



ELE-3COP-365

Title – Screen Continuity in Transition Areas using Shielding Tape.

Before starting work please read this document carefully and note the guidance given.

1 Purpose and Scope

This COP describes the procedure to be used when joining the overall screens of a branched harness in a transition area using Shielding Tape. The instructions in this document take preference over IPC/WHMA requirements, as do the drawing and any customer documentation.

2 Performance Objective

This code of practice is produced to support operators already trained in the installation of heat shrinkable and harnessing products. It identifies the procedure to be used when joining the overall screens of a branched harness in a transition area using Shielding Tape. This type of installation is intended to give 360° screening at a harness branch and maintain continuity between shields on all branches.

3 Materials and Equipment:

000W280 Shielding Tape
Solder sleeve
RayBraid™
RNF-100 tubing
22 SWG Tinned copper wire.
Kester™ Solder Flux 1544 or equivalent
Paper Adhesive Tape
Heat Gun CV1981 or equivalent.
Reflectors PR25A, PR25D, PR34 or PR35

4 Health and Safety

Adhere to local Codes and Regulations relating to Safe Working practices. For the U.K. adhere to requirements of the Health and Safety at Work Act 1974 and subsequent amendments.

When using flux, avoid inhaling the fumes.

Do not smoke when using the flux as it is highly inflammable.

Do not allow the flux to come in contact with the skin. Should this happen, wash the affected area immediately with water.

5 Procedure

Slide on and recover RNF-100 sleeves onto the breakout legs, as close into the transition area as possible.

Using paper adhesive tape, attach the end of one of the branch legs to the end of the Raybraid™ former tube.

Feed the Raybraid™ off of the former onto the branch leg. When all the Raybraid™ is fed on, remove the former and paper tape from the leg. Refer to ELE-3COP-361 for installation of Raybraid™.

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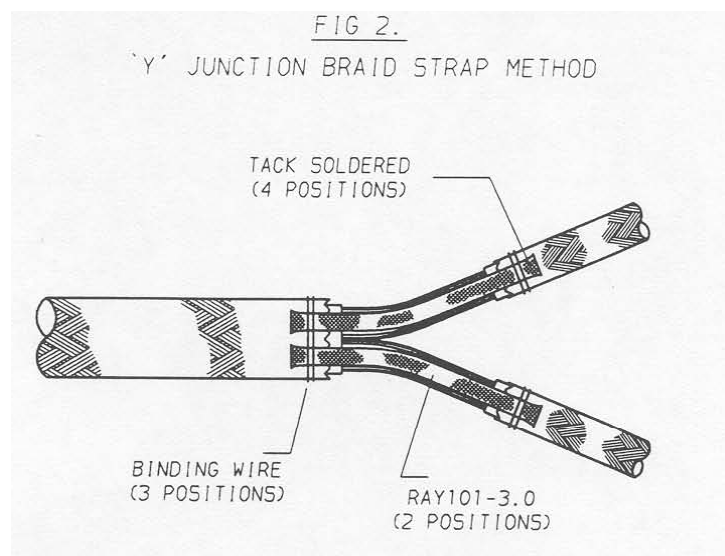
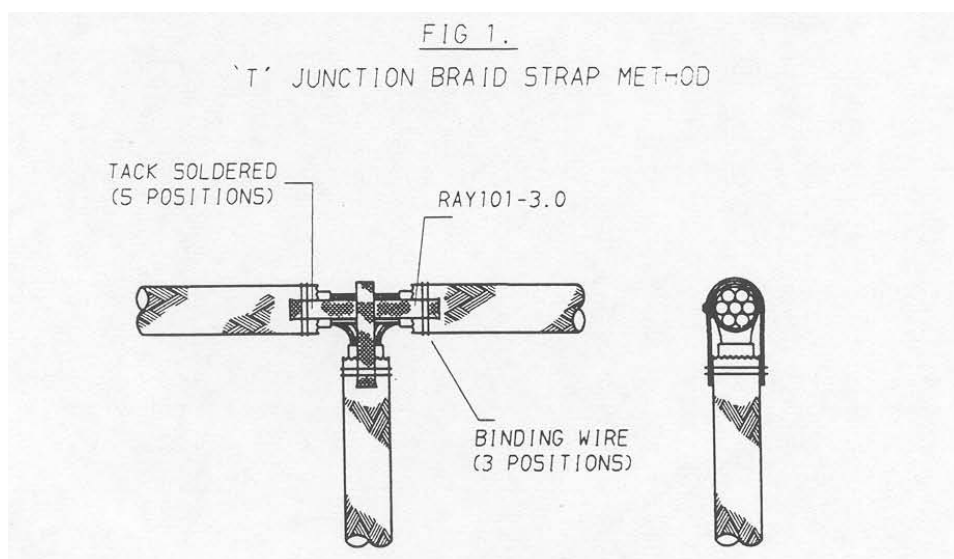
Position and secure the Raybraid™ in the transition area over the RNF-100 sleeves using 22 SWG tinned copper wire and pull the shield tight.

