



**Termination Procedure for No. 12 Series Solderacts® Contacts  
for Coaxial Cable: D-602-16, D-602-17**

**1. Scope**

1.1 This standard contains the termination procedure, inspection requirements, and rework procedures for the Solderacts® contacts covered.

**2. References**

2.1 Raychem Specification Control Drawings.

- D-602-17 Contact, Coaxial Plug, #12, (Inner Socket/Outer Pin).
- D-602-16 Contact, Coaxial Receptacle, #12, (inner Pin/Outer Socket)
- CTA-0053 Barrier tube

2.2 Raychem Instructions

- AA-400 Super Heater Instructions
- AD-1319 Holding Fixture Instructions
- HL1920E/HL2020E Heat Gun® Instructions
- Video Tape: "Solderacts Contacts Installation Procedures."

2.3 Other Specifications

Federal Standard QQ-S-571

**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-1319-11 Adapter
HL1920E / HL2020E Steinel Hot Air Gun 	EH0600-000 HL-Solder- Sleeve® Reflector	or AD-1508 Repair Holding Fixture

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



**4. General Information**

4.1 Description.

4.1.1 The contacts covered by this Engineering Standard are designed for use in MIL-C-26482 Series I and MIL-C-26500 connectors and fit in standard size 12 cavities. 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-602-16 and D-602-17 contacts will accommodate the cables listed in Table I.

TABLE I

CABLE	STRIP PER FIGURE
RG174	1
RG179	2
RG316	1
5024A1X1X	1
5026A1X1X	3
5028A1X1X	4
5028A3318	5
5030A1X1X	4
7528A1X1X	4
9530A1X1X	1

**5. Termination Procedures**

5.1 Coaxial Cable Preparation: Strip Dimensions

From Table I select the figure to strip the appropriate cable.

