

SHIELDED CABLES AND WIRES
FORMING AND SEWING

1. GENERAL

1.1 Scope of Section

1.11 This section covers the general requirements and methods for forming shielded wire and sewing Pe or rubber insulated wires.

1.12 Each figure of this section illustrates only conditions to which reference is made in the text and is not to be considered as covering the requirements for other conditions that may be involved.

1.13 The requirements covered in this section shall be followed except as modified by applicable specifications and drawings.

1.2 Precautions, Arrangement of Tools and Verification

Refer to Section 700 of Handbook 9 for information concerning these items.

2. INSTALLING EQUIPMENT

2.1 In addition to the tools and supplies ordinarily required for forming and sewing operations the following are required for the operations covered by this section:

- RM-591862 Fiber, Sheet Gray 1/64"
- R-3131 Sleeving, KS-9851, No. 6 Black
- RM-646793 Paints, Solvent, Shellac
- R-3455 Paints, Varnish, Shellac, Orange
- R-3428 Tape, Gray Plastic Adhesive, 3/4"
- R-3359 Tape, Gray Plastic Adhesive, 1/2"

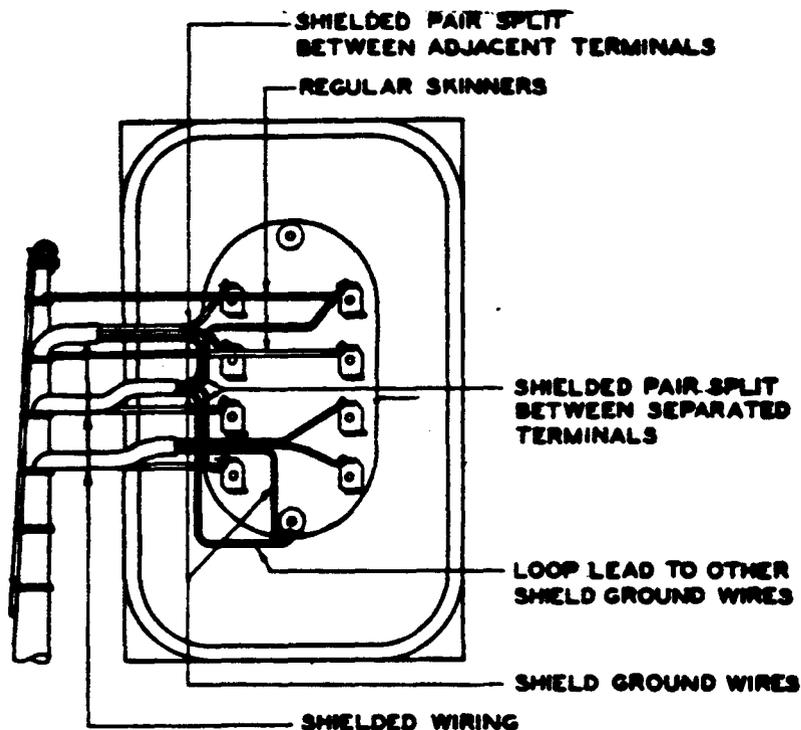


FIG. 1 METHOD OF FORMING SHIELDED WIRE
(PARS. 3.11, 3.13)

3. FORMING SHIELDED WIRE

3.1 Breakouts

3.11 Where a shielded pair is split between two terminals on the same piece of apparatus for which the skimmers normally break out at one stitch, both leads of the pair shall be dressed straight to the terminals from the end of the shield, as shown in Figure 1.

3.12 Where a shielded pair is split between terminals on separate pieces of apparatus which are mounted adjacent to each other on close centers for which the skimmers normally break out at one stitch (such as may be the case with 18-type resistors or 441-type capacitors), the shielding shall be terminated at a point approximately midway between the terminals, and the conductors run directly from there to the respective terminals.

3.13 Where a shielded pair is split between two separated terminals on one piece of apparatus to which the regular skimmers break out at separate stitches, terminate the shielding at a point approximately midway between the terminals and run the conductors directly from there to the respective terminals, as shown in Figure 1.

3.14 Where a shielded pair is split between two pieces of apparatus, so separated that the skimmers would break out at different stitches, terminate the shielding in the form at the point where the first conductor leaves the pair and sew the second conductor into the form and bring it out with the regular skimmers at the second piece of apparatus.

3.2 Insulation of Exposed Shields

3.21 Where it is necessary to form shielded wires having exposed shields (as from 750-type or 1479CL cable) with wires having other than braided, EDACL, Pe, or Pvc insulation, insulate the exposed shields with R-3359 tape, or No. 6 black sleeving (R-3131) held in place by R-3359 tape at the ends. This requirement applies to either sewed or loose wire forms.

3.3 Disposition of Unequipped Spare and Unused Leads

3.31 Dispose of unequipped, spare, and unused shielded wires in accordance with the standard procedures for unshielded leads as covered in Section 250 of this handbook, except at terminal strips with fanning strips. In this case, dispose of shielded wires by enclosing them in paper or fiber tubes and tying the tube to the fanned portion of the fanned form.

4. SEWING

4.1 Pe Insulated Wires

4.11 When the shielding has or has not been removed from BF type wire or shielded pairs of 750 and 761A type cables, sew the shielded wire in accordance with standard procedures for sewing unshielded wires since the shield together with the paper tape under it, offers sufficient protection against cold flow.

4.2 Rubber Insulated Wires

NOTE: The following requirements apply to both the rubber belt and the rubber insulated wires of 720 type cables. Exercise care to avoid direct contact between rubber insulated wires and twine since over a period of years the twine will cut into the rubber insulation.

4.21 Where a few rubber insulated wires are to be sewed into a form made up principally of textile and/or PVC insulated wires, embed the rubber insulated wires in the form so that they will not be in direct contact with the twine. Where this is impracticable, as at points where the rubber insulated wire leaves the main form, protect the rubber insulated wire from the twine with R-3428, gray plastic tape, half lapped, applied around the main form and the branch arm.

4.22 Where forms that would normally be sewed are made up principally of rubber insulated wires, tape the form completely with R-3428, gray plastic tape, half lapped, instead of sewing the form with twine.

4.23 Superimpose rubber insulated wires or a form made up principally of rubber insulated wires that is not completely taped to other sewed or taped forms with bands of tape, spaced not farther apart than five times the diameter of the larger form. A band of tape is at least 1-1/4 turns. At bends, apply the tape completely around the bend.

4.24 Superimpose forms of rubber insulated wires that are completely taped to other sewed or taped forms by means of twine.

4.25 Secure a loose wire form or a form made up principally of rubber insulated wires that is not completely taped to switchboard cables, cable brackets, or other supports with twine. At each stitch or tie protect the form with 1/64 inch fiber strips about 1 inch wide or two layers of 3/4" width R-3428, gray plastic tape, placed centrally under the stitch or tie, and wrapped completely around the form.

4.26 Secure forms of rubber insulated wires that are completely taped to switchboard cables, cable brackets or other supports with twine. No additional protection is required for completely taped forms.

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Reason for Reissue:
To correct section reference in
Paragraph 3.31.