Repeat above for the additional branches.

Joint shields together using lengths of RAY-101-3.0 flattened, attach to legs using tinned copper wire ties and tack solder as per appropriate cable configuration Figures 1 to 5.

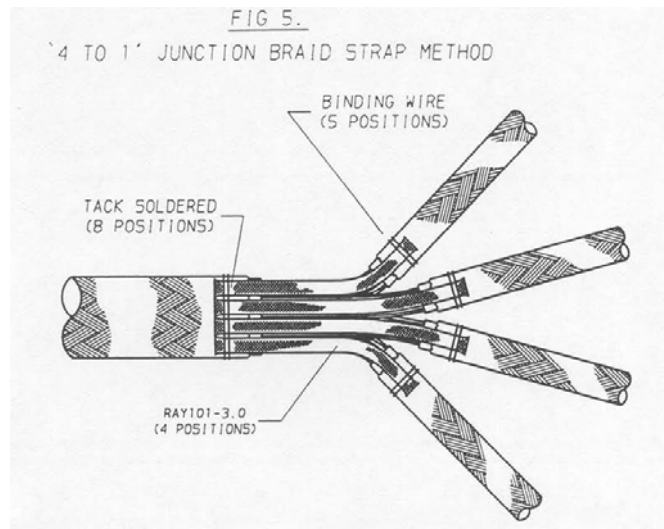
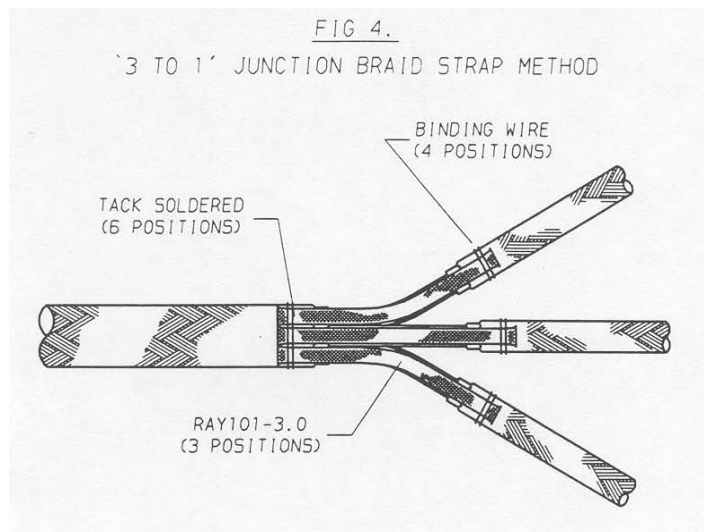
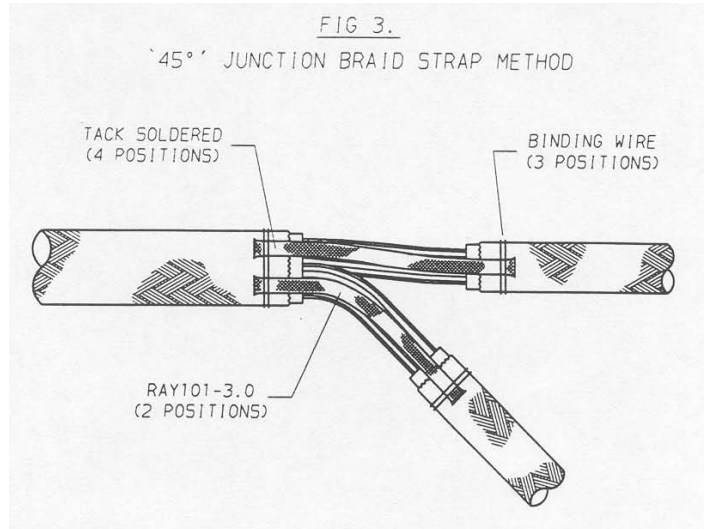
Pull all of the Raybraids™ tight onto the branches of the harness.