5.1.1 Conventional.

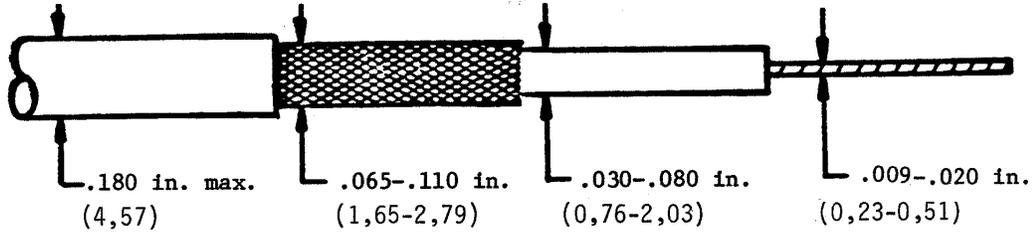


Figure 1

5.1.2 Conventional, center conductor fold back.

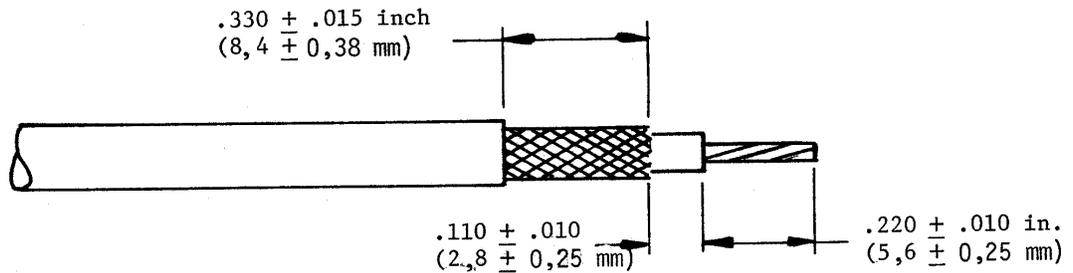


Figure 2a

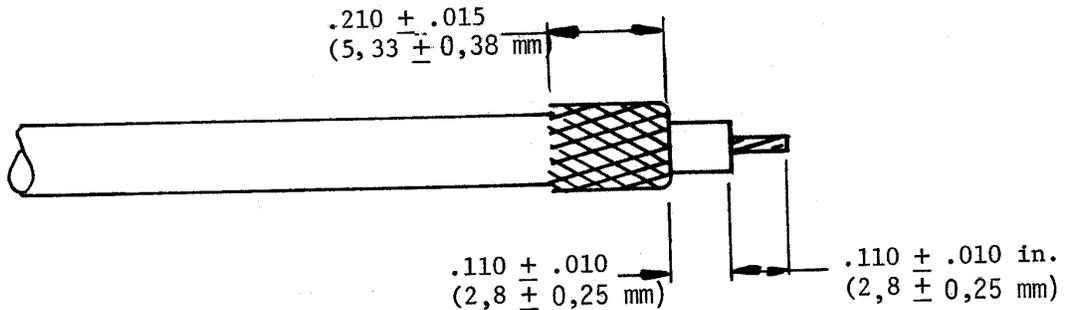


Figure 2b

5.1.3 Shield fold back.

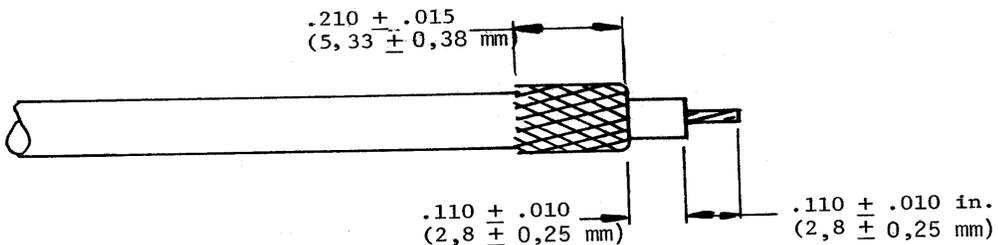


Figure 3

5.1.4 Shield fold back, center conductor fold back.

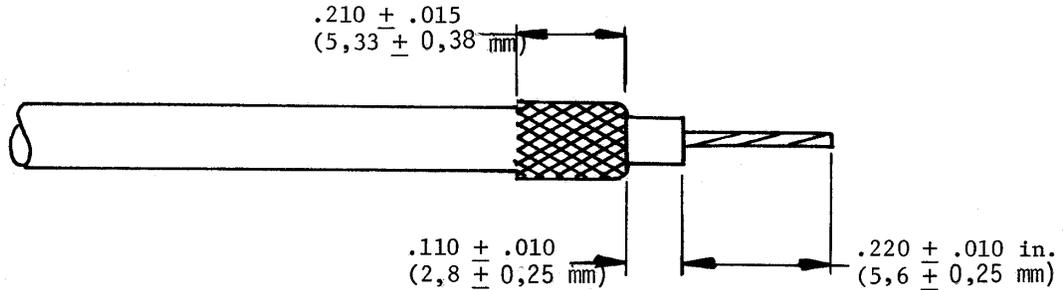


Figure 4a

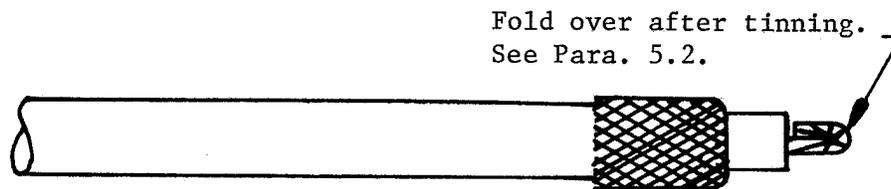


Figure 4b

5.1.5 Special for Raychem cable 5028A3318  
(1,02)

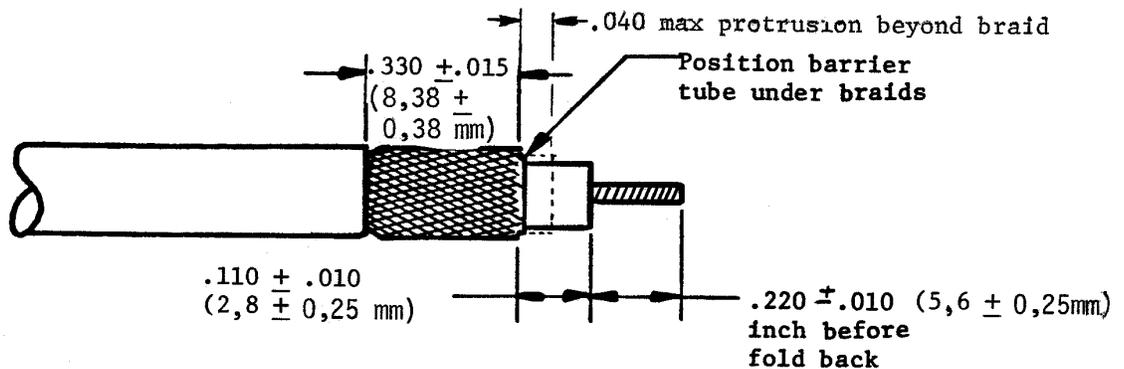


Figure 5

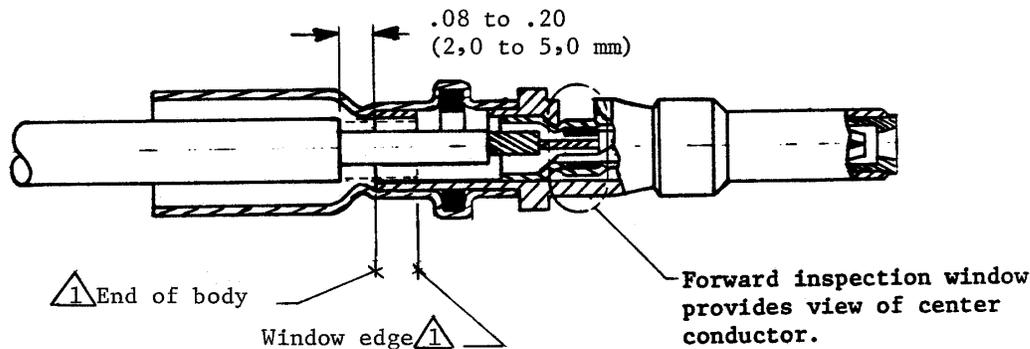
5.1.5.1 Add a barrier tube, P/N CTA-0053, under the 1st and 2nd braid. This will build up the diameter over the braid the the required size.

5.1.5.2 Fold back the center conductor to  $0.110 \pm 0.010$  ( $2,79 \pm 0,25$ ) length after timing.

- 5.2 Cable Preparation After Stripping.
- 5.2.1 Straighten the center conductor and make sure that stranded center conductor is twisted into its original lay.
- 5.2.2 Pre-tin stranded center conductor or unplated solid center conductor with Sn63 solder and RMA flux per QQ-S-571.
- 5.2.3 Fold back center conductors if required. (See Figures 2b, 4b, and Paragraph 5.1.5.2.)
- 5.2.4 Make sure that the shield braid is trimmed evenly and that no loose strands are extending out across the exposed dielectric.
- 5.2.5 Smooth the braid ends flat against the dielectric, jacket, or barrier tube.
- 5.3 Inserting prepared Cable Into Contact.
- 5.3.1 Slip the contact carefully over the end of the prepared cable and gently push the contact onto the cable until it stops.
- 5.3.1.1 Rotating the contact slightly during cable insertion will help prevent the braid from catching.
- 5.3.2 Inspect for proper insertion (see Figure 6) per the following:

The center conductor must be visible through the forward inspection window.

