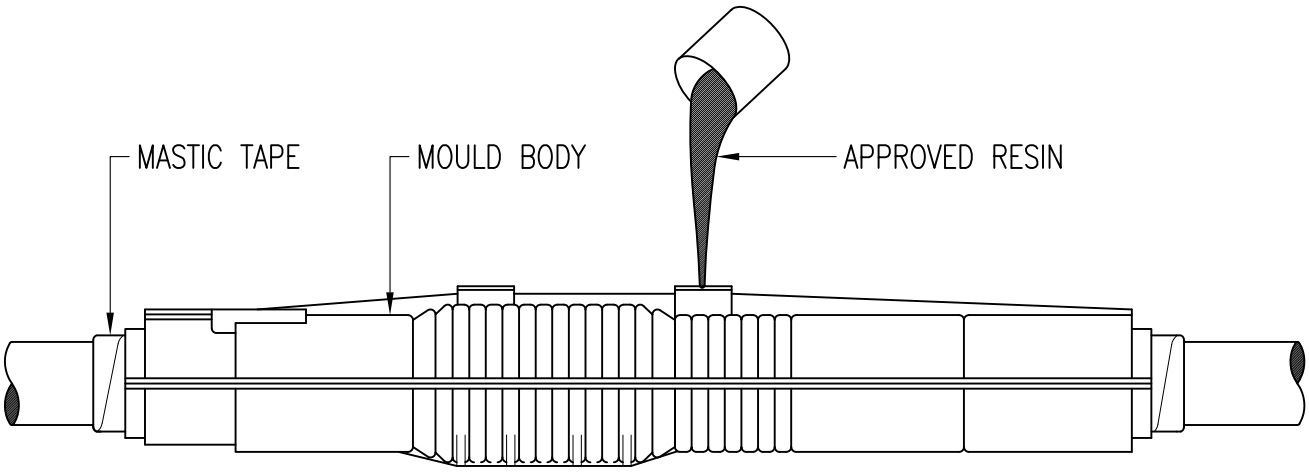
LONG SIDE

8.11 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOUR, LEAD SHEATH AND AT THE END OF THE CABLE JACKET.
8.12 CONNECT THE COPPER STOCKING TO THE ARMOUR AND LEAD SHEATH USING CONSTANT FORCE SPRINGS.

BOTH SIDES

8.13 COVER THE CONSTANT FORCE SPRINGS WITH SCOTCH 13 TAPE, APPLY IN THE SAME DIRECTION AS THE SPRINGS.
8.14 APPLY A LAYER OF THE MASTIC AT BOTH ENDS OF THE JOINT BETWEEN THE SHEATH AND ARMOUR AND A SECOND LAYER OVER THE 5313 MASTIC, SANDWICHING THE COPPER STOCKING.

FIG.9

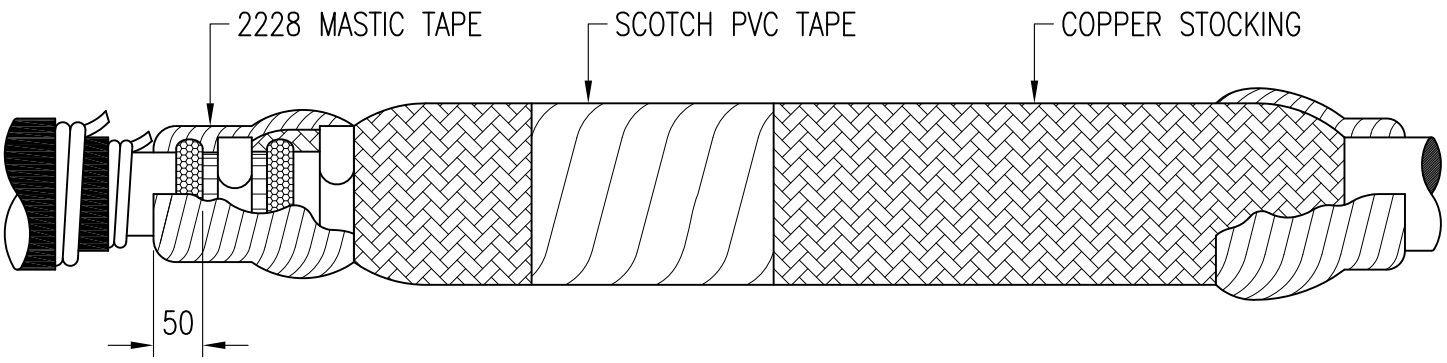


9.1 ABRADE CABLE SHEATH FOR 100mm BEYOND SHEATH OFF POSITION.
9.2 INSTALL THE MOULD CENTRALLY AROUND THE JOINT AND CLIP BOTH HALVES TOGETHER.
9.3 SEAL THE ENDS OF THE MOULD WITH MASTIC TAPE.
9.4 SUPPORT THE JOINT, MIX THE RESIN AND POUR INTO THE MOULD BODY.
9.5 DO NOT MOVE THE JOINT FOR AT LEAST TWO HOURS.

POLYMERIC INLINE JOINT – COLDSHRINK OUTER PROTECTION OPTION

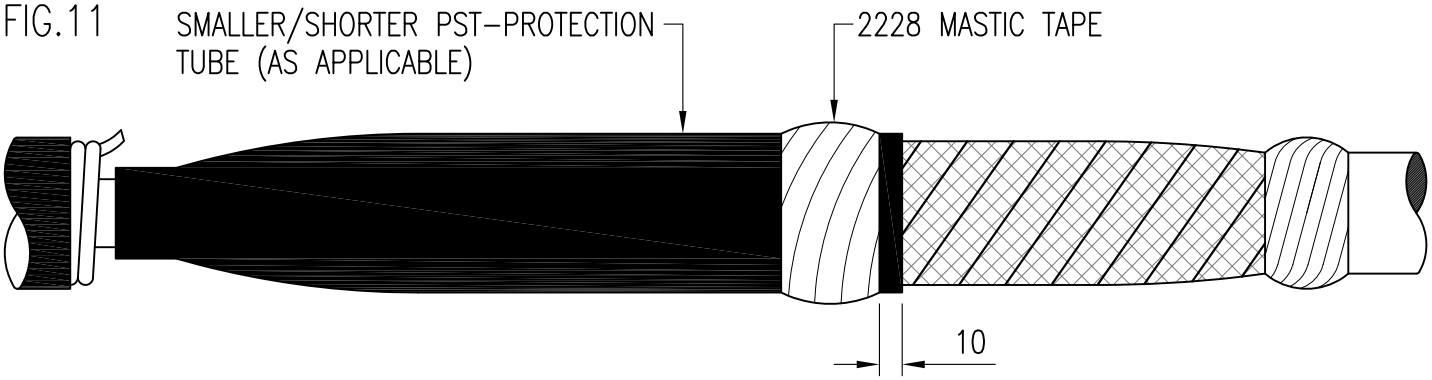
FIG.10

POLYMERIC TO POLYMERIC CABLES ONLY



10.1 APPLY TWO LAYERS OF 2228 TAPE, REACHING 50mm ON TO THE CABLE SHEATH, COVERING THE CONSTANT FORCE SPRINGS, 5313 MASTIC AND SEALING THE ARMOUR, LEAD SHEATH AND/OR BEDDING. ENSURE A MINIMUM DIAMETER OF 65mm.

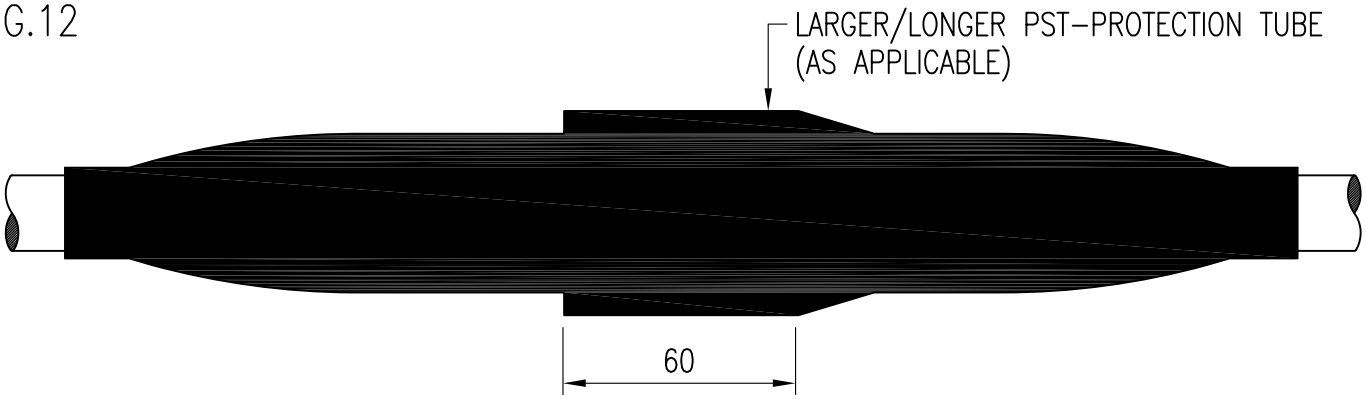
FIG.11



11.1 CLEAN THE CABLE SHEATHS FOR 60mm BEYOND THE 2228 TAPE.
11.2 SHRINK DOWN THE SMALLER/SHORTER PST-PROTECTION TUBE/TUBES FIRST, STARTING APPROX. 10mm PAST THE 2228 TAPE ON THE CABLE SHEATH.
11.3 APPLY THREE LAYERS OF 2228 MASTIC TAPE APPROX. 10mm FROM THE END OF THE PROTECTION TUBE.

NOTES:- FOR KIT No. 92-AV620-3, BOTH TUBES ARE THE SAME, THEREFORE MUST BE PARKED ONE ON EITHER SIDE OF THE JOINT.
FOR KIT No. 92-AV630-3 POSITION 2 SMALL PST-PROTECTION TUBES, ONE ON EITHER SIDE OF THE JOINT.

FIG.12



12.1 SHRINK DOWN LARGER/LONGER PST-PROTECTION TUBE, STARTING 60mm ON THE FIRST PROTECTION TUBE.

NOTE:- FOR KIT No. 92-AV630-3 POSITION LARGE PST-PROTECTION TUBE OVER THE SMALLER PST-PROTECTION ON EITHER SIDE OF THE JOINT.

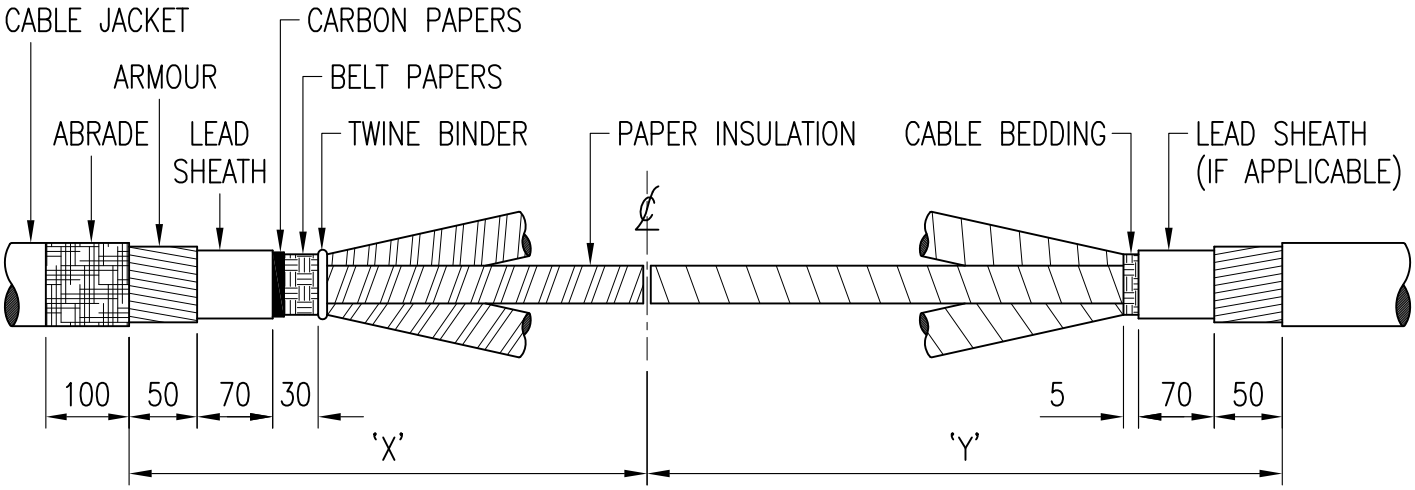
TRANSITION INLINE JOINT

KIT No.	DIM 'X'	DIM 'Y'
92-AV 610-3	460	650
92-AV 620-3	460	650
92-AV 630-3	510	740

NOTE:- FOR TRANSITION JOINTS A BLOCKED CONNECTOR MUST BE USED AND THE DIMENSION OF THE BLOCK IN THE CONNECTOR MUST BE TAKEN INTO ACCOUNT. DIMENSIONS ARE TO THE "CENTRE OF THE JOINT".

