

APPLICATION SPECIFICATION

1. SCOPE

This specification has been written by AMP of Great Britain Ltd to provide information on the preparation, termination by machine or hand tool, and visual inspection of open barrel terminals. For specific details, see the appropriate discrete application specification for the product concerned. Where a conflict occurs between this specification and the discrete specification, then the discrete specification shall take precedence.

2. APPEARANCE

A properly crimped terminal will have an appearance similar to that depicted below, Figure 1.

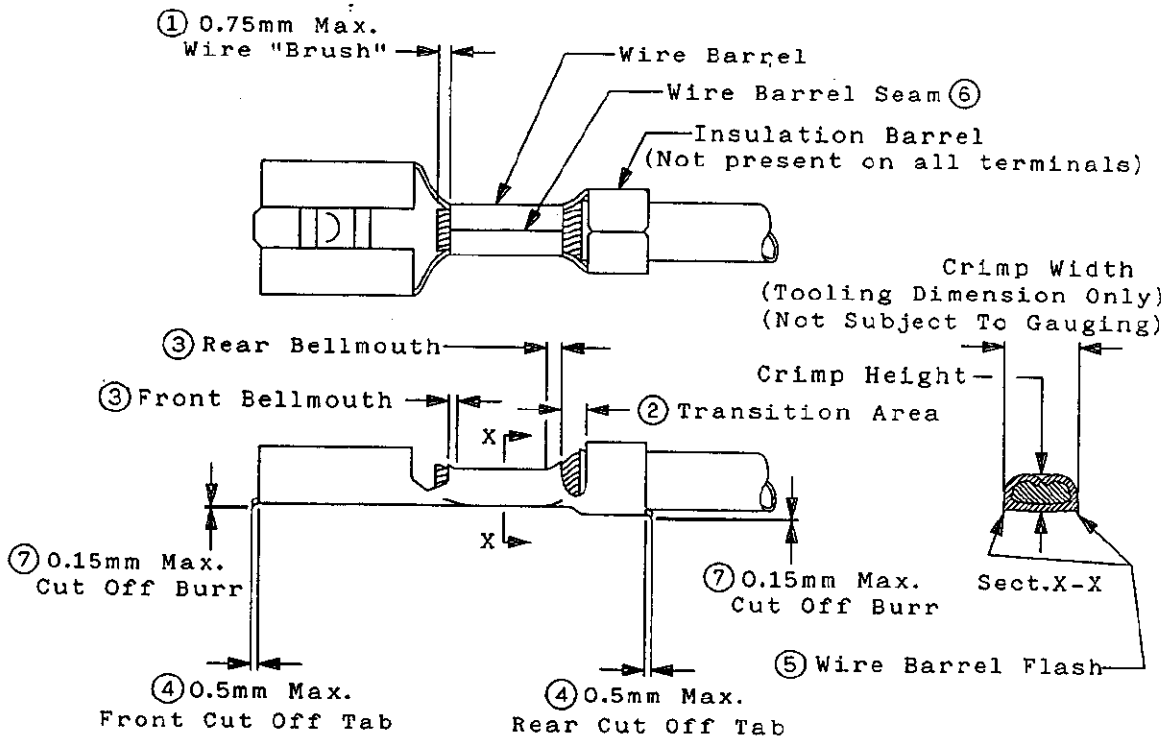


Figure 1.
Typical finished crimp sample.
(Faston type terminal shown for illustration only.)

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A	See ECN S0146	R.G.	20.8.92	SHEET 1 OF 6	TITLE GENERAL APPLICATION SPEC. FOR OPEN BARREL TERMINALS
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3. WIRE PREPARATION

3.1 Wire Strip Length

Recommended wire strip lengths for terminal wire barrel designs are listed in Figure 2. It may be found necessary to adjust the strip length, in the light of the results from the trial crimps.

