



**Termination Procedure for "4 82" Series SolderTacts® Contacts
for Coaxial Cable: D-602-46, and D-602-47****1. Scope**

This engineering standard contains the termination procedures, inspection requirements, and rework procedures for the SolderTacts® contacts D-602-46 and D-602-47.

2. Reference**2.1 Raychem Specification Control Drawings**

2.1.1 D-602-46: Coaxial Contact, Plug (Inner socket/Outer pin)

2.1.2 D-602-47: Coaxial Contact, Receptacle (Inner pin/Outer socket)

2.2 Other Specification

Federal Standard QQ-S-571, Solder-Tin Alloy; Tin-Lead Alloy; and Lead Alloy.

2.3 Raychem Instructions

2.3.1 AA-400 Super Heater Instructions

2.3.2 AD-1319 Holding Fixture Instructions

2.3.3 HL1920E/HL2020E HeatGun® Heating Tool Instructions


2.4 Other Instructions

2.4.1 Visual Inspection Standards: "Verification Photos"

2.4.2 Video Tape: "SolderTacts® Contacts Installation Procedures"



3. Application Equipment and Tools

Heating Tool	Reflector	Holding Fixture
AA-400 Super Heater (Portable, compressed air)	#979663 Mini Solder-Sleeve® Reflector	AD-1319 Holding Fixture with AT-1319-17 Adapter
HL1920E / HL2020E Steinel Hot Air Gun 	EH0600-000 HL-Solder- Sleeve® Reflector	

Note

 Steinel HL1920E / HL2020E Replaces CV5300 and CV5700 MiniGun®. But they still can be used

4. General Information

4.1 Description

The D-602-46 and D-602-47 contacts are designed for use in the following connectors having size 16 cavities:

- a. MIL-C-26482 Series 1
- b. MIL-C-26500

These single-piece contacts solder to coaxial cable by means of preinstalled solder preforms in heat-shrinkable insulating sleeves.

4.2 Coaxial Cable Accommodation

4.2.1 D-602-46 and D-602-47 contacts will accommodate coaxial cable of the dimensions shown, when conventionally stripped.

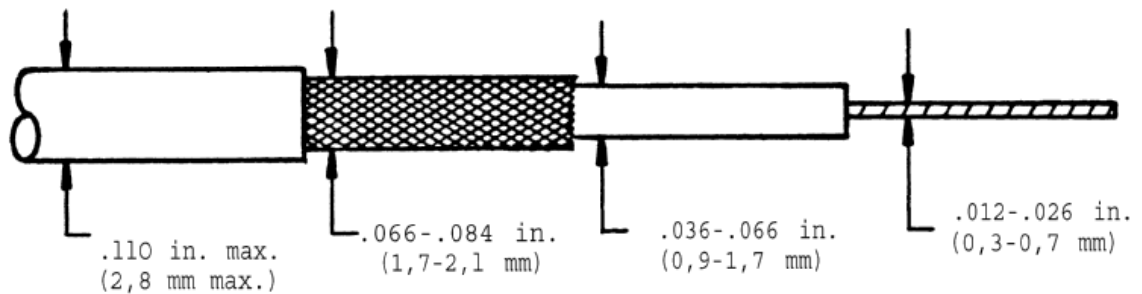


FIGURE 1

4.2.2 D-602-46 and D-602-47 contacts will accommodate coaxial cable of the dimensions shown, when the braid is folded back.