FIG.13

PAPER CABLE (SHORT SIDE) POLYMERIC CABLE (LONG SIDE)



PAPER CABLE

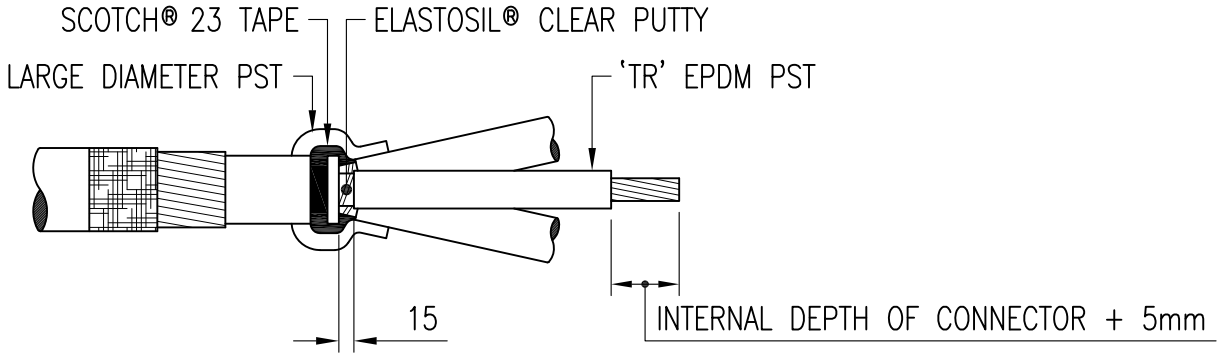
13.1 SET CORES INTO REQUIRED POSITION, IF REQUIRED CROSS ON THE POLYMERIC SIDE.
*** IF XLPE CABLE HAS NO LEAD SHEATH, REMOVE THE BEDDING 5mm IN FRONT OF ARMOUR. ***

13.2 REMOVE CARBON PAPER 5mm FROM THE END OF THE LEAD SHEATH.

13.3 *** FOR PICAS CABLES CLEAN & ABRAID 120mm OF ALUMINIUM SHEATH. ***

FIG.14

PAPER CABLE PREPARATION



USING COMPONENTS FROM THE PILCL KIT :-

14.1 SHRINK A LONG PST ON EACH CORE, START SHRINKIING 15mm IN FRONT OF THE BELT PAPERS.

14.2 INSERT A WEDGE OF ELASTOSIL CLEAR PUTTY INTO THE CROTCH, ENSURE ALL VOIDS IN THE CROTCH ARE FILLED. USE APPROX 1/4 OF THE PACK.

14.3 FLATTEN THE REMAINING ELASTOSIL INTO A PAD AND WRAP AROUND THE BELT PAPERS, EXTENDING 5mm ON THE LEAD/ALUMINIUM SHEATH TO THE CORE PSTS.

14.4 APPLY A LAYER OF 23 TAPE OVER THE PUTTY STARTING 5mm ON THE LEAD/ALUMINIUM SHEATH. APPLY WITH LOW TENSION, NO STRETCH. APPLY A SECOND LAYER OF 23 TAPE WITH HIGH TENSION, HIGH STRETCH WORKING BACK TOWARDS THE LEAD/ALUMINIUM SHEATH.

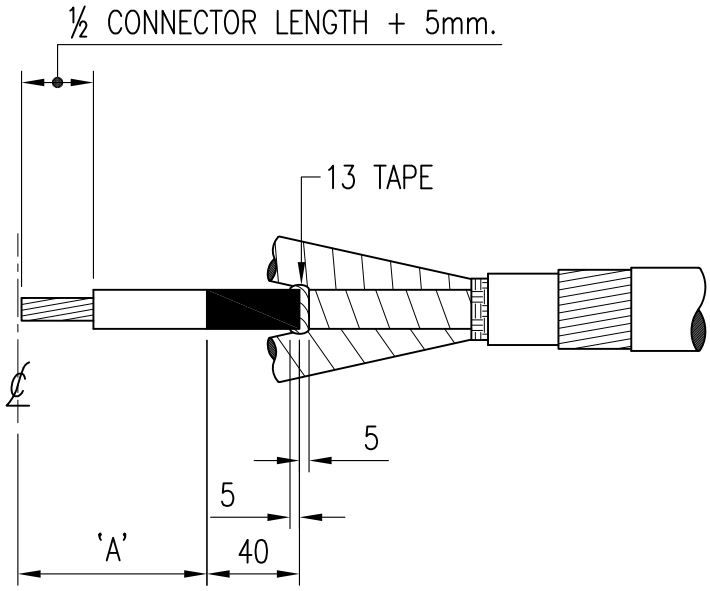
14.5 SHRINK DOWN THE REMAINING PST OVER THE CROTCH AREA, COVERING THE 23 TAPE. ENSURE APPROX. 40mm OF LEAD IS LEFT EXPOSED, (90mm FOR ALUMINIUM SHEATH).

14.6 CUT THE PRIMARY INSULATION AND CORE PST TO THE DIMENSIONS ABOVE.

POLYMERIC CABLE LONG SIDE PREPARATION

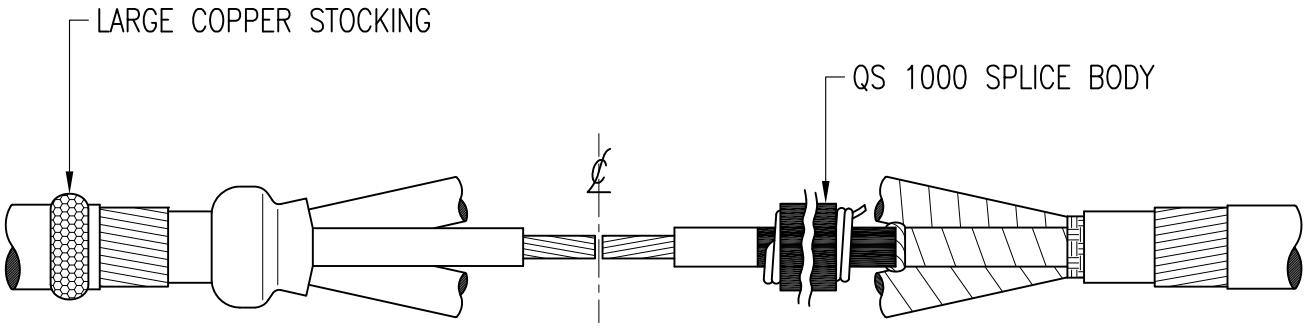
KIT No.	'A' DIM
92-AV-610-3	130
92-AV-620-3	130
92-AV-630-3	180

FIG.15



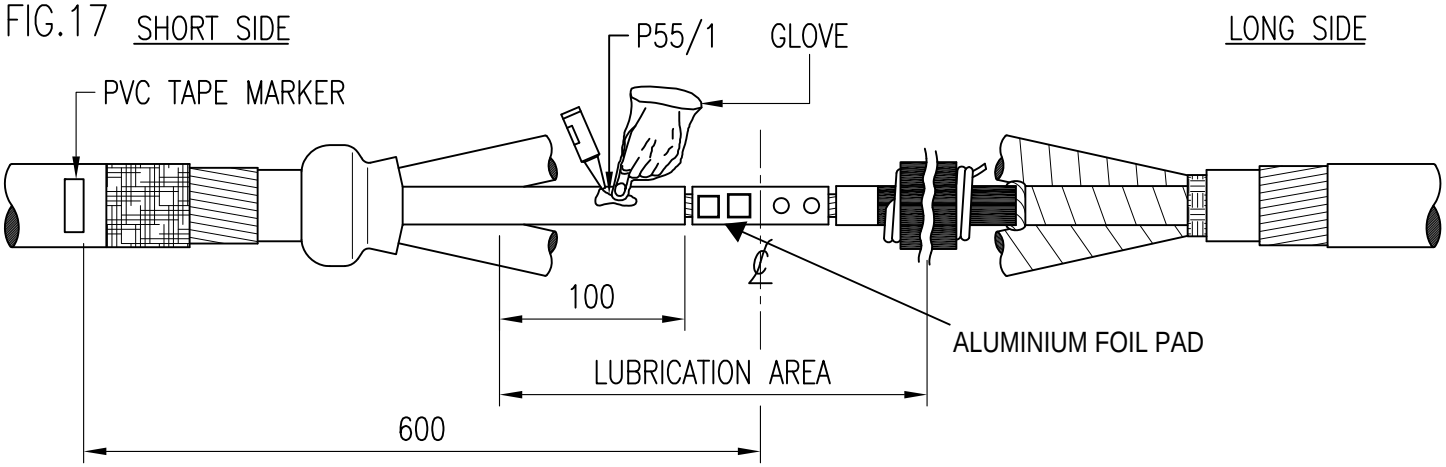
15.1 PREPARE CABLE AS PER DIMENSIONS SHOWN. SET CORES AND ALLOW FOR CROSS WHERE APPLICABLE.
15.2 FIX THE COPPER TAPE SCREEN WITH HIGHLY STRETCHED BINDER OF SCOTCH 13 TAPE AS SHOWN.

FIG.16



16.1 PARK LARGE COPPER STOCKING ON ONE SIDE OF JOINT.
16.2 WORKING ON ONE PHASE AT A TIME COMPLETE THE FOLLOWING :-
16.3 PARK THE QS 1000 SPLICE BODY.

FIG.17



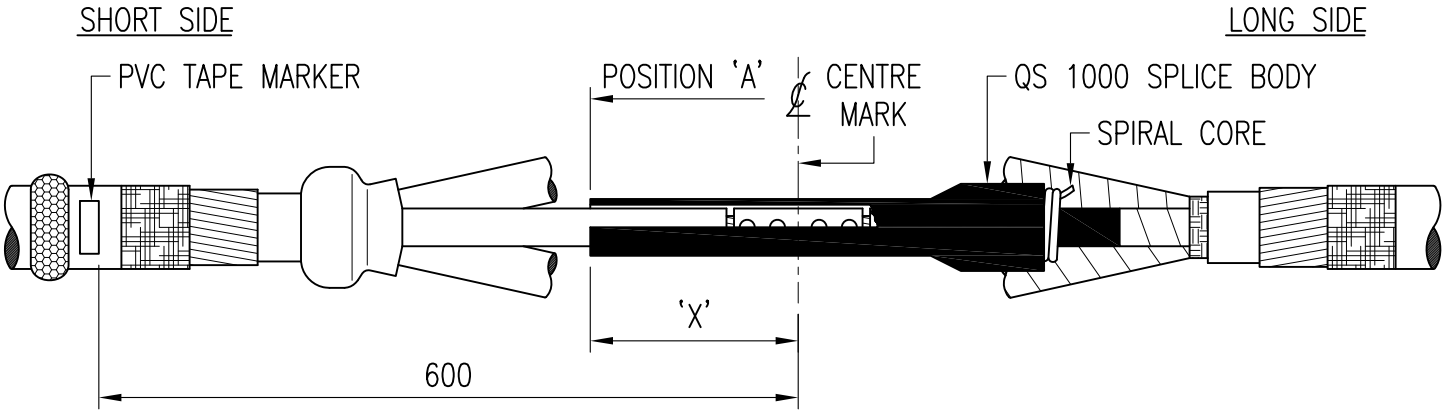
17.1 INSTALL CONNECTOR TO MANUFACTURER'S INSTRUCTIONS. REMOVE EXCESS GREASE, SMOOTH AND CLEAN THE CONNECTOR. APPLY ALUMINIUM FOIL PADS OVER THE SHEAR BOLT HOLES TO ENSURE A SMOOTH PROFILE.

