

TAPE AND REEL FASTON TAB

1. INTRODUCTION

1.1 Purpose

Testing was performed on the TE TAPE AND REEL FASTON TAB to evaluate its mechanical and electrical performance.

1.2 Scope

This report covers the environmental, electrical, and mechanical performance of TAPE AND REEL FASTON TAB. The specimens listed in Table 1 of paragraph 1.4 were subject to the test sequence outlined in Table 2 of paragraph 1.5. Testing was performed at Shanghai Electrical Components Test Laboratory during 07Mar2019 to 13May2019. The validation is performed on 2348072-1, and applied to 2348072-2 due to two parts has same performance.

1.3 Conclusion

TE TAPE AND REEL FASTON TAB listed in paragraph 1.5 conformed to the electrical, mechanical, and environmental performance requirements of Product Specification 108-106425.

1.4 Test Specimens

Specimens with the following part number as Table 1 were used for this test. Refer to table 1 for test specimen identification information.

Table 1-specimen list

Test Group	Part No	Description	Qty.	Comments
1	2358709-X	TAPE AND REEL FASTON TAB (TAB PN 2348072-X)	5	
2	2358709-X	TAPE AND REEL FASTON TAB (TAB PN 2348072-X)	5	
	175024-1	PL EX MKII 250 REC 18-14AWG PTBR	5	

1.5 Test Sequence

Specimens identified in table 1 were subjected to the test sequence outlined in Table 2.

Table 2-Test sequence

Test	Test Group	
	1	2
	Test Sequence	
Examination of Product	1,3	1,7
solderability	2	
Termination Resistance		2,5
Temperature Rise		3,6
Salt spray		4

Note:

- a). Test group defined per customer requirement;
- b). Numbers indicate sequence in which tests are performed.

1.6 Environmental Conditions

Unless otherwise stated, the following environmental conditions prevailed during testing:

Temperature: 15°C to 35°C
Relative Humidity: 25% to 75%

2. SUMMARY OF TESTING

2.1 solderability

All of test specimens get more than 95% coverage. Refer to figure-1 for visual check after solderability test.

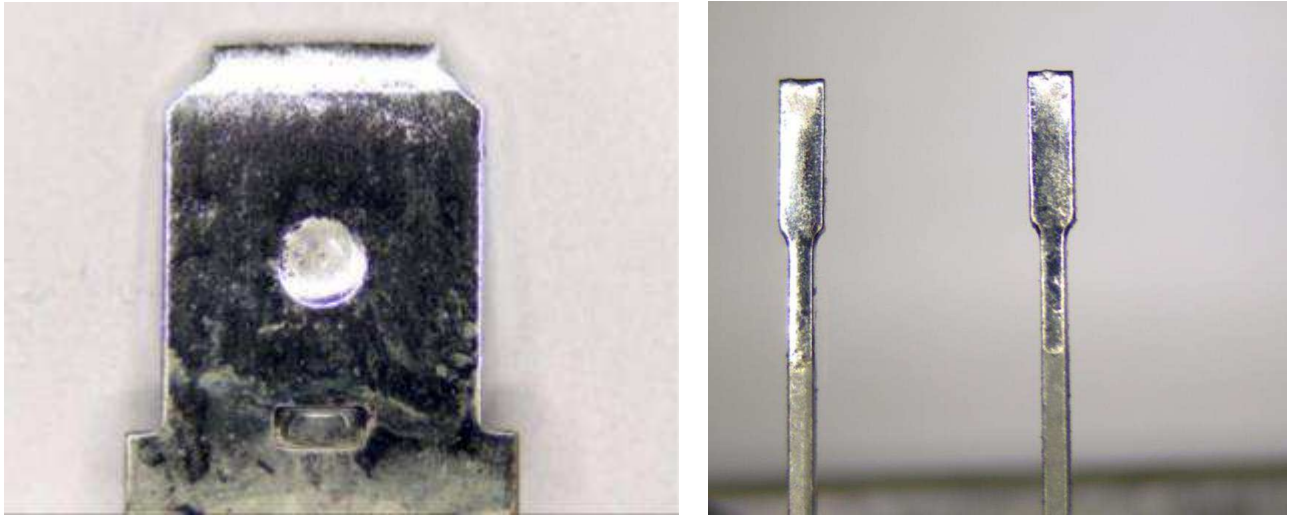


Figure 1. TE part after solderability test (20X magnification)

2.4 Temperature Rise test

Refer to table 3 for contact temperature rise test summary before and after salt spray. Table 3 is the test data for sequence 2, All recorded values were meet the requirement of 30°C max for contact temperature rise per test request.

Table 3 – temperature rise test result

Unit: Δ°C	Temperature rise test	
Samples	Before salt spray shock	After salt spray shock
Wire size	14 AWG	14 AWG
current	15.0A	15.0A
Test result	Meet spec	Meet spec
Spec	30°C Max	30°C Max

2.3 salt spray

Corrosion was found after test. refer to table 4 for LLCR result after Salt Spray test, all recorded values were meet the requirement of 6m Ω max for Low-Level Contact Resistance per test request. Refer to figure 2 for visual check of product before and after test.