The distance from the rear of the contact body to the cable jacket insulation should not exceed that shown in Figure 6.



1 For Figures 3 and 4 cables, the shield may be below the end of the body but not below the edge of the window noted.



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

5.4 Heating Procedure:

(D)

5.4.1 Heating Procedure: Hot Air Heating Tools.

**NOTE**

Either the AD-1319 holding fixture and adapter or the AD-1508 repair holding fixture must be used during termination to prevent damage to the contacts.

**CAUTIONS**

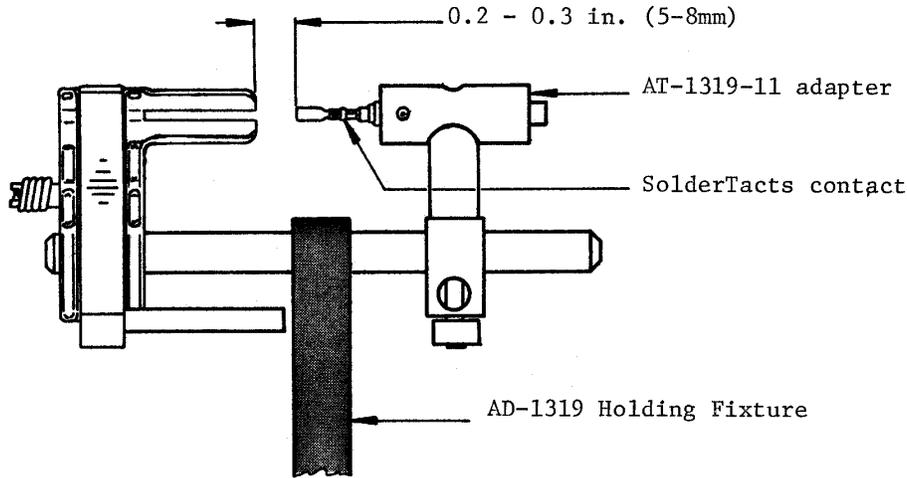
The AD-1508 Tool is designed to be used during the replacement of contacts where access will not permit the AD-1508 Tool fixture. The AD-1508 Tool is not designed for use as a production tool.

5.4.2 If the AD-1319 holding fixture is to be used, install the AT-1319-11 adapter, insert a contact, and set up the dimensions as shown in Figure 7.

5.4.2.1 Make sure that the contact is inserted in the appropriate end of the adapter.

D-602-16 contacts (Inner socket/Outer pin): "P" end.

D-602-17 contacts (Inner pin/Outer socket): "S" end.



Set-up Dimensions for AD-1319 Holding Fixture  
Figure 7

5.4.2.2 Insert the contact/cable assembly into the appropriate end of the AT-1319-11 adapter or AD-1508 repair holding fixture as shown in Figure 8 or 9.

D-602-16 contacts (Inner socket/Duter pin): "P" end.  
D-602-17 contacts (Inner pin/Duter socket): "S" end.

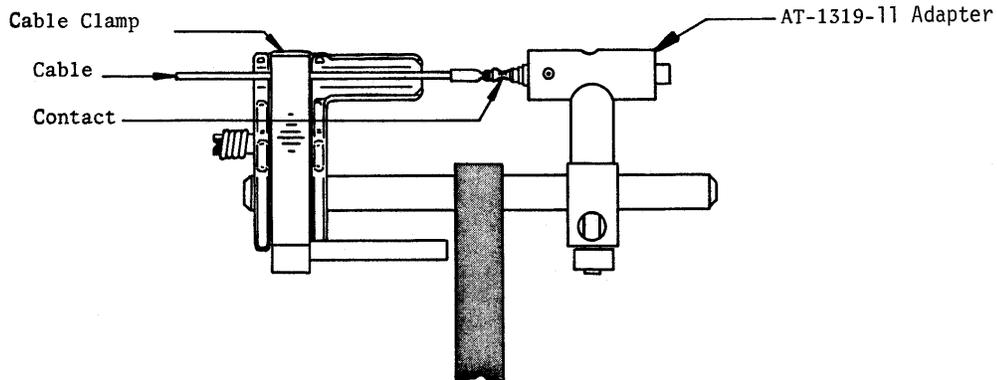


Figure 8

AD-1319 Holding Fixture and AT-1319-11 Adapter With Contact/Cable Assembly



Figure 9

AD-1508 Repair Holding Fixture with Contact/Cable Assembly



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(Outer Pin Contact Shown for Reference)

