

AMP CO Ultra Installation Kit

1. INTRODUCTION

1.1. Purpose

Qualification testing on AMP NETCONNECT* AMP CO Ultra Installation kit to determine its conformance to the requirements of TE Connectivity Product Specification 108-93037, Rev. F.

1.2. Scope

This report covers the mechanical, electrical, environmental and transmission performance of the AMP NETCONNECT* AMP CO Ultra Installation kit manufactured by Commscope.

The testing was performed between September 4, 2015 and February 12, 2016 in the Barcelona Electrical Components Test Laboratory per test report E2015-110 and the Greensboro Electrical Components Laboratory per test reports Lt15-49 and Lt16-06.

1.3. Conclusion

Tested AMP NETCONNECT* AMP CO Ultra Installation kit meets the mechanical, electrical, environmental and transmission performance requirements of Product Specification 108-93037, Rev. F

1.4. Product Description

The AMP NETCONNECT* AMP CO Ultra Installation kit is used to provide a universal modular connection interface between premise wiring of an office and the user's network of communications equipment for data and voice networking systems

1.5. Test Specimens

Tested specimens were randomly selected from pre-production and normal current production lots. Following part numbers (PN) were used as representative AMP NETCONNECT* AMP CO Ultra Installation kit for tests:

Test Group (a)	Qty	PN	Wire size (AWG)
1	6	1711827 1711828	22 (solid)
2	6		
3	6		
4	6		

(a) Test Group sequence on next page

1.6. Test Sequence

	Test Sequence (a)				
	1 - Housing + Insert + Edge Connector ELEC	2 - Housing+ Insert + Edge Connector TX	3 - Housing Assembled MECH	4 - Complete Kit MECH	5 - Housing + Insert + Edge Connector Chem
Examination of product	1, 7	1, 8	1, 5	1,4	1, 3
ELECTRICAL					
Shield Resistance	2, 6		2, 4		
Voltage Proof	3, 5				
MECHANICAL					
Durability, front/rear housing retention			3		
Tensile strength				2	
Frame housing retention				3	
ENVIRONMENTAL					
Thermal shock	4				
Flowing Mixed gas Corrosion, jack-plug interface					2
TRANSMISSION (b)					
NEXT		2			
PS NEXT Loss		3			
Insertion loss		4			
Return loss		5			
ACR-F		6			
PS ACR-F		7			

- (a) Numbers indicate sequence in which tests are performed
(b) Transmission parameters: Checked as Class F_A Channel Configuration.

1.7. Measurement Equipment Used

Lab. Code	Equipment
E1-053	Micro-ohmmeter
E2-057	Dielectric Strength machine
F0-014	Tensile strength machine
E0-257	Hand Held Tester Fluke DTX-1800
C1-055	Climatic chamber
Tyco Electronics Netherlands B.V.	Flowing Mixed gas Corrosion Chamber
E0-058	HP8753D Vector network analyzer

Tests have been performed at standard conditions: T: 21°C ± 5°C / HR: 40% ± 10% with the exceptions detailed in the test descriptions.

2. SUMMARY OF TESTING

2.1 Examination of product – All groups

All samples submitted for testing were selected from current production and prepared in accordance with applicable Instruction sheet.

2.2 Shield resistance – Groups 1 and 3

All shield resistance measured values were lower than 43 mΩ. (Maximum specified: 100 mΩ max.)

2.3 Dielectric withstanding voltage – Group 1

No dielectric breakdown or flashover occurred during the test having applied 1500 Vac peak between contact and ground shield

2.4 Durability, front/rear housing retention - Group 3

All housing dismantle force measured values were higher than 99N (Minimum specified: 90N min.)

2.5 Thermal shock – Group 1

All tested samples meet visual requirements, show no physical damage after thermal shock and meet the requirements of additional tests specified in the test sequence.

2.6 Corrosion test, jack-plug interface – Group 5

All tested samples meet visual requirements, show no physical damage after corrosion test and meet the requirements of additional tests specified in the test sequence.