17.2 APPLY A LIBERAL AMOUNT OF P55/1 GREASE OVER THE END OF THE SEMI-CON LAYER, ON TO THE EXPOSED PRIMARY INSULATION AND CONNECTOR, USING THE PROVIDED PLASTIC GLOVE

17.3 PLACE A PVC TAPE MARKER ON THE CABLE SHEATH AT A DISTANCE OF 600mm FROM THE CONNECTOR CENTRE

FIG.18

mm^2	50	70	95	120	150	185	240	300	400
'X' mm	155	155	155	160	160	160	210	210	210



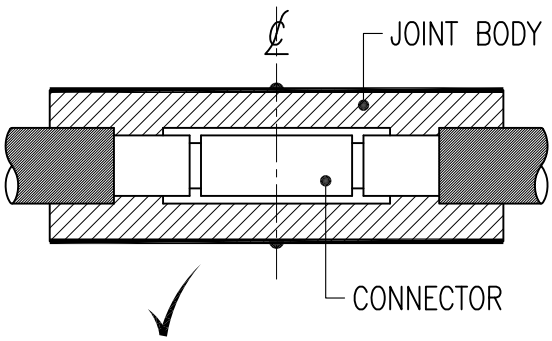
18.1 SLIDE THE JOINT BODY OVER THE CONNECTOR, UP TO POSITION 'A'.

18.2 USING POSITION 'A' AS A STARTING POINT, SHRINK THE BODY ON TO THE CORE BY UNWINDING THE SPIRAL.

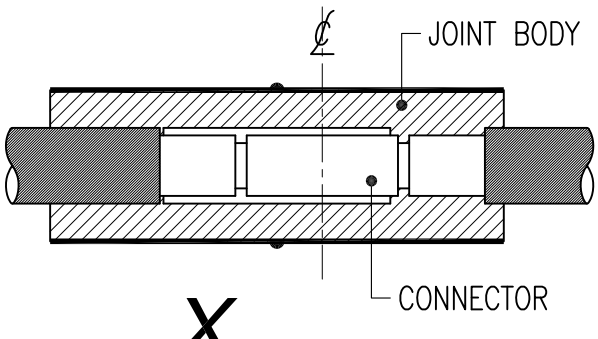
18.3 ONCE THE BODY HAS BEEN SHRUNK PAST ITS CENTRE MARK, AND BEFORE IT HAS BEEN SHRUNK FULLY ACROSS THE CONNECTOR, ENSURE THAT THE BODY IS IN POSITION USING THE PVC TAPE AND CENTRE MARKERS. IF NOT CORRECTLY POSITIONED, MAKE CORRECTION BY DISPLACEMENT.

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

18.4 COMPLETE OTHER PHASES.

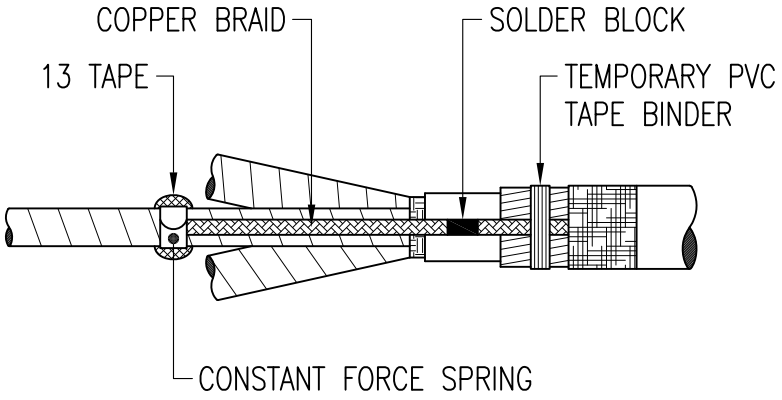


CORRECT ALIGNMENT OF JOINT BODY



JOINT WILL FAIL

FIG.19

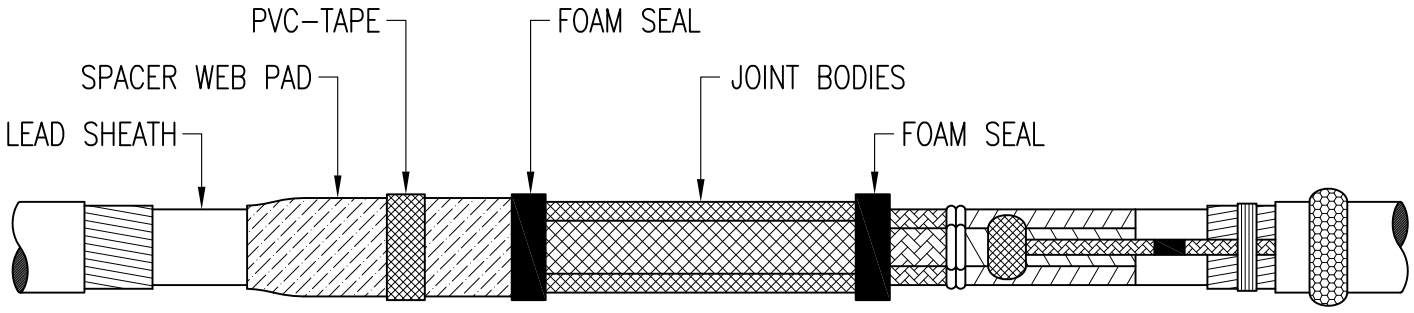


19.1 ATTACH 3 COPPER BRAIDS TO COPPER TAPE SCREENS WITH CONSTANT FORCE SPRINGS AND WITH A TEMPORARY PVC TAPE BINDER TO THE WIRE ARMOURS. ENSURE SOLDER BLOCK IS POSITIONED BEYOND THE ARMOURS, (TRIM OFF ANY EXCESS BRAID).

19.2 OVERTAPE CONSTANT FORCE SPRINGS WITH HIGHLY STRETCHED 13 TAPE APPLIED IN THE SAME DIRECTION AS THE SPRINGS.

FIG.20

PAPER CABLE XLPE CABLE



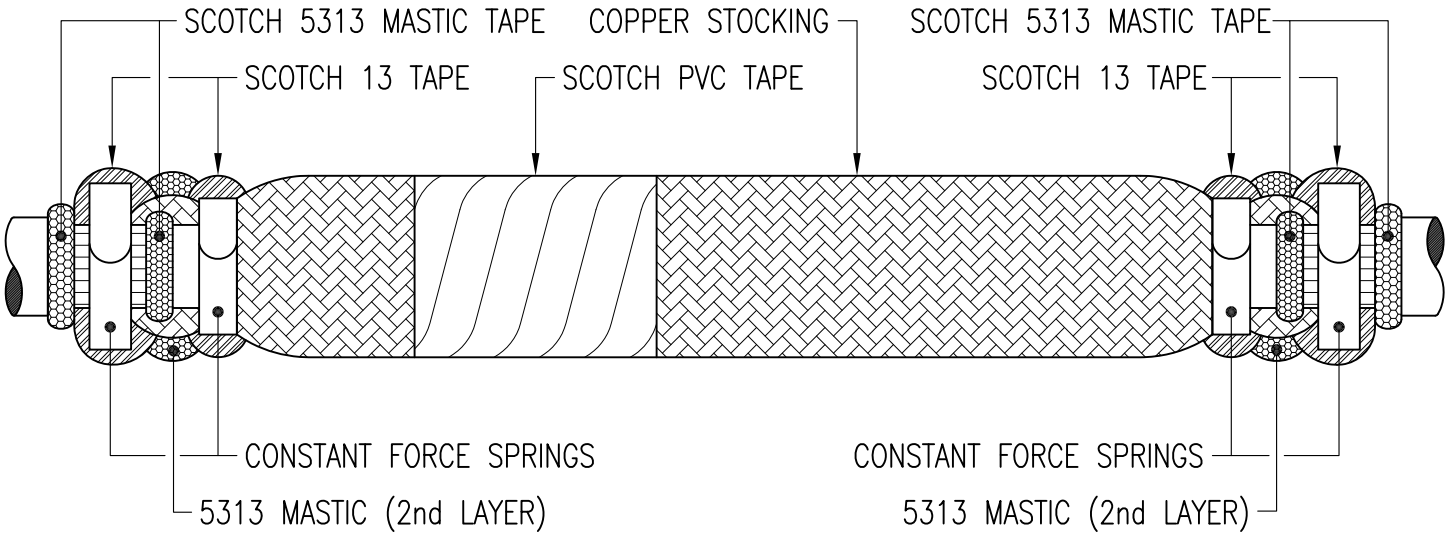
20.1 FIT A FOAM SEAL AT BOTH ENDS OF THE SPLICE BODIES.

20.2 APPLY THE SPACER WEB PAD, BETWEEN THE LEAD/ALUMINIUM SHEATH OF THE PAPER CABLE AND THE FOAM SEAL AND HOLD IN PLACE WITH TAPE OR STRING.

FIG.21

SHORT SIDE

LONG SIDE



FOR TRANSITION JOINTS

PAPER CABLE

21.1 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOURS AND AT THE END OF THE CABLE JACKET. (FOR PICAS CABLES APPLY AT THE END OF THE CABLE JACKET ONLY.)

21.2 SLIDE THE OVERALL COPPER STOCKING ACROSS THE JOINT. CONNECT THE COPPER STOCKING TO THE LEAD/ALUMINIUM SHEATH USING THE SMALLER CONSTANT FORCE SPRING. CONNECT THE COPPER STOCKING TO THE ARMOUR USING THE LARGER CONSTANT FORCE SPRING.

21.3 PULL THE COPPER STOCKING ACROSS THE JOINT AND TAPE THE AREA OF THE JOINT BODIES WITH THE WIDE PVC TAPE. (TAPE BETWEEN FOAM SEALS.) DO NOT COVER THE AREA OF THE PAPER CABLE CROTCH.

XLPE CABLE WITHOUT LEAD SHEATH

21.4 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOURS AND AT THE END OF CABLE JACKET.

21.5 CONNECT THE COPPER STOCKING TO THE ARMOUR USING CONSTANT FORCE SPRING.

XLPE CABLE WITH LEAD SHEATH

21.6 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOURS, LEAD SHEATH AND AT THE END OF THE CABLE JACKET.

