



## Double Lock Plates with Alternate Material (1573551-1) for PDL Connectors

### 1. INTRODUCTION

#### 1.1. Purpose

Testing was performed on Double Lock Plates with alternate material (1573551-1) for PDL Connectors to determine its conformance to the requirements of product specification 108-5410 Revision K.

#### 1.2. Scope

This report covers the mechanical performance of Double Lock Plates with alternate material (1573551-1) for PDL Connectors. Testing was performed at the Shanghai Electrical Components Test Laboratory on 29Jun2020. The test file number for this testing is on file and maintained at the TE Shanghai Electrical Components Test Laboratory under TP-20-01198-RCORD.

#### 1.3. Conclusion

All part numbers listed in Paragraph 1.4 conformed to the mechanical environmental performance requirements of product specification 108-5410 Revision K.

#### 1.4. Test Specimens

Test Group	Quantity	Part Number	Description
1	10	177899-1	PDL Plug 3P
	10	179464-1	PDL Cap 3P
	10	177919-1	PDL Double Lock Plate 3P with Current Material (704924-1)
	10	177919-1	PDL Double Lock Plate 3P with Alternate Material (1573551-1)
	10	2232901-1	PDL Rec Contact with 20AWG
	10	177917-1	PDL Tab Contact with 20AWG
2	10	177899-1	PDL Plug 3P
	10	179464-1	PDL Cap 3P
	10	177919-1	PDL Double Lock Plate 3P with Current Material (704924-1)
	10	177919-1	PDL Double Lock Plate 3P with Alternate Material (1573551-1)
3	10	177919-1	PDL Double Lock Plate 3P with Current Material (704924-1)
	10	177919-1	PDL Double Lock Plate 3P with Alternate Material (1573551-1)

Figure 1

1.5. Test Sequence

Test or Examination	Test Groups (a)		
	1	2	3
	Test Sequence (b)		
Contact Retention Force with Double Lock Plate	1		
Double Lock Plate Mating Force		1	
Double Lock Plate Latch Normal Force			1



**NOTE**

- a) See Paragraph 1.4.
- b) Numbers indicate sequence in which tests shall be 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.

Test Group	Test Item	Test Specimen	Unit	Min	Max	Ave	Requirement	Judgment
1	Contact Retention Force with Double Lock Plate	Double Lock Plate with Current Material for Plug	N	94.5	104.3	98.30	41.6 Min	OK
		Double Lock Plate with Alternate Material for Plug		102.7	112.2	107.96		
		Double Lock Plate with Current Material for Cap		87.40	91.20	88.78		
		Double Lock Plate with Alternate Material for Cap		91.30	97.40	93.86		
2	Double Lock Plate Mating Force	Double Lock Plate with Current Material for Plug	N	8.38	9.06	8.73	Equivalent level	OK
		Double Lock Plate with Alternate Material for Plug		6.72	7.94	7.27		
		Double Lock Plate with Current Material for Cap		8.47	9.41	8.98		
		Double Lock Plate with Alternate Material for Cap		6.47	8.59	7.40		
3	Double Lock Plate Latch Normal Force	Double Lock Plate with Current Material	N	4.43	5.24	4.70	Equivalent level	OK
		Double Lock Plate with Alternate Material		7.38	8.66	7.88		

**Figure 3**

### 3. TEST METHODS

#### 3.1 Contact Retention Force with Double Lock Plate

EIA-364-29, Method A

Operation Speed: 100 mm/min

Measure the axial force required to remove contact crimped with wire from Plug or Cap housing assembled with Double Lock plate.



#### 3.2 Double Lock Plate Mating Force

EIA-364-13, Method A

Operation Speed: 100 mm/min

Measure the force required to mate Double Lock Plate with Plug or Cap housing.



#### 3.3 Double Lock Plate Latch Normal Force

EIA-364-04B

Operation Speed: 5 mm/min

Measure the normal force of TPA latches at maximum deflection level 1.0 mm.