Spirally wrap shielding tape around junction firmly, with a 50% overlap of tape as per appropriate Fig No. and Procedure:-



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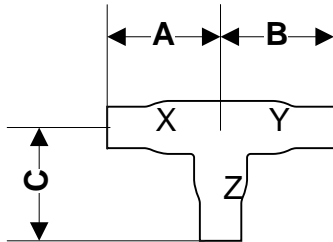
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1. Method of terminating a 'T' Junction



Moulded Part	Dim A	Dim B	Dim C
301A011-XX-0	25	25	25
301A022-XX-0	25	25	25
301A034-XX-0	25	25	25
322A024-XX-0	25	25	25

Start wrapping tape at point 'Y' and work along overlapping each wrap by 50% to point 'X'.

Wrap back from point 'X' to centre and down to point 'Z'.

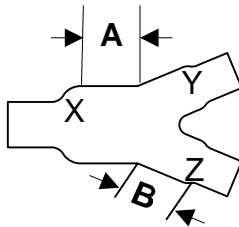
Wrap back from point 'Z' to centre and down to point 'Y'.

Secure end of shielding tape with a tinned copper wire tie.

Apply a small amount of flux to the ends of the shielding tape.

Position and recover a Solder Sleeve on each branch, over the ends of the shielding tape. See section 6. Type and size of Solder Sleeve to be specified by individual Drawing/Process Control Document.

2. Method of terminating a 'Y' Junction



Moulded Part	Dim A	Dim B	Dim C
382A012-XX-0	25	25	25
382W042-XX-0	25	25	25
382A023-XX-0	30	30	30
382A034-XX-0	35	35	35
382A046-XX-0	35	35	35

Start wrapping tape at point 'X' and work along to point 'Y' overlapping each wrap by 50%.

Wrap back to junction and along to point 'Z'.

Wrap back to junction and along to point 'X'.

Secure end of shielding tape with a tinned copper wire tie.

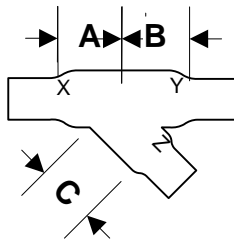
Apply a small amount of flux to the ends of the shielding tape.

Position and recover a Solder Sleeve on each branch, over the ends of the shielding tape. See section 6. Type and size of Solder Sleeve to be specified by individual Drawing/Process Control Document.

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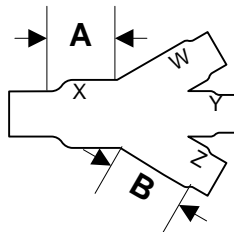
3. Method of terminating a '45' Junction



Moulded Part	Dim A	Dim B	Dim C
342A034-XX-0	25	25	25
342A048-XX-0	30	30	30

Start wrapping tape at point 'X' and work along to point 'Y' overlapping each wrap by 50%
 Wrap back to junction and along to point 'Z'
 Wrap back to junction and along to point 'X'
 Secure end of shielding tape with a tinned copper wire tie.
 Apply a small amount of flux to the ends of the shielding tape.
 Position and recover a Solder Sleeve on each branch, over the ends of the shielding tape.
 See section 6. Type and size of Solder Sleeve to be specified by individual Drawing/process Control Documentation.