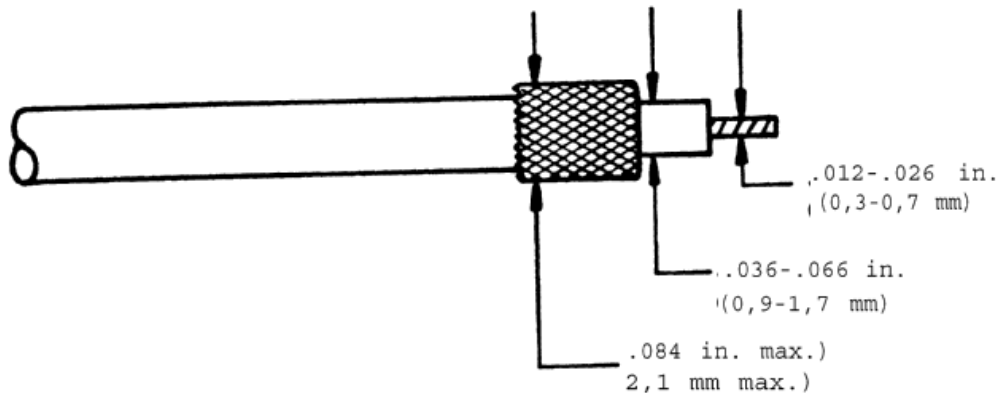


FIGURE 2

5. Termination Procedure
5.1 Coaxial Cable Preparation

5.1.1 For cable conforming to Section 4.2.1, strip the cable as shown below.

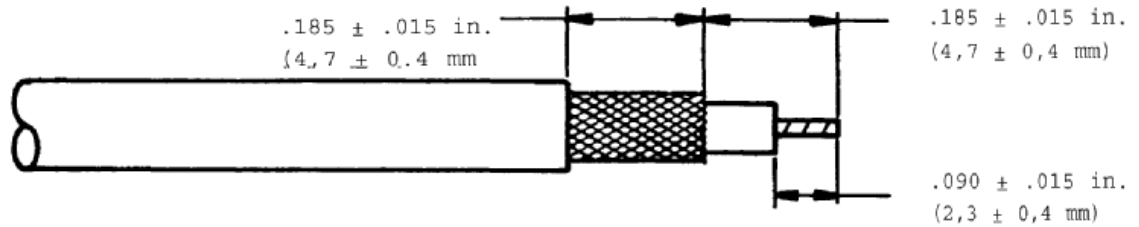


FIGURE 3

5.1.2 For cable with braid diameter smaller than 0.066 inch (1,7 mm), and conforming to Section 4.2.2, strip the cable as shown below.

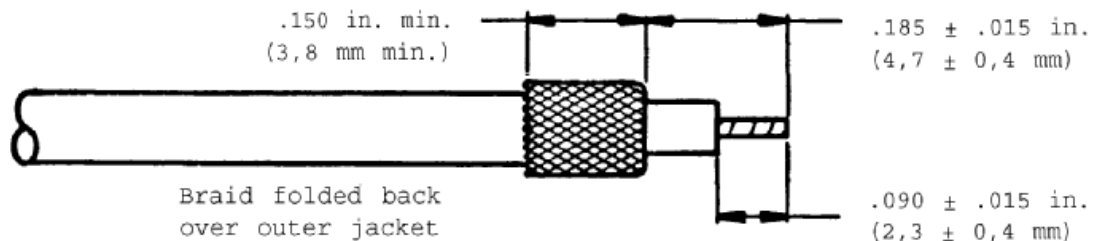


FIGURE 4

5.1.3 Straighten the center conductor and make sure that stranded center conductor is twisted into its original lay.

5.1.4 Pre-tin stranded center conductors and unplated solid center conductors with Sn63 solder and RMA flux per QQ-S-571.

5.1.5 Make sure that the shield braid is trimmed evenly, and that no loose strands are extending out across the exposed dielectric.

5.1.6 Smooth the braid ends flat against the dielectric or cable jacket.

5.2 Inserting Cable Into Contact

- 5.2.1 Slip the contact carefully over the end of the prepared cable and gently push the contact onto the cable until it stops.

NOTE

Rotating the contact slightly during cable insertion will help prevent the braid from catching.

- 5.2.2 Inspect for proper insertion. (See Figure 5.)

- 5.2.2.1 The center conductor must be visible through one of the forward inspection windows.

- 5.2.2.2 The distance from the rear of the contact body to the cable jacket insulation should not exceed 0.1 inch (3 mm)

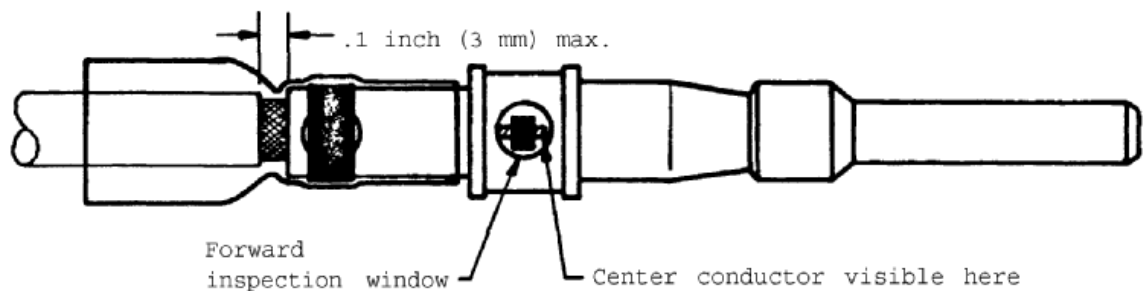


FIGURE 5

- 5.2.3 If the cable cannot be inserted as required, remove the contact from the cable and check for improper strip dimensions, splayed shield braid, or bent center conductor.