5.4.2.3.1 Clamp the coaxial cable in the AD-1319 holding fixture (if used).

**NOTE**

The cable must be fully inserted in the contact (see Section 5.3.2).

The contact must be fully inserted in the adapter

The cable must be straight between the contact and the cable clamp

5.4.2.4 Apply heat with hot air heating tool (Heat-Gun or Super Heater).

5.4.2.5 Attach the appropriate reflector to the heating tool (see Section 3 for reflector selection).

5.4.2.6 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

5.4.2.7 Using one of the required holding fixtures, position the contact in the hot air stream within the reflector.

5.4.2.8 For optimum heating, position the contact as shown in Figure 10 or 11. Center the forward inspection window in the reflector. Position the forward inspection window toward the hot air stream such that the inner solder preform is still visible during termination.

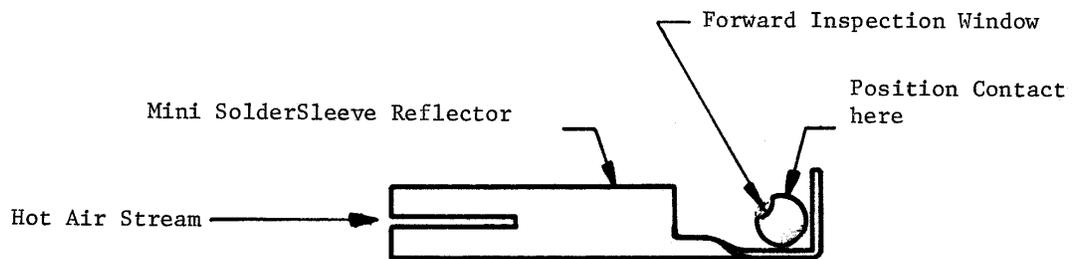


Figure 10

**NOTE**

If excess browning of the sleeve in the forward inspection window occurs (see Figure 6) when using the AA-400 Superheater and Mini reflector, adjust AA-400 regulator to 55 psi minimum..



**Solder Sleeve Reflector**  
HL SOLDER SLV REFLECTOR  
Figure 11

- 5.4.2.9 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 or disturbing the cable position

- 5.4.2.10 After the termination has cooled at least 15 seconds, remove it from the holding fixture.
- 5.4.2.11 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:

If the distance from the rear end of the contact body to the cable jacket does not meet the requirements of 5.2.2 improper strip lengths and/or improper cable insertion is indicated.

The center conductor must be visible through the forward inspection window.

The shield braid must be visible through the rear inspection window.



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:

D

Preform shows on trace of its original form (underheated condition). A "Band" of solder Trace, such as solder which is "wetted" to the substraight is acceptable.

Solder fillet is visible between center conductor and inner contact soldering surface.

**NOTE**

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:

D

Preform shows on trace of its original form (underheated condition). A "Band" of solder trace, such as solder which is "wetted" to the substraight is acceptable.

Solder fillet is visible between braid and contact body.

**NOTE**

Insufficient visible solder indicates overheated condition.

6.2.3 The insulating sleeve must be shrunk over the area of braid visible between the cable jacket and contact.

**NOTE**

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 jacket must not show signs of damage or overheating outside of the insulating sleeve.

**7. Repair and Rework**

## 7.1 Underheated Terminations

7.1.1 Reheat underheated areas as directed in Section 5.3 and reinspect per Section 6. Avoid reheating areas that have been properly heated.