4. Method of terminating a '3 to 1' Junction



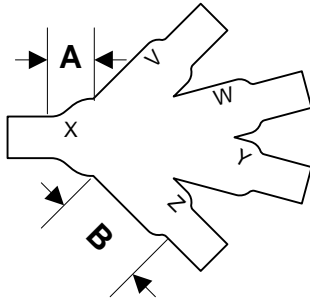
Moulded Part	Dim A	Dim B
462A023-XX-0	30	30

Start wrapping tape at point 'X' and work along to point 'W' overlapping each
 Wrap by 50%
 Wrap back to junction and along to point 'Y'
 Wrap back to junction and along to point 'Z'.
 Wrap back to junction and along to point 'X'
 Secure end of shielding tape with a tinned copper wire tie.
 Apply a small amount of flux to the ends of the shielding tape.
 Position and recover a Solder Sleeve on each branch, over the ends of the shielding tape. See section 6. Type and size of Solder Sleeve to be specified by individual Drawing/process Control Documentation.

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5. Method of terminating a '4 to 1' Junction



Moulded Part	Dim A	Dim B
562A032-XX-0	25	25
562A043-XX-0	30	30

Start wrapping tape at point 'X' and work along to point 'V' overlapping each wrap by 50%
 Wrap back to junction and along to point 'W'
 Wrap back to junction and along to point 'Y'.
 Wrap back to junction and along to point 'Z'.
 Wrap back to junction and along to point 'X'

Secure end of shielding tape with a tinned copper wire tie.
 Apply a small amount of flux to the ends of the shielding tape.
 Position and recover a Solder Sleeve on each branch, over the ends of the shielding tape. See section 6. Type and size of Solder Sleeve to be specified by individual Drawing/process Control Documentation.

6. Solder Sleeve Installation.

Position and recover the Solder Sleeve using the correct heat gun and reflector, slightly rotate either the heat gun or the cable until the solder ring completely disappears and wets the cable shield. Note: It is advisable to allow the heat gun to warm up for 2 minutes to its operating temperature before heating the solder sleeve.

Recommended Reflectors

Solder Sleeve	Reflector
B-53-70-04	PR25A
B-53-70-03	PR25A
B-53-70-02	PR25A
B-53-70-05	PR25D
B-53-70-01	PR25D
B-53-70	PR25D
B-051-00-01	PR34
B-051-01-01	PR34
B-051-02-01	PR35

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Ensure that solder preform is positioned over shield and not cable jacket and that the end of the solder sleeve overlaps the cable jacket.

The termination should not be subjected to any flexing prior to the joint sufficiently cooling.

Refer to solder sleeve data sheet for recommended installation temperature.

6 Inspection Requirements

Ensure shielding tape is not scraped, nicked, severed or otherwise damaged.

Shielding tape should have 50% overlap with no holes or windows.

Inspect the solder joint for evidence of wetting.

Ensure the weave of the shielding tape has been maintained and there are no spikes through the solder sleeve insulation.

7 Visual Standards



ACCEPTABLE



NOT ACCEPTABLE
Insufficient solder flow



NOT ACCEPTABLE
Weave of shield open



NOT ACCEPTABLE
Poor wrapping of tape and
Shield spike through insulation

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Rev No	CR No	Date	Raised	Approved
6	CR06-DM-071	25/04/06	John Cronin	Ken Wallington
7	CR09-DM-018	03/02/09	Paul Newman	Neil Dorricott
8	Visual Identity	06/06/11	Paul Newman	Neil Dorricott

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