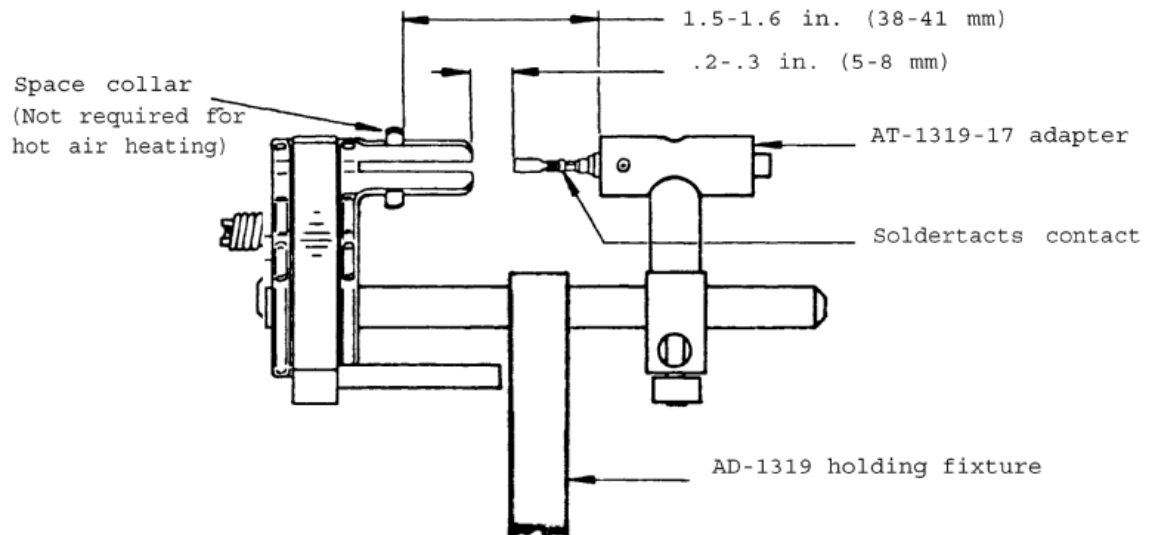
5.3 Heating Procedure**NOTE**

AD-1319 holding fixture and adapter must be used to prevent damage to the contacts.

Install the AT-1319-17 adapter, insert a contact, and set up the dimensions shown.

Make sure that the contact is inserted in the appropriate end of the adapter: outer pin contact into the “P” end and outer socket contact into the “S” end.

If using a hot-air heating tool, the spacer collar is not needed, but may be left in place.



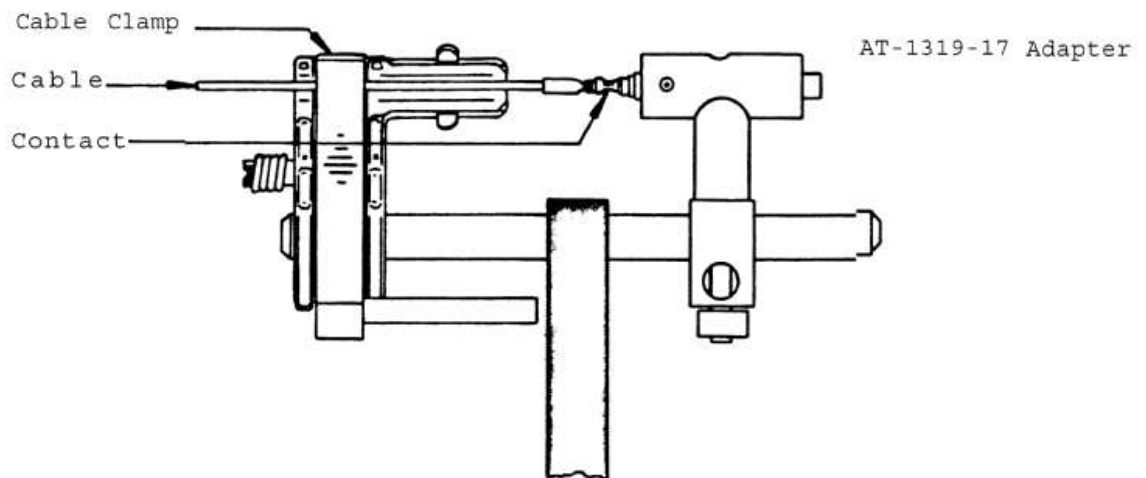
SET-UP DIMENSIONS FOR AD-1319 HOLDING FIXTURE

FIGURE 6

5.3.2 Insert the contact/cable assembly into the appropriate end of the AT-1319-17 adapter as shown.

D-602-46 contacts (Inner socket/outer pin): "P" end.