Table 4 – LLCR test result after salt spray

Unit: mΩ	LLCR test
Wire size	14 AWG
current	15.0A
Test result	Meet spec
Spec	6.0 mΩ Max



Figure 2- typical visual check before and after salt spary

3. TEST PROCEDURES

3.1 Solderability Test

Test procedure:

- Specimens to be tested shall not be touched by fingers or otherwise contaminated. Specimens shall not be wiped, cleaned, scraped, or abraded prior to testing.
- After mounting the specimen in a suitable holder, the portion of the surface specified was immersed in flux at room temperature for 5s to 10s.
- Excess flux was immediately drained off by standing the specimen vertically on clean filter paper for 5s to 20s.
- The specimen was then immersed at a speed of 25.6mm per second to the specified depth in the molten solder and held in this position for 5s then withdrawn at the same rate.
- Subject specimens to the following conditions of lead-free solder (Sn-Ag-Cu):
- Soldering Temperature: $245 \pm 5^{\circ}\text{C}$; Immersion Duration: $5 \pm 0.5\text{s}$.
- All specimens shall be subjected to 93°C steam aging for 8 hours.
- Take pictures under 20X magnification after test.
- Refer to figure 4 for solderability test set.



Figure 4 – solderability test set

3.2 Salt spray test

The salt spray test is following MIL-STD-202H-2015 and 108-5251

Test procedure:

- Place test specimens into chamber and perform test.
- Test Condition: According to Table 5.

Items	Conditions
Concentration of Salt Solution	5% NaCl (w/w)
Volume of Salt Solution Collected	1.5ml/(80cm ² ·h)
Electrical Conductivity of Pure Water	3.8 μS/cm
pH of Salt Solution at (35±2)°C	6.8
Chamber Temperature: °C	35
Exposure Duration: h	96

- Test specimens were cleaned by running tap water for 5min, sit it for one hour for drying at room temperature.
- Execute visual check and take picture after test.

3.4 temperature rise test

- Wire all terminal poles and connect to DC power supply, measure and record the temperature rising when the temperature is steady.
- Thermal stability was achieved when the temperature rising of a minimum of three consecutive reading taken at 5 minutes intervals minimum does not differ by more than ±1°C for each thermocouple.
- The current shall be maintained for a period over 1 h during the test.
- refers to figure 5 for temperature rise test set

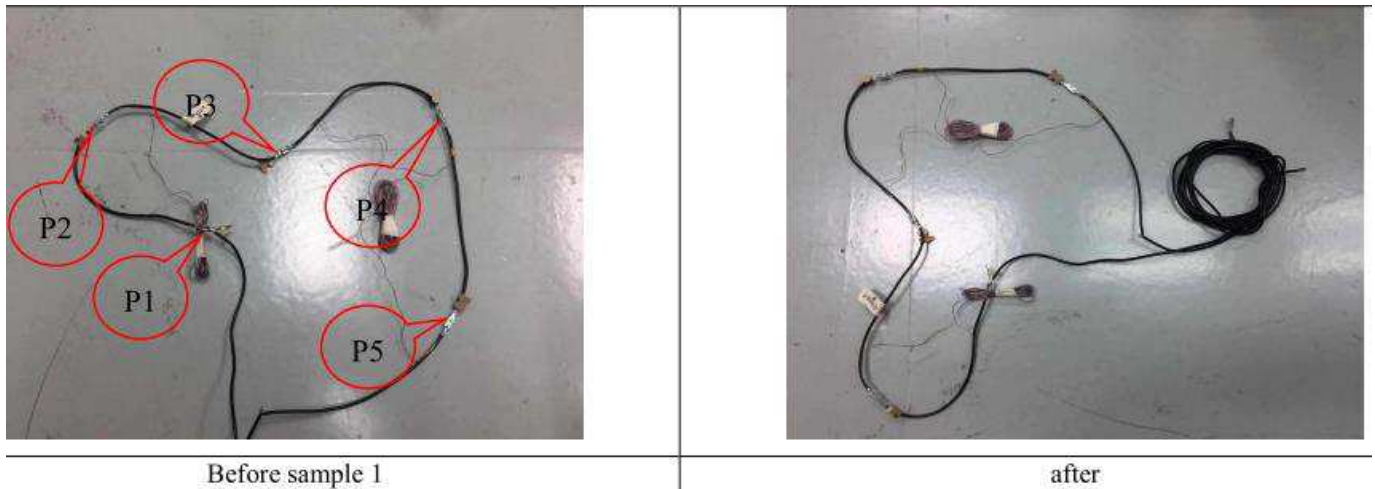


Figure 5 – temperature rise test set



4. CALIBRATION

4.1 Calibration Statement

All equipment containing a calibration number is calibrated and traceable through TE Connectivity (TE).

4.2 Equipment List

Equipment Name	Calibration Number
Load Tester (SLBL-1KN)	E-00122
Electronic Load (KIKUSUI PLZ-50F)	E-00072
Multi-Range DC Power Supply	E-00645
Milliohm Meter(34420A)	E-00088