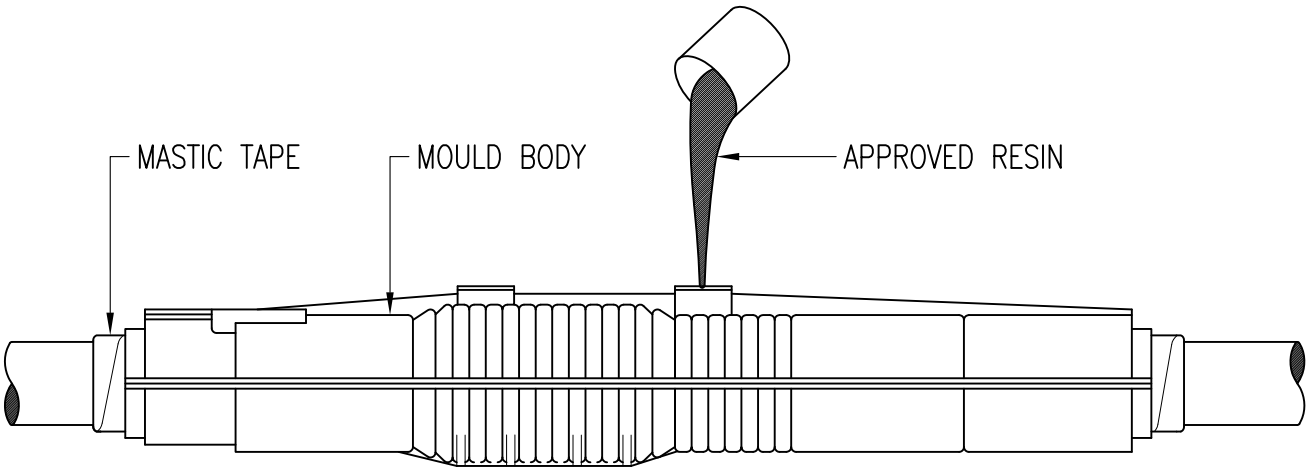
21.7 CONNECT THE COPPER STOCKING TO THE ARMOUR AND LEAD SHEATH USING CONSTANT FORCE SPRINGS.

BOTH SIDES

21.8 COVER THE CONSTANT FORCE SPRINGS WITH SCOTCH 13 TAPE, APPLY IN THE SAME DIRECTION AS THE SPRINGS.

21.9 APPLY A LAYER OF MASTIC AT BOTH ENDS OF THE JOINT BETWEEN THE SHEATH AND THE ARMOUR, AND A SECOND LAYER OF 5313 MASTIC, SANDWICHING THE COPPER STOCKING.

FIG.22

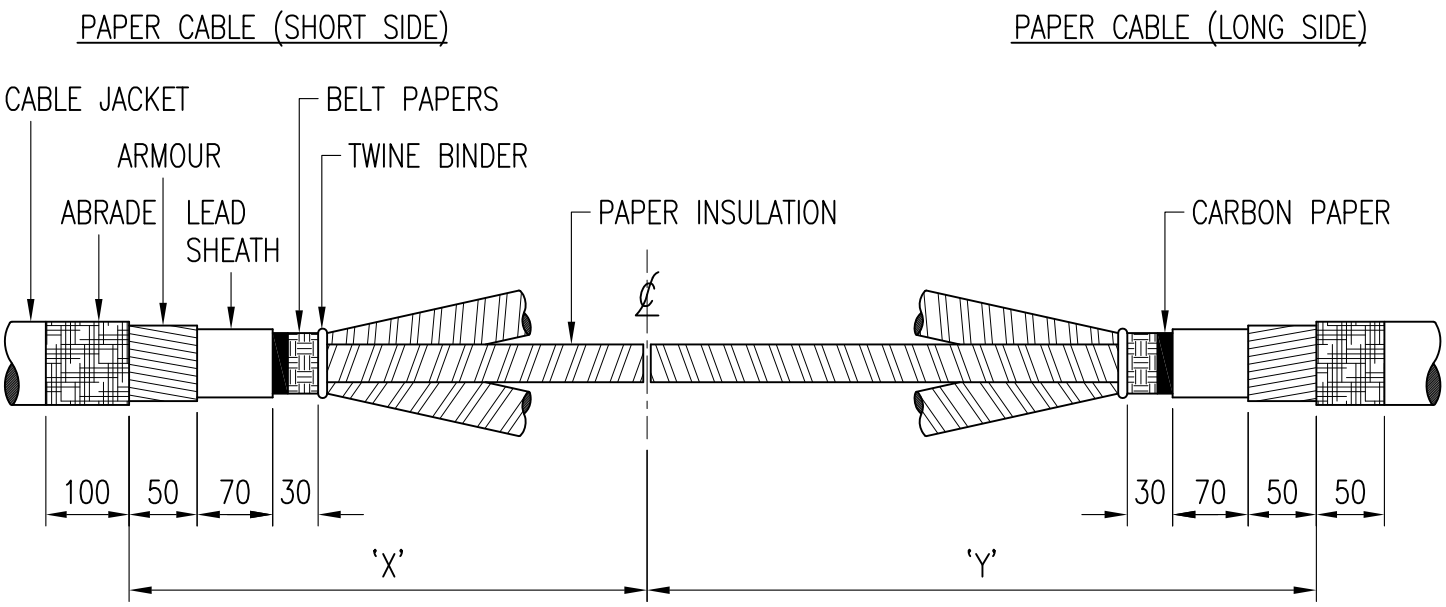


22.1 ABRADE CABLE SHEATH FOR 100mm BEYOND SHEATH OFF POSITION.
22.2 INSTALL THE MOULD CENTRALLY AROUND THE JOINT AND CLIP BOTH HALVES TOGETHER.
22.3 SEAL THE ENDS OF THE MOULD WITH MASTIC TAPE.
22.4 SUPPORT THE JOINT, MIX THE RESIN AND POUR INTO THE MOULD BODY.
22.5 DO NOT MOVE THE JOINT FOR AT LEAST TWO HOURS.

PAPER INLINE JOINT

KIT No.	DIM 'X'	DIM 'Y'
92-AV 610-3	460	670
92-AV 620-3	460	670
92-AV 630-3	510	740

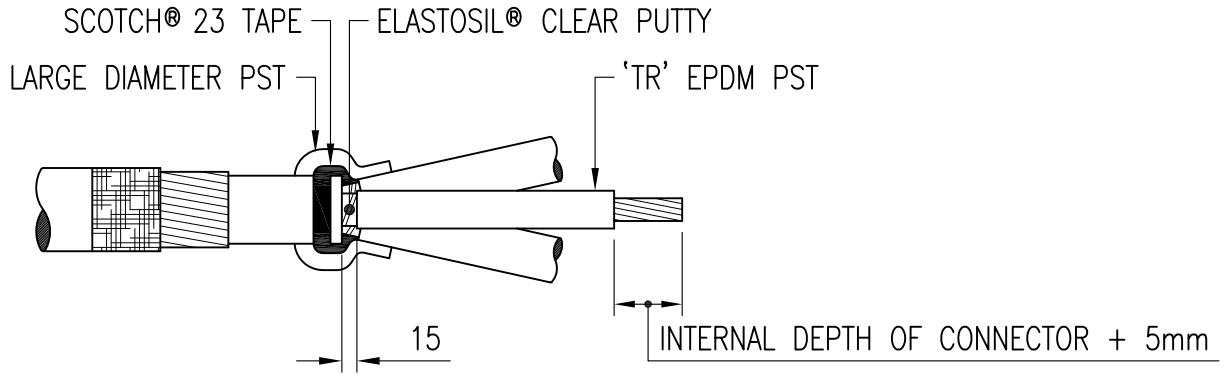
FIG.23



PAPER CABLE

23.1 REMOVE CARBON PAPER 5mm FROM THE END OF THE LEAD SHEATH.
23.2 *** FOR PICAS CABLES CLEAN & ABRADE 120mm OF ALUMINIUM SHEATH. ***
23.3 SET CORES INTO POSITION, IF REQUIRED CROSS ON THE LONG SIDE.

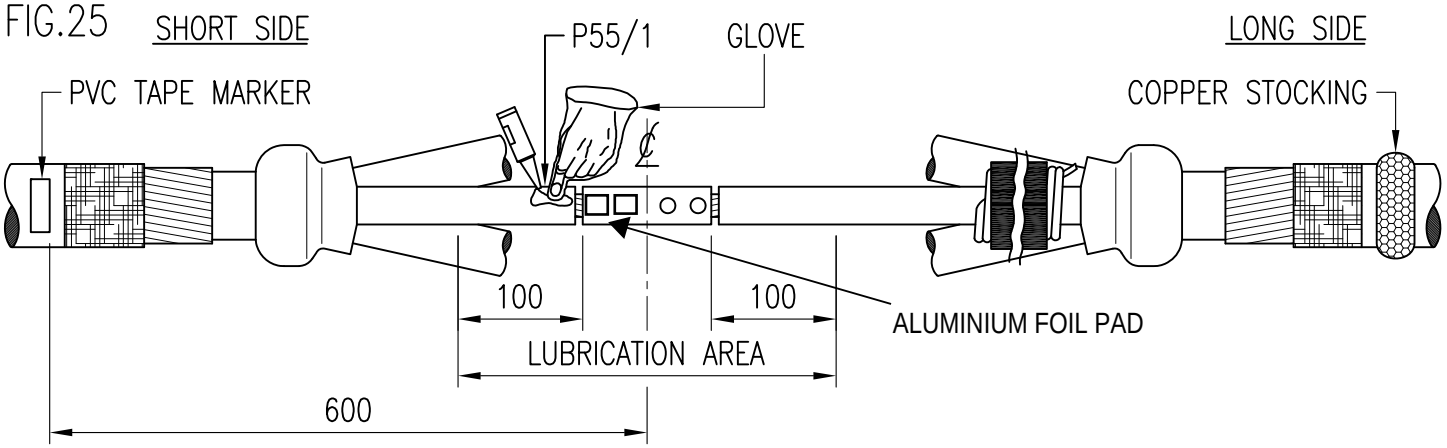
FIG.24



USING COMPONENTS FROM THE PILCL KITS :-

24.1 SHRINK A LONG PST ON EACH CORE, START SHRINKIING 15mm IN FRONT OF THE BELT PAPERS.
24.2 INSERT A WEDGE OF ELASTOSIL CLEAR PUTTY INTO THE CROTCH, ENSURE ALL VOIDS IN THE CROTCH ARE FILLED. USE APPROXIMATELY 1/4 OF THE PACK.
24.3 FLATTEN THE REMAINING ELASTOSIL INTO A PAD AND WRAP AROUND THE BELT PAPERS, EXTENDING 5mm ON THE LEAD/ALUMINIUM SHEATH TO THE CORE PST'S.
24.4 APPLY A LAYER OF 23 TAPE OVER THE PUTTY STARTING 5mm ON THE LEAD/ALUMINIUM SHEATH. APPLY WITH LOW TENSION, NO STRETCH. APPLY A SECOND LAYER OF 23 TAPE WITH HIGH TENSION, HIGH STRETCH WORKING BACK TOWARDS THE LEAD/ALUMINIUM SHEATH.
24.5 SHRINK DOWN THE REMAINING PST OVER THE CROTCH AREA. COVERING THE 23 TAPE. ENSURE APPROXIMATELY 40mm OF LEAD IS LEFT EXPOSED, (90mm FOR ALUMINIUM SHEATH).
24.6 CUT THE PRIMARY INSULATION AND CORE PST TO THE DIMENSIONS ABOVE.