D-602-47 contacts (Inner pin/outer socket): "S" end.



AD-1319 HOLDING FIXTURE AND AT-1319 ADAPTER WITH CONTACT/CABLE ASSEMBLY

FIGURE 7

5.3.3 Clamp the coaxial cable in the AD-1319 holding fixture.

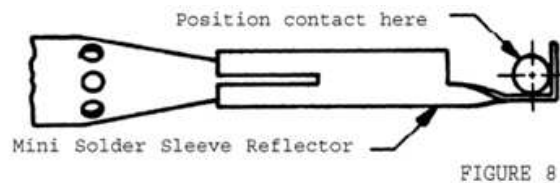
NOTE

The cable must be fully inserted in the contact (see Step 2 of Section 5.2). The contact must be fully inserted in the adapter. The cable must be straight between the contact and the cable clamp.

- 5.3.4 Applying heat with hot air heating tool Heat-Gun® or Super Heater
- 5.3.4.1 Attach the appropriate reflector to the heating tool (see Section 3 for reflector selection).
- 5.3.4.2 Turn the heating tool on and allow to warm up (see instructions for tool used). Steinel settings: 700°F ± 50°F, setting Air Flow Stage II, Duration-20 to 30 Secs
- 5.3.4.3 Using the required holding fixture, position the contact in the hot air stream within the reflector.

Center the forward inspection window in the reflector.

For optimum heating, position the contact as shown.



Solder Sleeve Reflector
HL SOLDER SLV REFLECTOR

Figure 9

- 5.3.4.4 Continue to direct hot air around the contact until the small solder preform in the forward inspection window has melted and flowed. The large solder preform in the rear inspection window should have melted and flowed by this time; if it has not, direct hot air around the rear inspection window until it does.

**NOTE**

Be sure to allow the solder to solidify before removing the contact from the holding fixture.

5.3.5 After the termination has cooled at least 15 seconds, remove it from the holding fixture.

5.3.6 Inspect the completed termination according to Section 6 of this standard.

6. Inspection**6.1 Assembly Inspection**

Inspect the completed termination for correct assembly according to the following criteria:

6.1.1 The distance from the rear end of the contact body to the cable jacket insulation should not exceed 0.1 inch (3 mm).

6.1.2 The center conductor must be visible through the forward inspection windows.

6.2 Heating Inspection

Visually inspect the completed termination for proper heating according to the following criteria:

6.2.1 The small solder preform in the forward inspection window must be melted and flowed so that:

6.2.1.1 Preform shows no trace of its original form (underheated condition).

6.2.1.2 Solder fillet is visible between center conductor and inner contact solder surface (insufficient visible solder indicates overheated condition).

6.2.2 The large solder preform in the rear inspection window must be melted and flowed, so that:

6.2.2.1 Preform shows no trace of its original form (underheated condition).

6.2.2.2 Solder fillet is visible between braid and contact body. (Insufficient visible solder indicates overheat condition.)



- 6.2.3 The insulating sleeve must be shrunk over the area of braid visible between the cable jacket and the contact. (Insulating sleeve may remain flared at end.)
- 6.2.4 The insulating sleeve must not be darkened so as to obscure the solder joints or hinder inspection (overheated condition)
- 6.2.5 The coaxial cable insulation must not show signs of damage or overheating outside of the insulating sleeve.
- 6.3 Visual Inspection Standards ("Verification Photos") are available from Raychem.

7. Repair and Rework

7.1 Underheated Termination
Reheat as directed in Section 5.3 and reinspect per Section 6.

7.2 Overheated or Improperly Assembled Terminations
7.2.1 Remove the contact from the cable as directed in Section 7.3.

7.2.2 Check the cable for damage and incorrect stripping.

NOTE
If the cable is damaged, cut off the damaged portion and restrip per Section 5.1. If stripping is incorrect, restrip as required (Section 5. 1).

7.2.3 Install a new contact (Sections 5.2 and 5.3).

7.3 Removing Contacts From Cable

7.3.1 Use a sharp knife or razor blade to score the insulating sleeve full length on opposite sides of the contact.

CAUTION
Safety glasses must be used during this operation.

CAUTION
Avoid cutting into cable jacket.

7.3.2 Holding the contact with pliers, heat the contact until the solder melts, and quickly pull the heated contact off the cable.