## 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.

**CAUTION**

Safety glasses must be used during this operation.

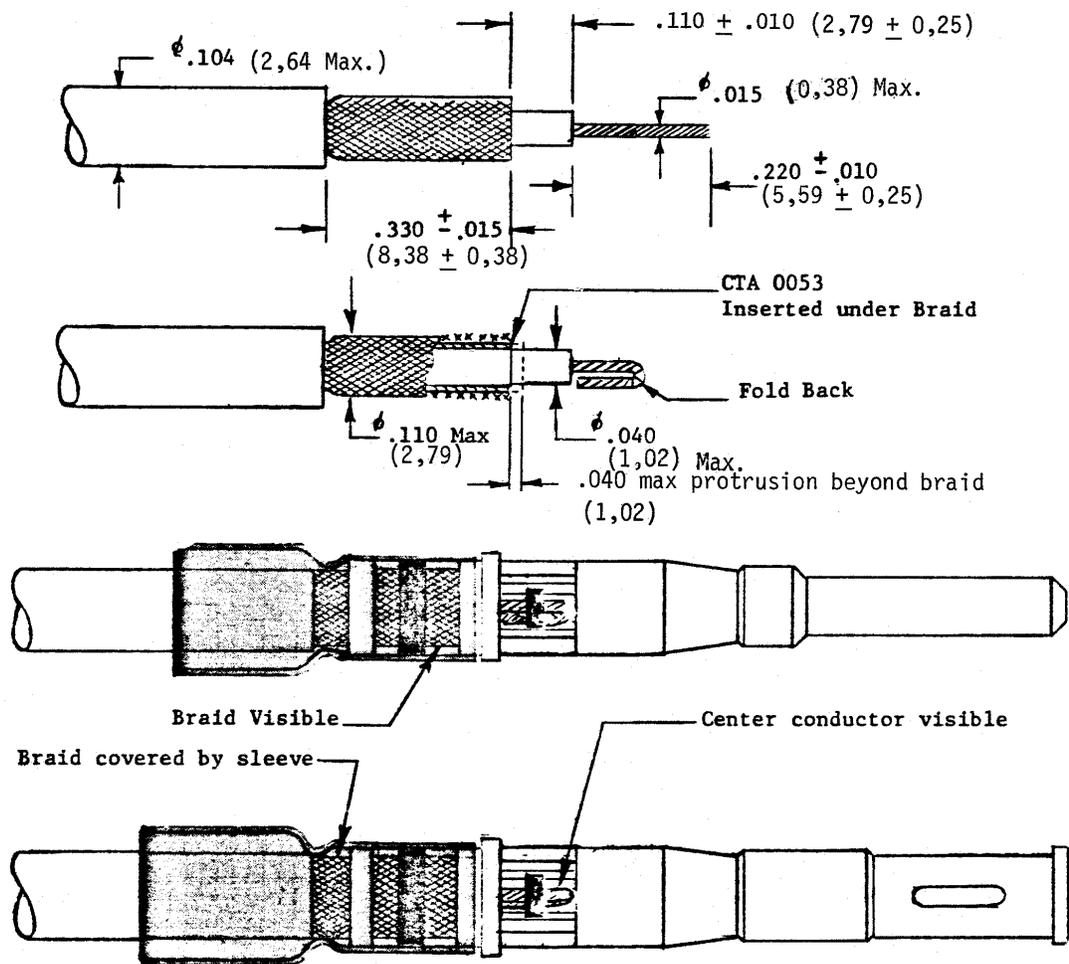
7.3.1 Use a sharp knife or razor blade and score the insulating sleeve full length on opposite sides of the contact.

**CAUTION**

Avoid cutting into wire insulation

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

**D-602-16/17**  
See ES 61161  
For Cable 5028A3318



Figures 12 thru 15