FIG.25



25.1 PARK THE COPPER STOCKING ON ONE SIDE OF THE JOINT

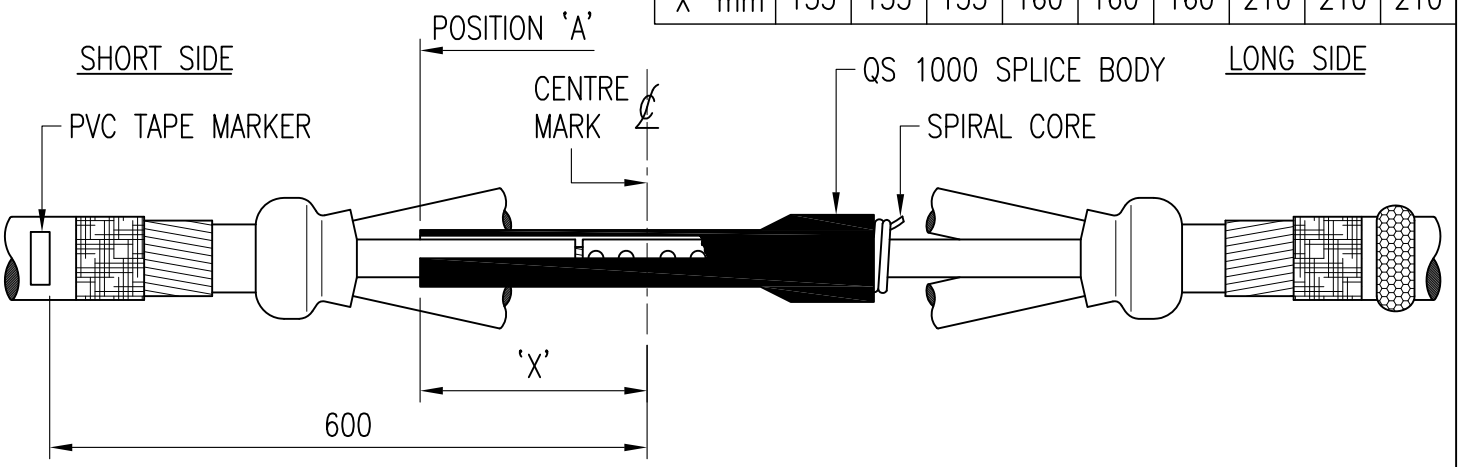
25.2 INSTALL CONNECTOR TO MANUFACTURER'S INSTRUCTIONS. REMOVE EXCESS GREASE, SMOOTH AND CLEAN THE CONNECTOR. APPLY ALUMINIUM FOIL PADS OVER THE SHEAR BOLT HOLES TO ENSURE A SMOOTH PROFILE.

25.3 APPLY A LIBERAL AMOUNT OF P55/1 GREASE OVER THE LUBRICATION AREA AND CONNECTOR USING THE PROVIDED PLASTIC GLOVE

25.4 PLACE A PVC TAPE MARKER ON THE CABLE SHEATH AT A DISTANCE OF 600mm FROM EACH CONNECTOR CENTRE

FIG.26

mm^2	50	70	95	120	150	185	240	300	400
'X' mm	155	155	155	160	160	160	210	210	210



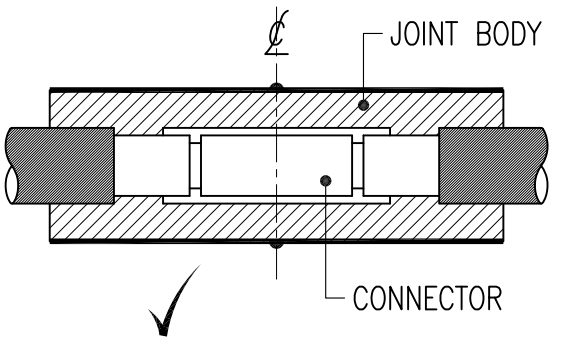
26.1 SLIDE THE JOINT BODY OVER THE CONNECTOR.

26.2 USING POSITION 'A' AS A STARTING POINT, SHRINK THE BODY ON TO THE CORE BY UNWINDING THE SPIRAL.

26.3 ONCE THE BODY HAS BEEN SHRUNK PAST ITS CENTRE MARK, AND BEFORE IT HAS BEEN SHRUNK FULLY ACROSS THE CONNECTOR, ENSURE THAT THE BODY IS IN POSITION USING THE PVC TAPE AND CENTRE MARKERS. IF NOT CORRECTLY POSITIONED, MAKE CORRECTION BY DISPLACEMENT.

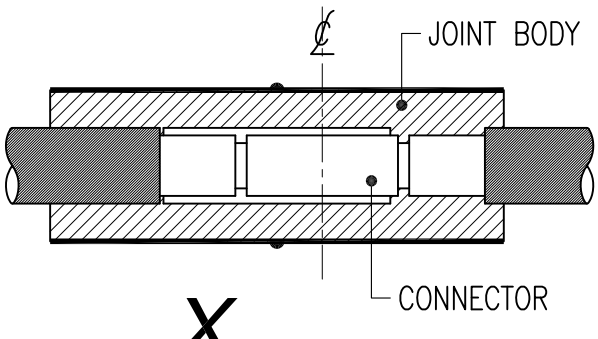
** PLEASE NOTE THAT THE SYMMETRICAL POSITION OF THE SPLICE BODY IS CRITICAL **

26.4 COMPLETE OTHER PHASES.



✓

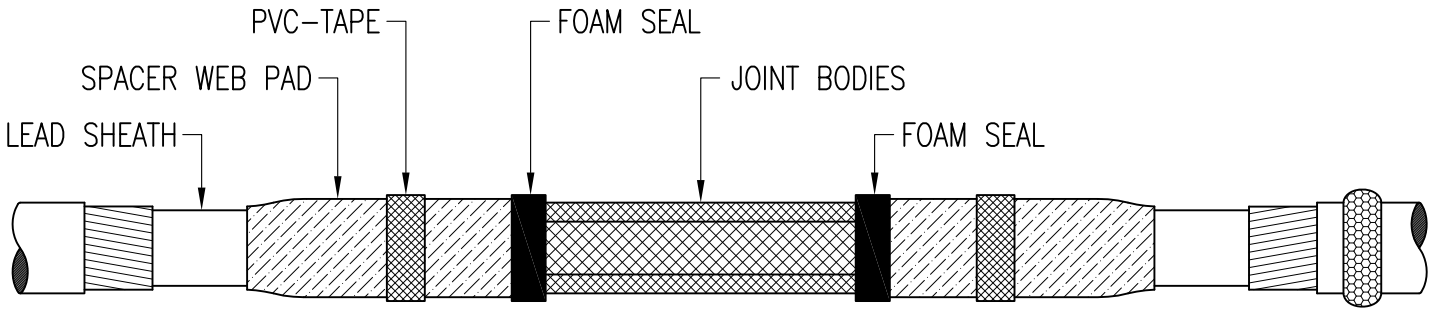
CORRECT ALIGNMENT OF JOINT BODY



X

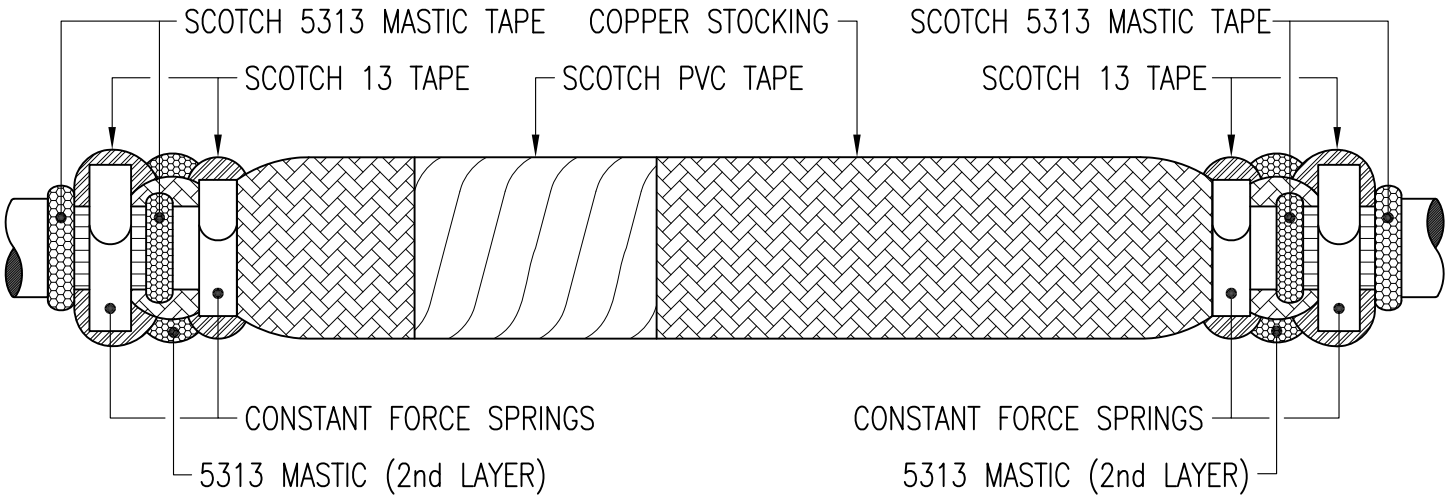
JOINT WILL FAIL

FIG.27 PAPER CABLE



27.1 FIT A FOAM SEAL AT BOTH ENDS OF THE SPLICE BODIES.
27.2 APPLY THE SPACER WEB PAD, BETWEEN THE LEAD SHEATH OF THE PAPER CABLE AND THE FOAM SEAL AND HOLD IN PLACE WITH TAPE OR STRING.

FIG.28 SHORT SIDE LONG SIDE



FOR PAPER TO PAPER JOINTS

SHORT SIDE

28.1 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOUR AND AT THE END OF THE CABLE JACKET. (FOR PICAS CABLES APPLY AT THE END OF THE CABLE JACKET ONLY.)
28.2 SLIDE THE COPPER STOCKING ACROSS THE JOINT AND CONNECT TO THE ARMOUR AND LEAD/ALUMINIUM SHEATH USING THE CONSTANT FORCE SPRINGS. USE THE SMALLER SPRING FOR THE LEAD/ALUMINIUM SHEATH.
28.3 PULL THE COPPER STOCKING ACROSS THE JOINT AND TAPE THE AREA OF THE JOINT BODIES WITH THE WIDE PVC TAPE. (TAPE BETWEEN FOAM SEALS.) DO NOT COVER THE AREA OF THE PAPER CABLE CROTCH.

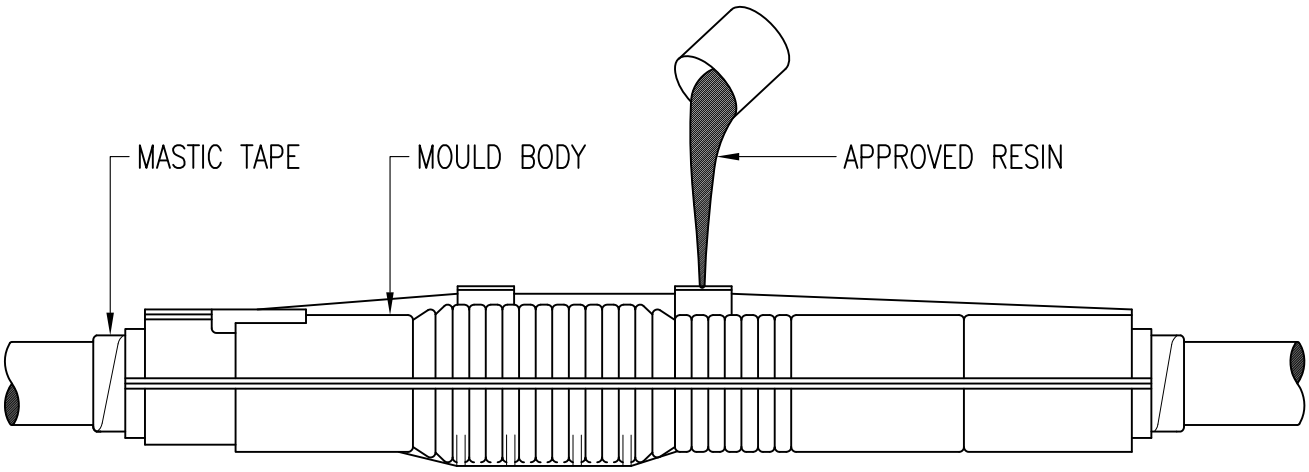
LONG SIDE

28.4 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOUR AND AT THE END OF THE CABLE JACKET. (FOR PICAS CABLES APPLY AT THE END OF THE CABLE JACKET ONLY.)
28.5 CONNECT THE COPPER STOCKING TO THE ARMOUR AND LEAD/ALUMINIUM SHEATH USING CONSTANT FORCE SPRINGS. USE THE SMALLER SPRING FOR THE LEAD/ALUMINIUM SHEATH.