Wire Stripping Guide	
Wire Barrel Length	Wire Strip Length
1.5 to 2.1 mm	2.5 +0.8 mm * -0.0
2.1 to 2.7 mm	3.2 +0.8 mm * -0.0 mm
2.7 to 3.5 mm	3.9 +0.8 mm * -0.0 mm *
3.5 to 4.4 mm	4.8 +0.8 mm * -0.0 mm
4.4 to 5.4 mm	5.8 +0.8 mm * -0.0 mm
5.4 to 6.7 mm	7.0 +0.8 mm * -0.0 mm

Figure 2

* These dims. not subject to gauging on finished crimps.

3.2 Workmanship

Reasonable care shall be taken not to nick, scrape or cut any strands during the stripping operation.

4. WIRE PLACEMENT

The wire should be positioned within a terminal so that, after crimping, the wire strand brush is visible at the front (contact) end of the wire barrel (1) Figure 1, when viewed from the side or the top. The maximum brush projection shall be 0.75mm. If wire projection is excessive, it can interfere with mating terminals and/or insertion of the terminal into an insulator or housing.

The wire strands and insulation should be visible within the transition between the wire and insulation barrels (2) Figure 1.

None of the insulation must be crimped in the wire barrel.

5. CUT OFF REQUIREMENTS

The following requirements apply to terminals on carrier strips.

5.1 Cut Off Tabs

The applicator has been properly adjusted, when there are equal lengths of cut off tabs to the front and rear of the terminal (4) Figure 1. A cut off tab exceeding 0.5mm maximum can interfere with mating terminals or tabs and/or full insertion of the terminal into a housing or insulator.

5.2 Cut Off Burr

The cut off burr shall not exceed 0.15mm (7) Figure 1.

6. WIRE BARREL CRIMP

6.1 Crimp Dimensions And Type

For crimp height, width and type, see the appropriate discrete application specification for the product, or the machine applicator log.

6.2 Crimp Height Setting and Inspection

The correct machine applicator or hand tool setting should be selected by reference to the machine applicator Log Sheet or the Instruction Sheet supplied with the hand tool. After making a trial crimp sample, check that the crimp height is correct, by using a crimp height micrometer. For further information see the AMP Good Crimping Guide and Instruction Sheet 7424, which gives guidance on using a crimp height micrometer.

6.3 Wire Barrel Flash

The wire barrel flash shall not exceed 0.2mm (5) Fig.1.

6.4 Wire Barrel Seam

The wire barrel seam shall be completely closed, and there shall be no evidence of loose wire strands or wire strands trapped in the seam, (6) Figure 1.

6.5 Bellmouth

The rear bellmouth, (3) Figure 1, must be present, and must not exceed 0.75mm. The front bellmouth, (3) Figure 1, may be absent, but if present it must be kept to a minimum.

7. INSULATION BARREL CRIMP

7.1 Crimp Width and Type

For crimp width and type, see the appropriate discrete application specification for the product, or the machine applicator log.

NOTE:- Crimp width is a tooling dimension only, and is therefore, not measurable on the product.

7.2 Crimp Height Setting and Inspection

- 7.2.1 As the insulation diameter is a variable dimension, it is not practicable to provide predetermined settings of tooling for all variations of insulation size, however, on some hand tools where only one setting is provided, this is to suit the average dimensions of the cable on which the tool is to be used.
- 7.2.2 To avoid the risk of tool damage, on machine applicators, or on hand tools provided with variable settings, the tooling should, initially, be adjusted to the crimp setting which will give the loosest crimp.
- 7.2.3 Prepare a wire sample by stripping the insulation as detailed in Section 3.
- 7.2.4 Make a test crimp sample, crimping both the insulation and the wire conductor and then inspect it to the procedure detailed in Crimp Inspection Sheet GB 3009 for normal thickness insulation, or Crimp Inspection Sheet GB 3005 for thinwall insulation. If the insulation has visibly moved in relation to the insulation barrel, then adjust the tool to a tighter crimp setting, and repeat the test on a new crimp sample. Continue to adjust the settings until a test sample meets the inspection criteria in the Crimp Inspection Sheet.

