AMPOWER* Terminals & Splices, Large

1. SCOPE

1.1. Content

This specification covers performance, tests and quality requirements for the large (700 MCM) AMPOWER* terminals and splices for commercial or industrial applications. These terminals and splices accept stranded and flexible cable and meet all requirements when crimped using specially designed dies in standard tool frames.

1.2. Qualification

When tests are performed on the subject product line, procedures specified in Figure 1 shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

1.3. Qualification Test Results

Successful qualification testing on the subject product line was completed on 30Jan98. The test file number for this testing is CTL 3050-000-032. This documentation is on file at and available from the Americas Regional Laboratory.

2. APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

2.1. AMP Documents

A. 109-1: General Requirements for Test Specifications
B. 109 Series: Test Specifications as indicated in Figure 1
C. Corporate Bulletin 401-76: Cross-reference between AMP Test Specifications and Government or Commercial Documents
D. 108-30200: Product Specification
E. 108-30200-1: Product Specification
F. 108-30200-3: Product Specification
G. 114-2150: Application Specification
H. 501-395-2: Qualification Test Report

2.2. Commercial Standard

UL486A: Wire Connectors and Soldering Lugs for Use With Copper Conductors

3. REQUIREMENTS

3.1. Design and Construction

Product shall be of the design, construction and physical dimensions specified on the applicable product drawing.

3.2. Materials

Materials used in the construction of this product shall be as specified on the applicable product drawing.

3.3. Ratings

A. Current: See Figure 3
B. Temperature: -55 to 105°C

3.4. Performance and Test Description

Product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. Unless otherwise specified, all tests shall be performed at ambient environmental conditions per AMP Specification 109-1.

3.5. Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Examination of product.	Meets requirements of product drawing and AMP Spec 114-2150.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Millivolt drop.	See Figure 3.	AMP Spec 109-3. Measure millivolt drop of samples assembled in chain. See Figure 4.
Static heating.	50°C maximum temperature rise at specified current. See Figure 3.	AMP Spec 109-45-1. Measure temperature rise vs current.
MECHANICAL		
Crimp tensile.	See Figure 3. See Note.	UL486A, Paragraph 12.
Secureness.	See Note.	UL486A, Paragraph 10.

NOTE *Shall meet visual requirements, show no physical damage and shall meet requirements of additional tests as specified in Test Sequence in Figure 2.*

Figure 1 (end)

3.6. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)
	1
	Test Sequence (b)
Examination of product	1,7
Millivolt drop	2,5
Static heating	4
Crimp tensile	6
Secureness	3

NOTE

(a) See Para 4.1.A.
(b) Numbers indicate sequence in which tests are performed.

Figure 2

4. QUALITY ASSURANCE PROVISIONS

4.1. Qualification Testing

A. Sample Selection

Samples shall be prepared in accordance with applicable Instruction Sheets and shall be selected at random from current production. All test groups shall consist of samples constructed of the minimum and maximum terminals, splices, and wire sizes available per Figures 3 and 4. All terminals and splices shall be terminated to lengths of new, soft annealed, untinned stranded commercial copper conductors.

B. Test Sequence

Qualification inspection shall be verified by testing samples as specified in Figure 2.

4.2. Requalification Testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process, product assurance shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineering.

4.3. Acceptance

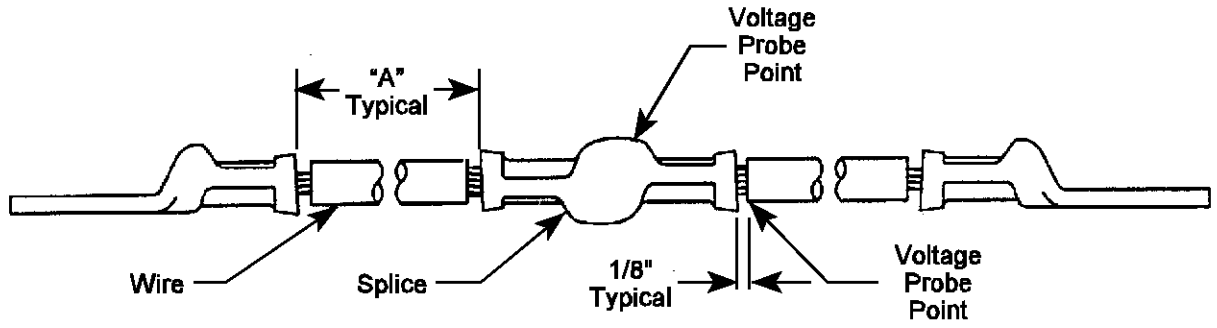
Acceptance is based on verification that the product meets the requirements of Figure 1. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. When product failure occurs, corrective action shall be taken and samples resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

4.4. Quality Conformance Inspection

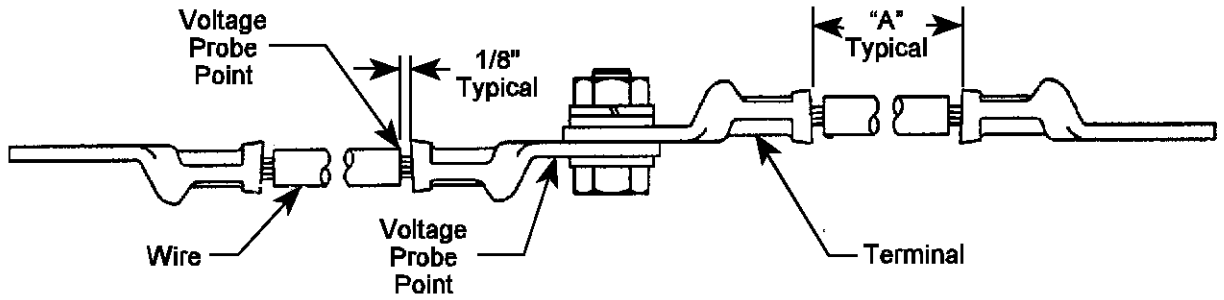
Applicable AMP quality inspection plan will specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

Sample Size	"A" Dimension (inches)	Test Current (amperes)	Millivolt Drop				Tensile (pounds)
			Terminal		Splice		
			Initial	Final	Initial	Final	
700 MCM	26	755	3	6	5	9	1000

Figure 3
Test Current, Millivolt Drop & Tensile Requirements



Voltage Probe Points For Splices



Voltage Probe Points For Terminals

Figure 4
Voltage Probe Points