BOTH SIDES

28.6 COVER THE CONSTANT FORCE SPRINGS WITH SCOTCH 13 TAPE, APPLY IN THE SAME DIRECTION AS THE SPRINGS.
28.7 APPLY A LAYER OF THE MASTIC AT BOTH ENDS OF THE JOINT BETWEEN THE SHEATH AND ARMOUR, AND A SECOND LAYER OF 5313 MASTIC, SANDWICHING THE COPPER STOCKING.

FIG.29



29.1 ABRADE CABLE SHEATH FOR 100mm BEYOND SHEATH OFF POSITION.
29.2 INSTALL THE MOULD CENTRALLY AROUND THE JOINT AND CLIP BOTH HALVES TOGETHER.
29.3 SEAL THE ENDS OF THE MOULD WITH MASTIC TAPE.
29.4 SUPPORT THE JOINT, MIX THE RESIN AND POUR INTO THE MOULD BODY.
29.5 DO NOT MOVE THE JOINT FOR AT LEAST TWO HOURS.

TRANSITION INLINE JOINT – SCREENED PAPER

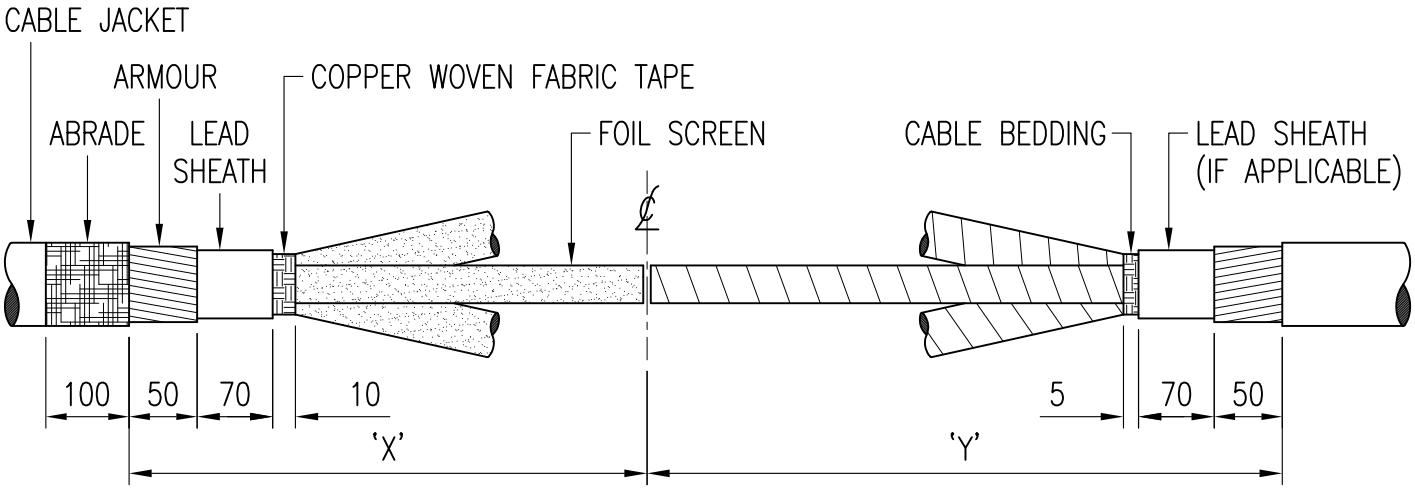
KIT No.	DIM 'X'	DIM 'Y'
92-AV 610-3	460	650
92-AV 620-3	460	650
92-AV 630-3	510	740

NOTE:- *** A SCREENED PAPER MODULE IS REQUIRED ***
FOR TRANSITION JOINTS A BLOCKED CONNECTOR MUST BE USED AND THE DIMENSION OF THE BLOCK IN THE CONNECTOR MUST BE TAKEN INTO ACCOUNT. DIMENSIONS ARE TO THE "CENTRE OF THE JOINT".

FIG.30

PAPER CABLE (SHORT SIDE)

POLYMERIC CABLE (LONG SIDE)



PAPER CABLE

30.1 SET CORES INTO REQUIRED POSITION, IF REQUIRED CROSS ON THE POLYMERIC SIDE.
*** IF XLPE CABLE HAS NO LEAD SHEATH, REMOVE THE BEDDING 5mm IN FRONT OF ARMOUR. ***

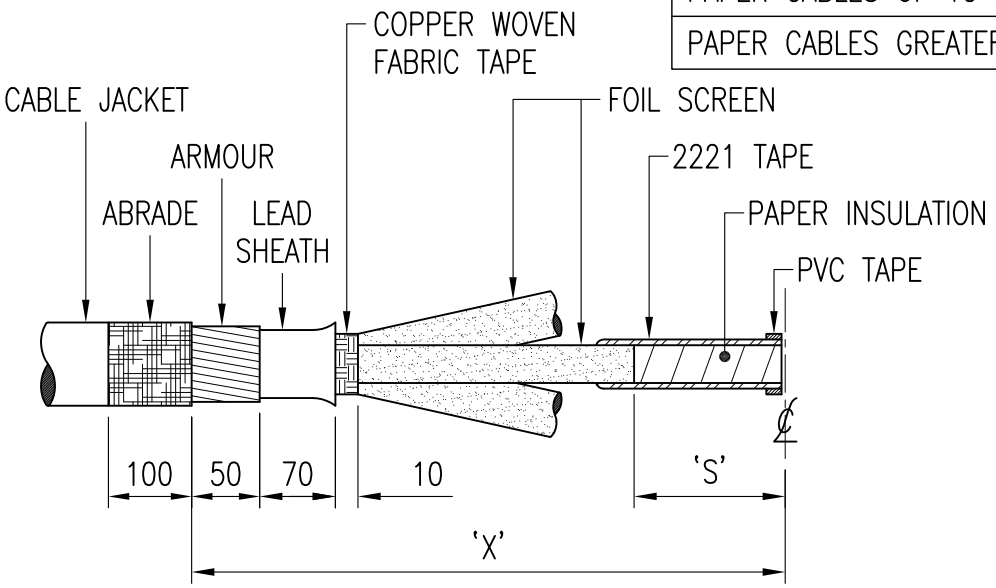
30.2 REMOVE COPPER WOVEN FABRIC TAPE AND WRAP BACK AGAINST LEAD/ALUMINIUM SHEATH FOR A MAXIMUM OF 10mm.

30.3 *** FOR PICAS CABLES CLEAN & ABRAID 120mm OF ALUMINIUM SHEATH. ***

FIG.31

CABLE SIZE	'S'
	FOIL SCREEN
PAPER CABLES UP TO 185mm²	140
PAPER CABLES GREATER THAN 185mm²	190

PAPER CABLE (SHORT SIDE)



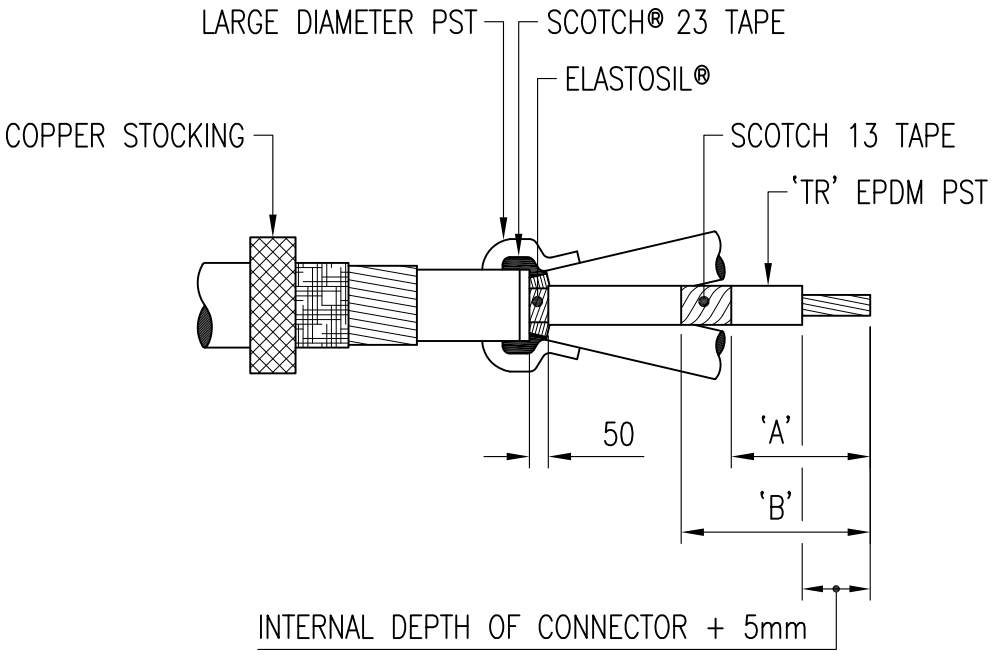
31.1 REMOVE FOIL SCREEN TO DIMENSION 'S'. ENSURE SMOOTH FINISH.

31.2 COMMENCING 10mm ON TO THE FOIL SCREEN APPLY 1 x ½ LAPPED LAYER OF LIGHTLY STRETCHED 2221 TAPE OVER THE EXPOSED PRIMARY INSULATION. (SECURE END WITH PVC TAPE.)

FIG.32

13 TAPE LENGTH		
	DIM 'A'	DIM 'B'
PAPER CABLES UP TO 185mm²	130	180
PAPER CABLES GREATER THAN 185mm²	180	230

PAPER CABLE (SHORT SIDE)

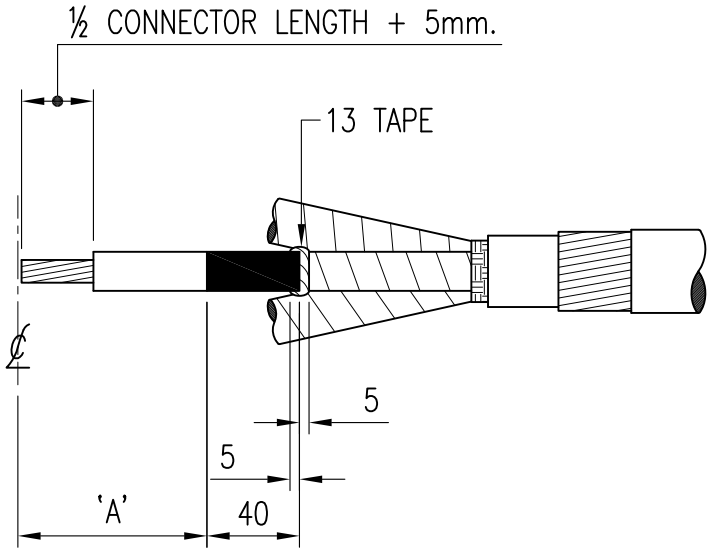


32.1 SHRINK THE LONGER EPDM PST TUBES ON EACH CORE. COMMENCE SHRINKING 50mm IN FRONT OF THE LEAD/ALUMINIUM SHEATH.
32.2 INSERT A WEDGE OF ELASTOSIL CLEAR PUTTY INTO THE CROTCH AS WELL AS IN BETWEEN THE CORES USING ONE QUARTER OF THE PACK.
32.3 FLATTEN THE REMAINING ELASTOSIL TO FORM A PAD AND WRAP IT AROUND THE CABLE CROTCH, EXTENDING FROM THE LEAD/PICAS SHEATH TO CORE PST'S, (5mm ON TO EACH).
32.4 WRAP 2 LAYERS OF SCOTCH 23 TAPE OVER THE ELASTOSIL, FIRST LAYER WITH LOW TENSION, SECOND LAYER WITH HIGHER TENSION, STARTING 5mm ON THE LEAD/PICAS SHEATH.
32.5 SHRINK DOWN THE LARGER DIAMETER PST. COMMENCE SHRINKING 10mm ON THE LEAD/PICAS SHEATH.
32.6 CUT THE PRIMARY INSULATION AND CORE PST TO GIVEN DIMENSION (ALLOWING FOR BLOCK IN CONNECTOR).
32.7 WRAP TWO HALF LAPPED LAYERS OF 13 TAPE, STARTING AT DIMENSION 'B' UP TO DIMENSION 'A' AND BACK AGAIN. ENSURE TAPE IS HIGHLY STRETCHED WHEN APPLIED AND THAT THE WRITING IS 'FACE UP'.
32.8 COMPLETE ON OTHER 2 CORES.
32.9 PARK THE COPPER STOCKING ON THE PAPER CABLE.

