
Transition Block, Undercarpet Power System

1. SCOPE**1.1. Content**

This specification covers performance, tests and quality requirements for the AMP* transition block to be used with AMP undercarpet power system cable, 12 -10 AWG, type FCC.

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 31May96. The test file number for this testing is ACL 1260-274. This documentation is on file at and available from the Americas North 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. 114-6008: Application Specification
- E. 501-416: Qualification Test Report

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. Voltage/Current: 300 vac at 30 amperes maximum
- B. Operating Temperature: 0 to 60°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 114-6008.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Dielectric withstanding voltage.	2000 vac at sea level. 1 minute hold with no breakdown or flashover.	AMP Spec 109-29-1. Test between adjacent terminals of mated samples.
Temperature rise vs current.	30°C maximum temperature rise at specified current.	AMP Spec 109-45-1. Measure temperature rise vs current.
Current cycling.	Stability factor shall not exceed ± 10 .	AMP Spec 109-51. Subject terminated samples to 500 cycles at 125% of rated current for 60 minutes ON and 60 minutes OFF.
MECHANICAL		
Vibration, sinusoidal.	No discontinuities of 10 microseconds or longer duration. See Note.	AMP Spec 109-21-1. Subject terminated samples to 10-55-10 Hz traversed in 1 minute with .06 inch maximum excursion. 2 hours in each of 3 mutually perpendicular planes.
ENVIRONMENTAL		
Thermal shock.	See Note.	AMP Spec 109-22. Subject terminated samples to 20 cycles between 0 and 60°C.

NOTE

Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure 2.

Figure 1

3.6. Product Qualification and Requalification Test Sequence

Test or Examination	Test Group (a)			
	1	2	3	4
	Test Sequence (b)			
Examination of product	1,3	1,3	1,5	1,5
Dielectric withstanding voltage	2			
Temperature rise vs current			2,4	2,4
Current cycling			3	
Vibration		2		
Thermal shock				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 each consist of 10 transition blocks. Test group 1 shall be assembled using 12 inch lengths of 5 position #10 AWG flat conductor cable. Test group 2 shall be assembled using 6 inch lengths of 5 position #10 AWG flat conductor cable. Test groups 3 and 4 shall be assembled using 5 position #10 AWG flat conductor cable with the transition blocks located on each end 36 inches apart.

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

The applicable AMP quality inspection plan shall 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.