8. CRIMPED TERMINAL ALIGNMENT

8.1 Up and Down Bending (Straightness)

The contact shall not be bent above or below the datum line more than the amount shown in Figure 3.

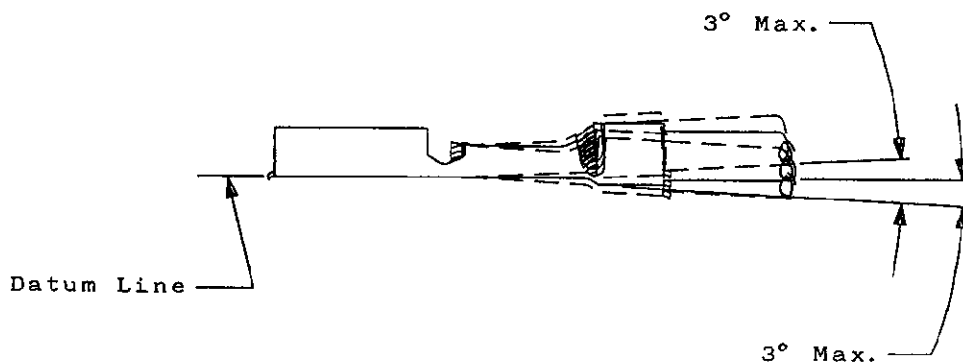


Figure 3

8.2 Side To Side Bending

The side to side bending of the contact shall not exceed the limits specified in Figure 4.

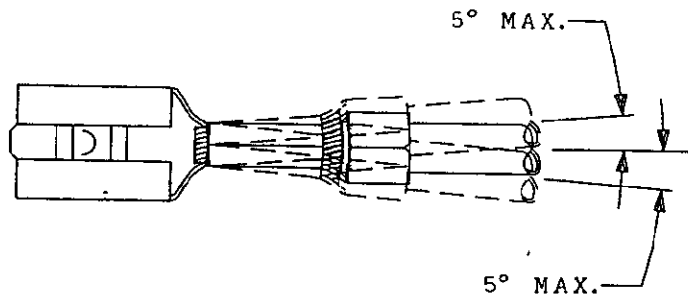


Figure 4

8.3 Twist or Roll

Twist or roll of the crimped contact shall not exceed the limits specified in Figure 5.

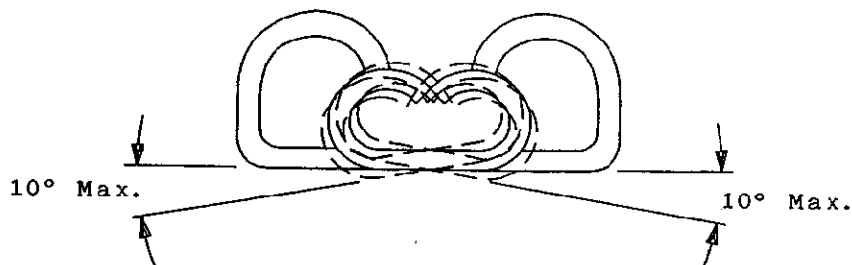


Figure 5

9. CRIMP TENSILE STRENGTH

Where specifications have been written, and where products have been tested to those specifications using Statistical Process Control to 4 Standard Deviations, then the values of crimp tensile strength listed in those specifications shall apply. In all other cases, the requirements for crimp tensile capability that shall apply are those laid down in BS6516:Part2:1990 (IEC 352.2 Part 2) to 4 Standard Deviations.

The following table is an extract from that document.

**TENSILE STRENGTH OF
OPEN BARREL CRIMPED CONNECTIONS
TO BS6516:Part2:1990**

WIRE SIZE IN mm ²	TENSILE IN NEWTONS
0.3	40
0.5	60
0.6	68
0.75	80
0.85	88
1.0	100
1.25	120
1.5	135
2.0	165
2.5	190
3.0	220
4.0	270
4.5	290
5.0	310
6.0	350

It must not be assumed that the above tensile values will apply to any sample of crimped terminals, unless the requirements of paragraph 6 have also been met.