2.7 Transmission Tests – NEXT Loss (Class F_A Channel) – Test Group 2

Samples tested meet the requirements of Transmission tests for Class F_A Channel according to Amd. 1 to ISO/IEC 11801 Ed. 2.

2.8 Transmission Tests – PSNEXT Loss (Class F_A Channel) – Test Group 2

Samples tested meet the requirements of Transmission tests for Class F_A Channel according to Amd. 1 to ISO/IEC 11801 Ed. 2.

2.9 Transmission Tests – Insertion Loss (Class F_A Channel) – Test Group 2

Samples tested meet the requirements of Transmission tests for Class F_A Channel according to Amd. 1 to ISO/IEC 11801 Ed. 2.

2.10 Transmission Tests – Return Loss (Class F_A Channel) – Test Group 2

Samples tested meet the requirements of Transmission tests for Class F_A Channel according to Amd. 1 to ISO/IEC 11801 Ed. 2.

2.11 Transmission Tests – ACR-F (Class F_A Channel) – Test Group 2

Samples tested meet the requirements of Transmission tests for Class F_A Channel according to Amd. 1 to ISO/IEC 11801 Ed. 2.

2.12 Transmission Tests – PS ACR-F (Class F_A Channel) – Test Group 2

Samples tested meet the requirements of Transmission tests for Class F_A Channel according to Amd. 1 to ISO/IEC 11801 Ed. 2.

3. TEST METHODS

3.1. Examination of product

Product drawings and inspections plans were used to examine the samples. They were examined visually and functionally.

3.2 Shield resistance

Shield resistance measurements at low level current were done between indicated points using four terminal technique as shown in the next figure.

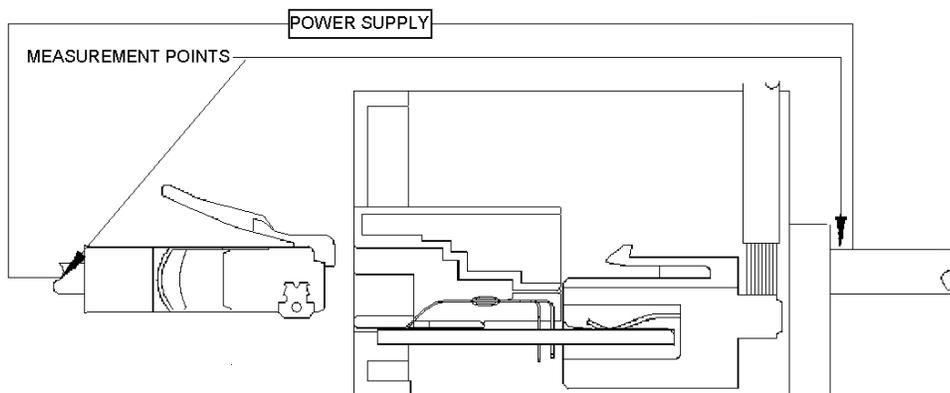


Figure 1

3.3 Dielectric Withstanding voltage (Reference Standard: IEC 60512 test 4a)

1500 Vac peak was applied between contact and ground shield during 60s. Maximum leakage current 2 mA with no breakdown or flashover.

3.4 Durability, front/rear housing retention

Samples were placed in a tensile strength machine and the force required to dismantle the housings was measured at a maximum rate of 25mm/min after 3 cycles.

3.5 Thermal shock, housing interface

25 cycles between -40°C and 70°C. Duration exposure = 30 minutes at each temperature.

3.6 Corrosion test, jack-plug interface and IDC-wire interface (Ref. Standard: IEC 60068-2-60).

Samples were placed during 4 days in a chamber with:

SO₂ = 0.5 ppm (volume)

H₂S = 0.1 ppm (volume)

T = 25 ± 2°C; HR = 75% ± 3%

3.7 Transmission parameters (Amd.1 to ISO/IEC 11801 2nd edition)

A whole transmission test has been done using HP8753D network analyzer and Hand Held Tester Fluke DTX-1800 together with DTX-CHA011 TERA™ Channel Adapters.