POLYMERIC CABLE LONG SIDE PREPARATION

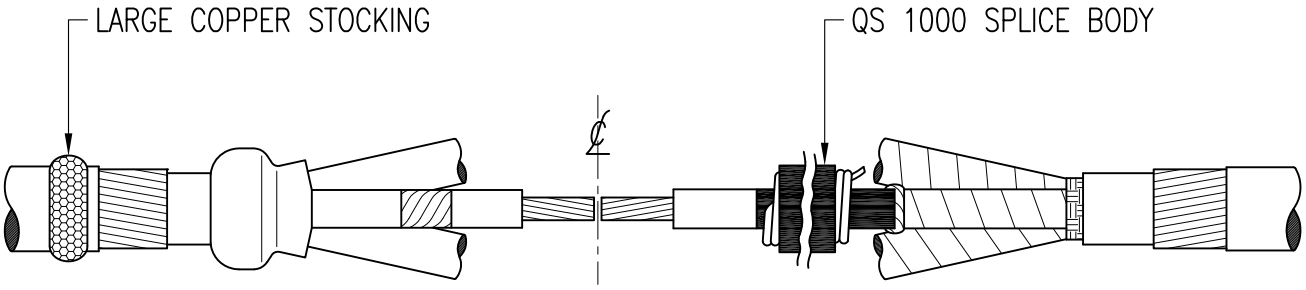
KIT No.	'A' DIM
92-AV-610-3	130
92-AV-620-3	130
92-AV-630-3	180

FIG.33



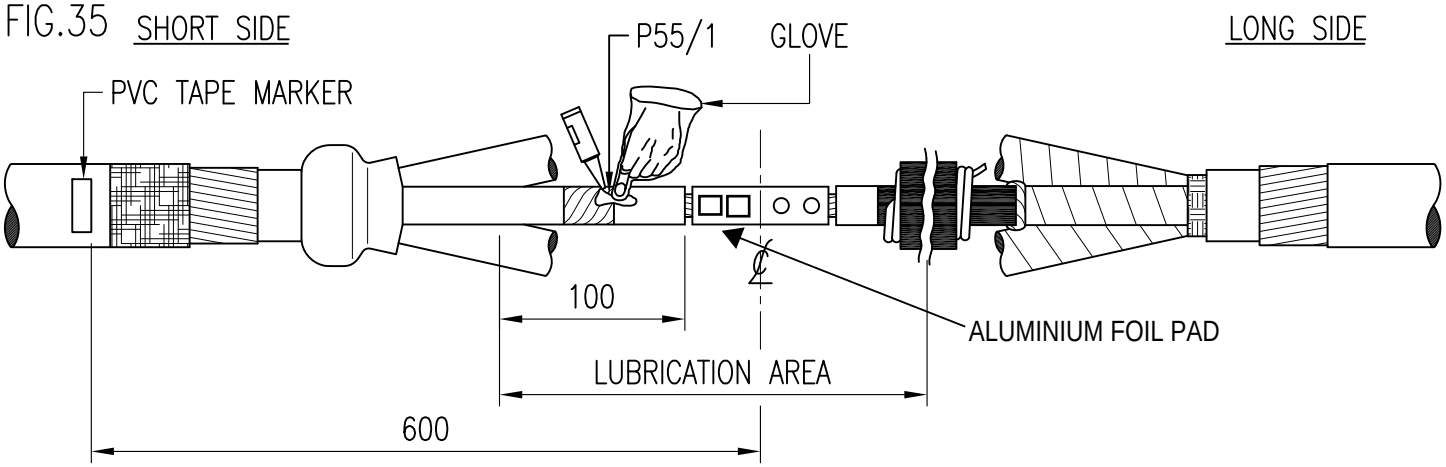
33.1 PREPARE CABLE AS PER DIMENSIONS SHOWN. SET CORES AND ALLOW FOR CROSS WHERE APPLICABLE.
33.2 FIX THE COPPER TAPE SCREEN WITH HIGHLY STRETCHED BINDER OF SCOTCH 13 TAPE AS SHOWN.

FIG.34



34.1 WORKING ON ONE PHASE AT A TIME COMPLETE THE FOLLOWING :-
34.2 PARK THE QS 1000 SPLICE BODY.

FIG.35 SHORT SIDE



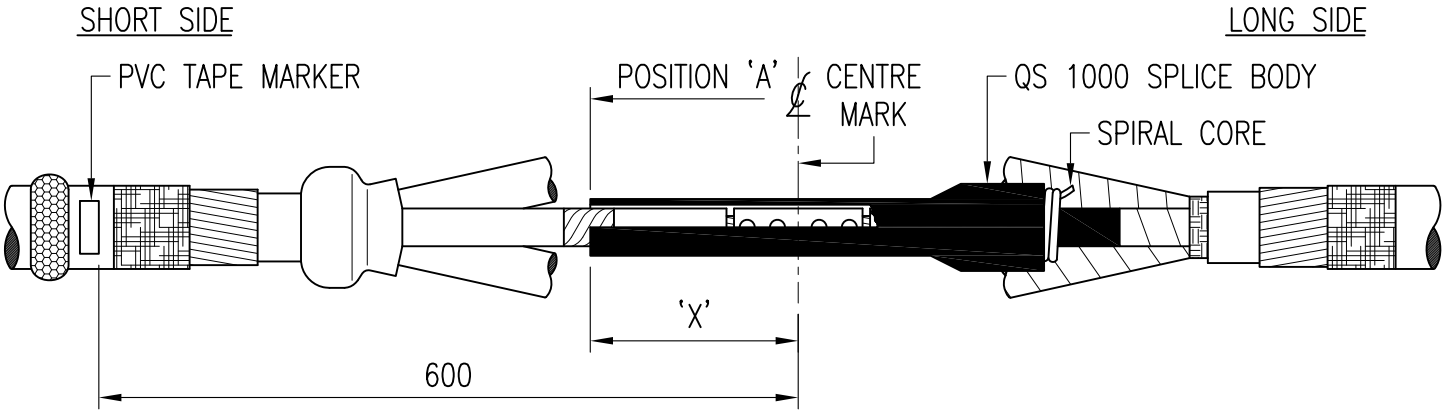
35.1 INSTALL CONNECTOR TO MANUFACTURER'S INSTRUCTIONS. REMOVE EXCESS GREASE, SMOOTH AND CLEAN THE CONNECTOR. APPLY ALUMINIUM FOIL PADS OVER THE SHEAR BOLT HOLES TO ENSURE A SMOOTH PROFILE.

35.2 APPLY A LIBERAL AMOUNT OF P55/1 OVER THE END OF THE SEMI-CON LAYER, ON TO THE EXPOSED PRIMARY INSULATION AND CONNECTOR, USING THE PROVIDED PLASTIC GLOVE

35.3 PLACE A PVC TAPE MARKER ON THE CABLE SHEATH AT A DISTANCE OF 600mm FROM THE END OF THE CONNECTOR CENTRE

FIG.36

mm^2	50	70	95	120	150	185	240	300	400
'X' mm	155	155	155	160	160	160	210	210	210



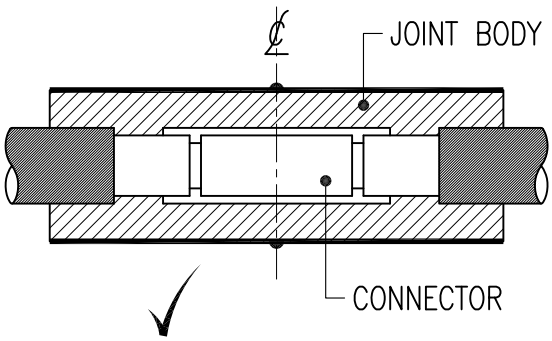
36.1 SLIDE THE JOINT BODY OVER THE CONNECTOR, UP TO POSITION 'A'.

36.2 USING POSITION 'A' AS A STARTING POINT, SHRINK THE BODY ON TO THE CORE BY UNWINDING THE SPIRAL.

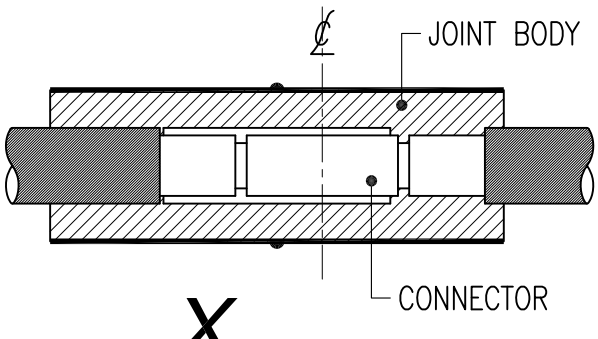
36.3 ONCE THE BODY HAS BEEN SHRUNK PAST ITS CENTRE MARK, AND BEFORE IT HAS BEEN SHRUNK FULLY ACROSS THE CONNECTOR, ENSURE THAT THE BODY IS IN POSITION USING THE PVC TAPE AND CENTRE MARKERS. IF NOT CORRECTLY POSITIONED, MAKE CORRECTION BY DISPLACEMENT.

