
U.D.C. Underground Sealed Cover

1. SCOPE**1.1 Content**

This specification covers the performance , tests and quality requirements for the **U.D.C. Underground Sealed Cover** , used on Universal Distribution Connectors , for street light or similar applications .

1.2 Qualification

When tests are performed on the subject product line , the procedures specified in AMP 109 Series Specifications 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 | <i>General Requirements for Test Specifications</i> |
| b) 109-74 | <i>Immersion , Test Procedure for</i> |
| c) 109-28 | <i>Insulation Resistance , Test Procedure for</i> |
| d) 109-29 | <i>Withstanding and / or Breakdown Voltage</i> |
| e) Corporate Bulletin 401-76 | <i>Cross-reference between AMP Test Specifications and Military or Commercial Documents</i> |
| f) Instruction Sheet 411-37021 | <i>UDC Insulation Cover for Low Voltage</i> |

3. REQUIREMENTS**3.1 Design and Construction**

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

3.2 Materials

- | | |
|------------------------------|--|
| a) Body and Cover Components | According to respective product drawings |
| b) Silicone Paste | According to respective product drawings |

Prepared by: J.A.La Salvia

Approved by: E.A.Sfeir

3.3 Ratings

- a) Voltage : Insulated for 600 V
- b) Temperature : -20° C to 70° C
- c) Insulation Resistance : 1 Gohm minimum
- d) Withstand Voltage : 2250 V minimum
- e) Breakdown Voltage : 3000 V minimum
- e) Maximum Nominal Current : 20A

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 otherwise specified .

3.5 Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
Examination of Product	Meets requirement of product specification and customer drawings.	Visual, dimensional and functional per applicable quality inspection plan.
ELECTRICAL		
Insulation Resistance (immersed at room temperature)	1 Gohm minimum Test Voltage : 500 Vdc Time : one minute	Measure the Insulation Resistance according to Item 2.2 of 109-74-4 and 109-28-4 AMP Specifications .
Withstanding Voltage	Test Voltage: 2250 V Time : 60 seconds No breakdown or flash over	Perform the Withstanding Voltage Test according to 109-29-1 AMP Specification , applying the test voltage from zero until 2250 V, with a rate of 250 V/s approximately.
Breakdown Voltage	3000 V minimum	After the end of the 8 cycles of immersion, immerse the sample again and perform the Breakdown Voltage Test according to 109-29-2 AMP Specification.
Over Current	30A - 60Hz for 8 hours , complying with the minimum insulation resistance value after the end of the test	Assemble one sample of sealed cover with a 25 mm ² insulated cable as run and four 2.5 mm ² insulated cable as taps connected by an appropriate UDC . Make circulate an over current of 1.5 x maximum nominal current , for 8 hours . After that , immerse the sample in water 5% salt solution and perform the insulation resistance test according described previously .
ENVIRONMENTAL		
Immersion in water 5% salt solution	8 cycles. Each cycle consists of 72 hours of immersion at room ambient, followed by 72 hours of air drying at room ambient.	Perform the immersion according to 109-74-4 AMP Specification, measuring the insulation resistance with the sample immersed, in the end of the immersed cycle and performing the withstanding voltage test (after completed 8 cycles).

Figure 1

3.6 Product Qualification and Requalification Test Sequence

TEST OR EXAMINATION	Test Group (a)	
	1	2
	Test Sequence (b)(c)	Test Sequence (b)(c)
Examination of the product	1	1
Insulation Resistance	3	3 (d)
Withstand Voltage	4	4 (d)
Breakdown Voltage	5	5 (e)
Immersion	2	2
Over Current	----	1 (f)

Figure 3

- (a) The test group 1 is indicated for product receiving and inspection .(just one immersion)
The test group 2 is indicated for product qualification and requalification .(8 cycles as described on Paragraph 3.5)
- (b) See paragraph 4.1 .
- (c) Numbers indicate sequence in which tests are performed .
- (d) Performed in the end of each immersed cycle.
- (e) Performed after completed 8 cycles.
- (f) Performed in another sample , separated from the sample used in the cycle tests.

4. QUALITY ASSURANCE PROVISIONS

4.1 Qualification Testing

a) Sample Selection

Connector samples shall be prepared in accordance with applicable Instruction Sheet no. 411-37021 .They shall be selected at random from current production .

b) Test Sequence

Qualification inspection shall be verified by testing samples as specified in Figure 3 .

4.2 Requalification Testing

If changes significantly affecting form , fit or function are made to the product or to the 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 operation 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 resubmitted .

4.4 Quality Conformance Inspection

The applicable AMP Quality Inspection Plan (QIP) 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 .

Revision Record		
Revision	Date	Description
0	10-Jul -95	Released
A	20-Sep-95	Revised by EC LB00-0460-95