FASTON RECEPTCLE HOUSING 2 CIRCUIT NATURAL .250 SERIES
Material Evaluation

1. INTRODUCTION

1.1 Purpose

Testing was performed on the TE Connectivity FASTON RECEPTCLE HOUSING 2 CIRCUIT NATURAL .250 SERIES to evaluate a new material

1.2 Scope

This report covers the electrical, mechanical, and environmental performance of POSTIVE LOCK MARK-III receptacle housing. 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 in Shanghai Electrical Components Test Laboratory during 04Apr2018 to 07Apr2018. The associated test number is TP-18-00790.

1.3 Conclusion

Based on the test results, all specimens meet the specification. See summary of testing for more details.

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

Test Group	Part No	Description	Qty.	Comments
1	1969199-2	FASTON 250 REC HSG 2 CIR NAT added 2% deionized water	6	
	63306-1	FASTON 250 REC 18-14 AWG BR	12	
2	1969199-2	FASTON 250 REC HSG 2 CIR NAT	6	
	63306-1	FASTON 250 REC 18-14 AWG BR	12	

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	
Contact Intention Force	1	1
Contact Retention Force	2	2

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%

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2. SUMMARY OF TESTING

2.1 Contact insertion force test

Refer to table 3 and table 4 for contact insertion force summary data in pounds and figure 1 for typical force plots. Table 3 is the test data for sequence 1, housing with moisturization, table 4 is test data for sequence 2, housing without moisturization. All recorded values were below the requirement of 4.0 lbf maximum for contact insertion per test request.

Table 3-Contact insertion force summary data in pounds, test set 1(housing with moisturization)

Pounds	Contact insertion force
Minimum	0.62
Maximum	0.88
Mean	0.69
Standard Deviation	0.08
N=	12
Requirement	4.0lbf Max

Table4- Contact insertion force summary data in pounds, test set 2 (housing without moisturization)

Pounds	Contact insertion force
Minimum	0.93
Maximum	1.07
Mean	0.98
Standard Deviation	0.05
N=	12
Requirement	4.0lbf Max

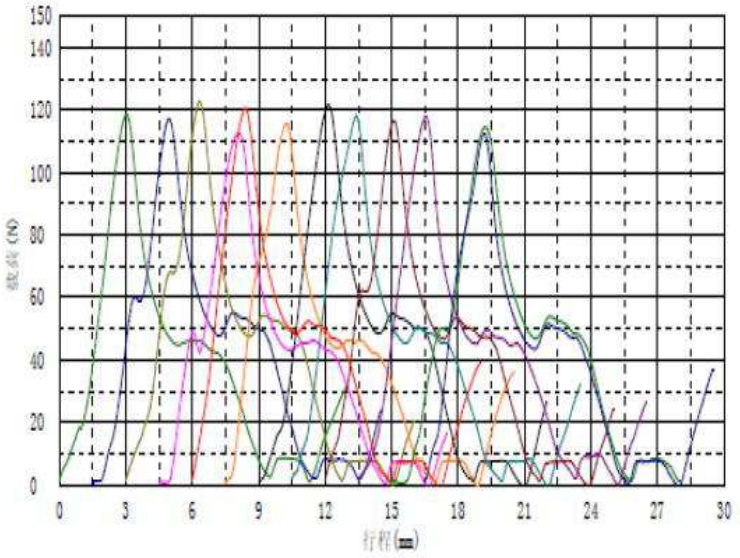

Figure 1- typical contact insertion/retention force profile plot

2.3 Contact retention force

Refer to table 5 and table 6 for contact retention force summary data in pounds. Table 5 is the test data for sequence 1, housing with moisturization, table 6 is test data for sequence 2, housing without moisturization. All recorded values were up the requirement of 15.0 lbf Min for contact retention force per test request.

Table 5-Contact retention force summary data in pounds, test set 1 (housing with moisturization)

Pounds	Contact retention force
Minimum	30.63
Maximum	34.16
Mean	32.19
Standard Deviation	0.99
Count	12
Requirement	15.0 lbf Min

Table 6-Contact retention force summary data in pounds, test set 2 (housing without moisturization)

Pounds	Contact retention force
Minimum	27.63
Maximum	25.29
Mean	26.39
Standard Deviation	0.74
N=	12
Requirement	15.0 lbf Min

3. TEST PROCEDURES

3.1 Examination of Product
Visual Inspection: appearance, and function of specimens pursuant to the applicable inspection plan.
Requirements: Meets requirements of product drawing and no physical damage.
Test Method: EIA-364-18 B

3.3 Contact insertion force
Execute visual check before test, and take picture. Mount test specimen with fixtures in a normal manner, and take picture. Edit test procedure according to test method then perform test. Test Condition: Measure the force required to insert contact into housing. Test Speed: 60 mm/min. Export test data and test curve, execute visual check and take picture after test. Refer to figure 2 for an image of the typical test setup. Testing was performed in accordance with EIS-364-05B

Figure 2 – typical contact insertion force setup

3.4 contact retention force
The housing was clamped to a free floating x/y and rotational table at the base of the tensile/compression machine. The wire of the terminal was clamped in an air jaw to the moveable crosshead of the tensile/compression machine. Force was then applied

in an upward direction at a rate of 100mm/min until the terminal was fully removed from the housing. Refer to figure 3 for an image of typical test setup.

Figure – 3 typical retention force setups

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 (MAX-1KN-H-2 500N)	E-00017

5. VALIDATION

Requested by:

_____ ____/____/____
Product Engineer
TE Connectivity India Pvt Ltd.

Prepared by:

_____ ____/____/____
Test Engineer
Shanghai Electrical Components Test Lab.

Approved by:

_____ ____/____/____
Manager
Shanghai Electrical Components Test Lab.