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

36.4 COMPLETE OTHER PHASES.



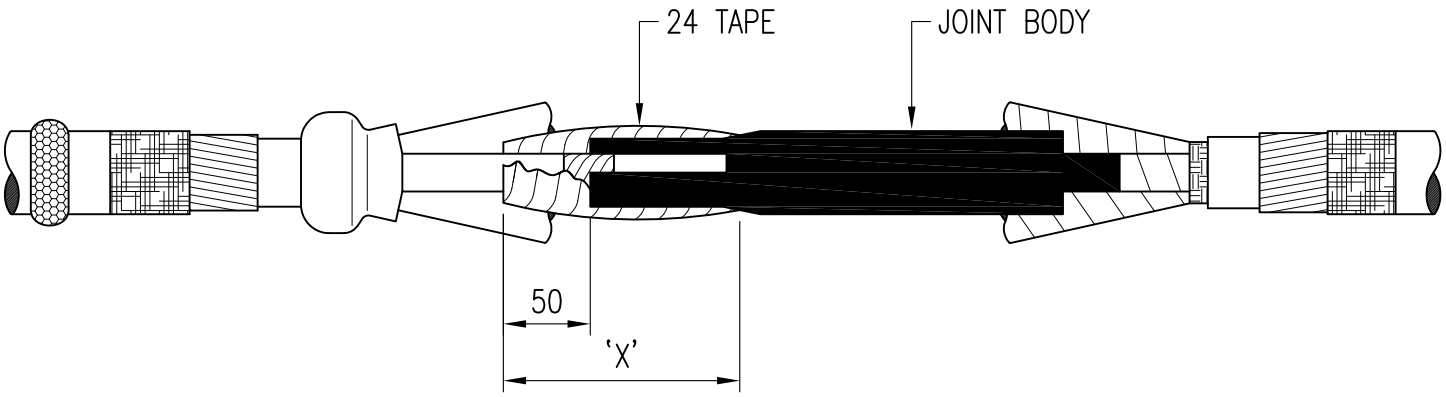
CORRECT ALIGNMENT OF JOINT BODY



JOINT WILL FAIL

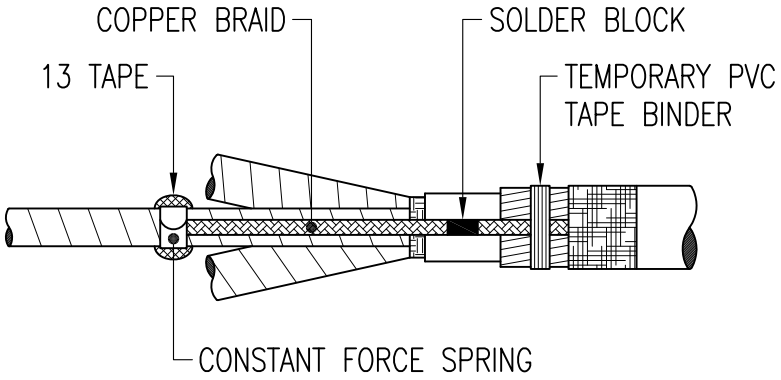
FIG.37

CABLE SIZE	DIM 'X'
PAPER CABLES UP TO 185mm^2	130
PAPER CABLES GREATER THAN 185mm^2	180



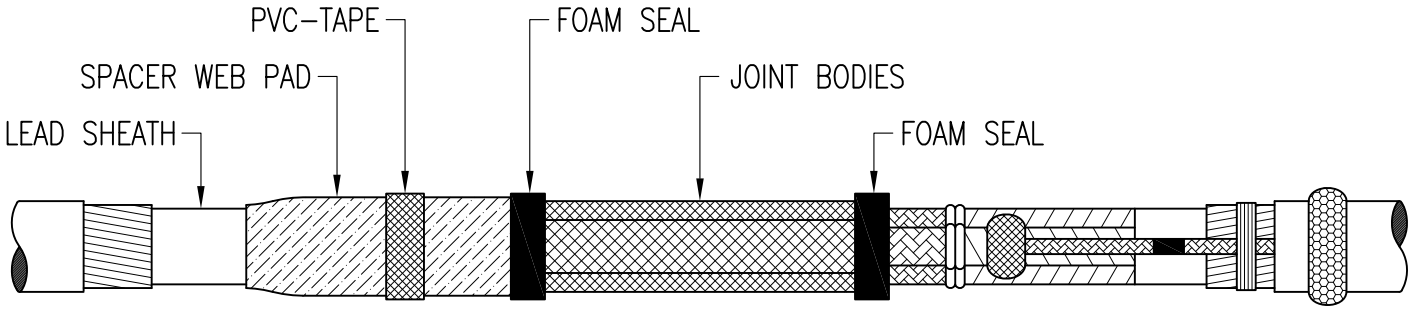
37.1 COMMENCING 50mm FROM THE EDGE OF THE JOINT BODY WRAP 1 x HALF LAPPED LAYER OF 24 TAPE FOR A LENGTH 'X' mm UP ON TO THE JOINT BODY AND TIE OFF.
37.2 COMPLETE FOR OTHER PHASES.

FIG.38



38.1 ATTACH 3 COPPER BRAIDS TO COPPER TAPE SCREENS WITH CONSTANT FORCE SPRINGS AND WITH A TEMPORARY PVC TAPE BINDER TO THE WIRE ARMOURS. ENSURE SOLDER BLOCK IS POSITIONED BEYOND THE ARMOURS, (TRIM OFF ANY EXCESS BRAID).
38.2 OVERTAPE CONSTANT FORCE SPRINGS WITH HIGHLY STRETCHED 13 TAPE APPLIED IN THE SAME DIRECTION AS THE SPRINGS.

FIG.39 PAPER CABLE XLPE CABLE

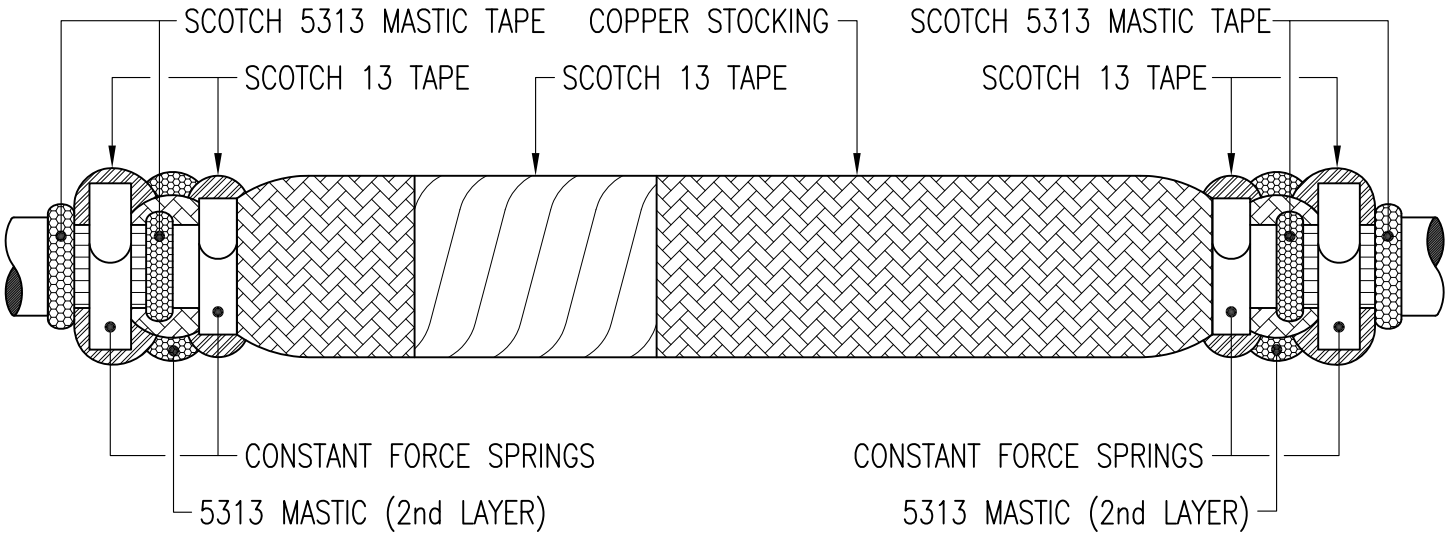


39.1 FIT A FOAM SEAL AT BOTH ENDS OF THE SPLICE BODIES.
39.2 APPLY THE SPACER WEB PAD, BETWEEN THE LEAD/ALUMINIUM SHEATH OF THE PAPER CABLE AND THE FOAM SEAL AND HOLD IN PLACE WITH TAPE OR STRING.

FIG.40

SHORT SIDE

LONG SIDE



FOR TRANSITION JOINTS

PAPER CABLE

40.1 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOURS AND AT THE END OF THE CABLE JACKET. (FOR PICAS CABLES APPLY AT THE END OF THE CABLE JACKET ONLY.)

40.2 SLIDE THE OVERALL COPPER STOCKING ACROSS THE JOINT. CONNECT THE COPPER STOCKING TO THE LEAD/ALUMINIUM SHEATH USING THE SMALLER CONSTANT FORCE SPRING. CONNECT THE COPPER STOCKING TO THE ARMOUR USING THE LARGER CONSTANT FORCE SPRING.

40.3 PULL THE COPPER STOCKING ACROSS THE JOINT AND TAPE THE AREA OF THE JOINT BODIES WITH THE 13 TAPE, TO SECURE COPPER STOCKING TO 24 TAPE ON THE JOINT BODIES (TAPE BETWEEN FOAM SEALS.) DO NOT COVER THE AREA OF THE PAPER CABLE CROTCH.

XLPE CABLE WITHOUT LEAD SHEATH

40.4 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOURS AND AT THE END OF CABLE JACKET.

40.5 CONNECT THE COPPER STOCKING TO THE ARMOUR USING CONSTANT FORCE SPRING.

XLPE CABLE WITH LEAD SHEATH

40.6 APPLY A LAYER OF 5313 MASTIC AT THE END OF THE ARMOURS, LEAD SHEATH AND AT THE END OF THE CABLE JACKET.

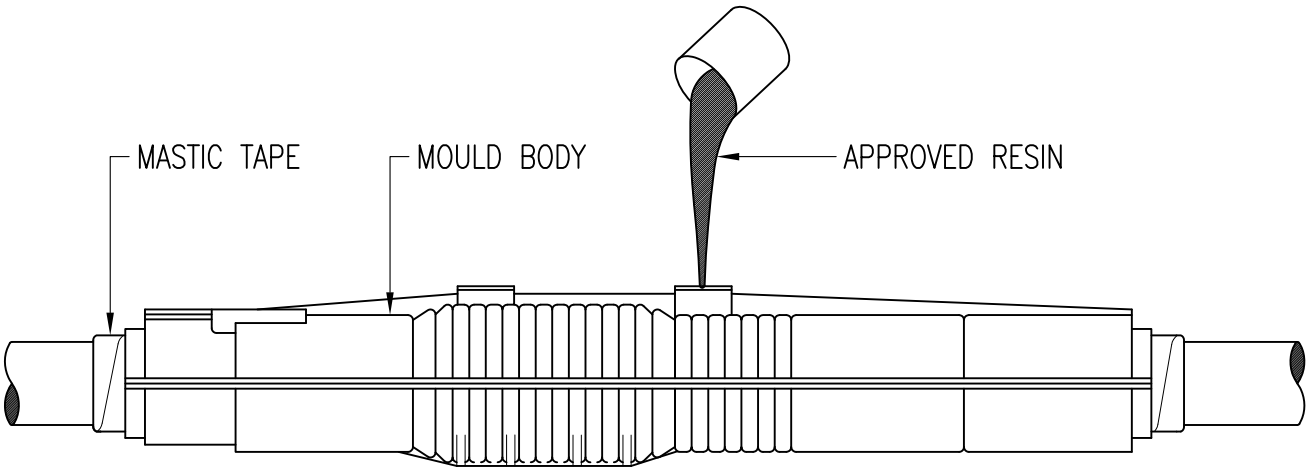
40.7 CONNECT THE COPPER STOCKING TO THE ARMOUR AND LEAD SHEATH USING CONSTANT FORCE SPRINGS.

BOTH SIDES

40.8 COVER THE CONSTANT FORCE SPRINGS WITH SCOTCH 13 TAPE, APPLY IN THE SAME DIRECTION AS THE SPRINGS.

40.9 APPLY A LAYER OF MASTIC AT BOTH ENDS OF THE JOINT BETWEEN THE SHEATH AND THE ARMOUR, AND A SECOND LAYER OF 5313 MASTIC, SANDWICHING THE COPPER STOCKING.

FIG.41



41.1 ABRADE CABLE SHEATH FOR 100mm BEYOND SHEATH OFF POSITION.
41.2 INSTALL THE MOULD CENTRALLY AROUND THE JOINT AND CLIP BOTH HALVES TOGETHER.
41.3 SEAL THE ENDS OF THE MOULD WITH MASTIC TAPE.
41.4 SUPPORT THE JOINT, MIX THE RESIN AND POUR INTO THE MOULD BODY.
41.5 DO NOT MOVE THE JOINT FOR AT LEAST TWO HOURS.