

Mini Universal MATE-N-LOK* Connectors – Contact Retention Force

1. INTRODUCTION

1.1. Purpose

Testing was performed on the TE Connectivity (TE) Mini Universal MATE-N-LOK* socket contact part number 171637-1 and plug housing part number 770587-1 to determine its conformance to the contact retention force requirements in 108-5138, Rev J2.

1.2. Scope

This report covers the mechanical performance of the Mini Universal MATE-N-LOK* socket contact part number 171637-1 and plug housing part number 770587-1 when subjected to the contact retention force requirements specified in Product Specification 108-5138, Revision J2. Testing was performed at the Norwood Electrical Components Test Laboratory on 08Jan18. The test file number for this testing is EA20170722T. This documentation is on file at and available from the Norwood Electrical Components Test Laboratory.

1.3. Conclusion

All part numbers listed in paragraph 1.5 conformed to the contact retention mechanical requirements in 108-5138, Rev. J2.

1.4. Test Specimens

The test specimens were representative of normal production lots, and the following part numbers were used for testing (see Figure 1).

Test Group	Quantity	Part Number	Description
1	20	770587-1	24P Mini Universal MATE-N-LOK* Housing (one position loaded per housing)
	20	171637-1	Mini Universal MATE-N-LOK* Socket Contact on 18 AWG

Figure 1

1.5. Qualification Test Sequence

Test or Examination	Test Groups (a)
	1
	Test Sequence (b)
Initial Examination of Product	1
Contact Retention	2
Final Examination of Product	3



NOTE

(a) See Paragraph 1.5

(b) Numbers indicate sequence which tests were performed.

Figure 2

1.6. Environmental Conditions

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

Temperature: 15°C to 35°C
 Relative Humidity: 20% to 80%

2. SUMMARY OF TESTING

2.1. Initial Examination of Product

Specimens were visually examined and no evidence of damage detrimental to product performance was observed. Each specimen was examined for proper alignment to insure the correct orientation of the crimp.

2.2. Contact Retention

Test Group	Number of Data Points	Condition	Contact Retention [kg]		
			Min	Max	Mean
1	20	Contact Retention – Initial	6.8	10.5	9.2

2.3. Final Examination of Product

Specimens were visually examined and evidence of damage to the retention barbs of the contact was observed. Each specimen was examined to identify the failure mode of the retention barb.

3. TEST METHODS

3.1. Initial Examination of Product

Specimens were visually examined in accordance with Product Specification 108-5138, Rev. J2.

3.2. Contact Retention

The force required to dislodge the contact from the housing was measured using a tensile/compression device and a rate of travel of 100 mm per minute. Testing was performed in accordance with Product Specification 108-5138, Rev. J2, Paragraph 8.10.

3.3. Final Examination of Product

Specimens were visually examined in accordance with Product Specification 108-5138, Rev. J2.