DEUTSCH* DTF Series Connector System

1. INTRODUCTION

1.1. Purpose

This report summarizes the results of testing performed on DEUTSCH DTF series connector system to determine conformance to the requirements of product specification 108-151070.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of the DEUTSCH DTF series connector system. Testing was performed at the DEUTSCH Industrial Products Division Laboratory in 2001. The test file numbers for this testing are listed in Figure 1. This documentation is on file at, and available from Product Engineering, Industrial Commercial Transportation (ICT) Laboratory.

Test Group	Test Report
1	IPD010226-01
2	IPD010226-02
3	IPD010226-03

Figure 1

1.3. Conclusion

The DEUTSCH DTF series connector system products listed in Paragraph 1.4 conform to the electrical, mechanical, and environmental performance requirements given in product specification 108-151070.

1.4. Test Specimens

Test specimens were representative of normal production lots. Specimens identified with the part numbers given in Figure 2 were used for testing.

DEUTSCH PART NUMBER	DESCRIPTION	TEST GROUP
DTF13-2PA	2pin Header Receptacle, 90°	1-3
DTF13-3PA	3pin Header Receptacle, 90°	
DTF13-4PA	4pin Header Receptacle, 90°	
DT06-2S	2pin Plug	
DT06-3S	3pin Plug	
DT06-4S	4pin Plug	
0462-201-16141	Size 16 Solid Socket, Nickel	

Figure 2

1.5. Environmental Conditions

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

Temperature: 15° to 35°C

Relative humidity: 25 to 75%

1.6. Qualification Test Sequence

TEST OR EXAMINATION	TEST GROUP (a)		
	1	2	3
	TEST SEQUENCE (b)		
Examination of Product	1,10	1,10	1,10
Insulation Resistance	3,6,9	3,6,9	3,6,9
Temperature Life	7	7	7
Thermal Cycle	4	4	4
Water Immersion	2,5,8	2,5,8	2,5,8

(a) Specimens were prepared in accordance production drawings and were selected at random from current production.

- Groups 1 specimens consisted of 2-position connectors with DEUTSCH solid terminal system size 16 nickel sockets with 16 AWG wire.
- Groups 2 specimens consisted of 3-position connectors with DEUTSCH solid terminal system size 16 nickel sockets with 16 AWG wire.
- Groups 3 specimens consisted of 4-position connectors with DEUTSCH solid terminal system size 16 nickel sockets with 16 AWG wire.

(b) Numbers indicate sequence that tests were performed.

Figure 3

2. TEST METHODS AND RESULTS

2.1. Examination of Product (Groups 1-3)

A. Procedure: SAE J2030

B. Method: Conduct a visual examination for identification of product, torn seals, cracked plastic, etc.

C. Requirement: Free of defects that could affect the electrical or mechanical performance of the part or degrade the long term performance of the part.

D. Result: **PASSED.**

2.2. Insulation Resistance (Groups 1-3)

A. Procedure: SAE J2030

B. Method: Check each contact to all other contacts and the shell, if shell is conductive. Test to be performed using a 1000 VDC ±10% Megohmmeter.

C. Requirement: ≥ 20 MΩ

D. Result: **PASSED.**

2.3. Temperature Life (Groups 1-3)

A. Procedure: SAE J2030

B. Method: The wired mated connectors shall be subjected to 1000 hours at +125 ±3 °C without current flowing.

C. Requirement: There shall be no evidence of cracking, distortion or detrimental damage to the connector following the test.

D. Result: **PASSED.**

2.4. Thermal Cycle (Groups 1-3)

A. Procedure: DITS 7-303-01

B. Method: Cycle mated connectors from –55 ± 3 °C to +125 ±3 °C at a rate of 3 °C ± 1°C per minute. Connectors to remain at each temperature extreme for 1 hour minimum. Mated connectors are to be cycled a total of 20 complete cycles.

C. Requirement: There shall be no evidence of cracking, distortion or detrimental damage to the connector following the test.

D. Result: **PASSED.**

2.5. Water Immersion (Groups 1-3)

A. Procedure: SAE J2039

B. Method: The wired mated connectors shall be placed in an oven at 125 °C ± 3 °C for 1 hour then immediately be placed in water with a 5% salt in weight content and 0.1 g/L wetting agent, to a depth of 1 meter for 4 hours. Water temperature is to be 23 °C ± 3 °C. The ends of the cable are to be sealed during this test.

C. Requirement: Insulation Resistance ≥ 20 MΩ

D. Result: **PASSED.**

3. REVISION HISTORY

Rev Ltr	Brief Description of Change	Date	Dwn	Apvd
A	Initial Release	14-Oct-2019	DM	DM