DESIGN OBJECTIVE

The product described in this documents has not been fully tested to insure conformance to the requirements outlined below. Therefore, AMP do Brasil makes no representation or warranty, express or implied, that the product will comply with these requirements. Further, AMP do Brasil may change these requirements based on the results of additional testing and evaluation. Contact AMP Engineering for further details.

1- SCOPE

1.1- Content

This specification covers the performance, tests and quality requirements for the Ring Tongue Terminals.

1.2- Qualificafion

When tests are performed on the subject product line, the procedures specified in AMP 109 Series Specifications shall be used. All inspections shall be performed using the applicable inspection plan and product drawing.

2- APPLICABLE DOCUMENTS

The following documents form a part of this specification to the extent specified herein. 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 of Test Specifications
B. 109 Series: Test Specifications as indicated in Figure 1.
C. 114-2084: Application Specification

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

A. Contact: Phos Bronze - Spec 100-221
Brass - Spec 100-86

3.3- Ratings

Material	Finish	Temperature
Brass/Ph Bronze	Plain	90°C
Brass/Ph Bronze	Tin Plate	110°C
Brass/Ph Bronze	Silver Plate	130°C

3.4- Performance and Test Description

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in Figure 1. All tests are performed at ambient environmental conditions per AMP Specification 109-1 unless otherwise specified.

3.5- Test Requirements and Procedures Summary

Test Description	Requirements			Procedure
Examination of Product	Meet requirements of product drawing; AMP Spec 114-2084			Visual, dimensional and functional per applicable quality inspection plan.
	Electrical			
Voltage Drop	Wire Size (mm^2)	Test Current (A)	VD(max) (milivolts)	Measure potential drop of unmated contacts. See figure 3; AMP Spec 109-3.
	0,3	4	10,0	
	0,5	6	17,4	
	0,8/0,75	8	18,4	
	1,0	11	22,0	
	1,5	14	25,2	
	2,5	22	37,4	
	4,0	28	44,8	
	6,0	37	48,1	
	10,0	53	58,3	
	16	75	65	
	25	100	75	

Figure 1 (Cont.)

Overloaded Resistance	After this test the VD is measured and it shall not be greater than 1,5 of the nominal specified value.	Apply current = 1,5x value specified on table during 1hour.
	Corrosion	
Salt-Spray Kesternich	After salt-spray and kesternich test the VD is measured and it shall not be greater than 1,5 of the nominal specified value.	Subject the terminals to salt-spray corrosion test spec. 109-24. Subject the terminals to kesternich test spec. DIN 50.018.
	Mechanical	
Crimp Tensile	Wire Size (mm^2) / Force (Nmin) 0,3 — 40 0,5 — 80 0,8/0,75 — 120 1,0 — 160 1,5 — 200 2,5 — 250 4,0 — 350 6,0 — 400 10,0 — 500 16,0 — 600 25,0 — 700	Subject crimped terminal to direct pull at a rate of AMP Spec 109-16.

Figure 1 (cont.)

	Thermal				
Temperature Rise vs Current	Wire Size (mm^2)	Test Current (A)	AT Term. (°)Cmax	AT Term. sn or ni (°)Cmax	Subject terminal to test current and after 1 hour determine the hot spot; Spec 109-45.
	0,3	2	10	8	
	0,5	4	10°	8	
	0,8/0,75	4	8°	6	
	1,0	6	5	3	
	1,5	10	10	8	
	2,5	16	25	22	
	4,0	20	29	25	
	6,0	25	35	25	
	10,0	32	50	45	
	16,0	40	60	55	
	25,0	45	70	65	
Humidity Temperature	After this test the VD is measured and it shall not be higher than the nominal specified.				Subject terminal to test Spec 109-23-3, Method III - A.

Figure 1

3.6 Product Qualification and Requalification Test Sequence

Test	Test Group		
	1	2	3
	Test Sequence		
Examination of Product	1	1	1
Voltage Drop	2,4	2,6	
Overloaded Resistance	3		
Salt Spray		4	

Figure 2 (Cont.)

Test	Test Group		
	1	2	3
	Test Sequence		
Res. Tensile		5	
Crimp Tensile			3
Temperature Rise vs Current			2
Humidity Temperature		3	

Figure 2

4- QUALITY ASSURANCE PROVISIONS

4.1- Qualification Testing

A. Sample Selection

Terminals shall be prepared in accordance with applicable instruction sheet. They shall be selected at random from current production. Test Group 1, 2 and 3 shall consist of 5 samples each.

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 to the manufacturing process, product engineer shall coordinate requalification testing, consisting of all or part of 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 set-up, or operator deficiencies shall not disqualify the product. When the product failures occur 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 will specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with applicable product drawing and this specification.