

## Specification for HexaShield Adapters for Arinc 600

### 1.0 Introduction

#### 1.1 Scope

This specification covers accessories for use with electrical connectors under non-environmental conditions, and for suppression of radio frequency and electromagnetic interference. Unless otherwise specified, it refers to the SAE-AS85049 for category 3C.

#### 1.2 Description

The HexaShield™ adapters covered by this specification are used to terminate individual shields of a cable bundle. As an option, an overbraid can be terminated as well to the same adapter.

1.3 These adapters are designed to be mounted on Arinc 600 connectors manufactured per AMP, ITT Cannon and Radiall drawings.

1.4 Temperature range: -65°C to +125°C (1000 hours service at the maximum rated temperature).

### 2.0 Requirements

#### 2.1 Materials

2.1.1 Adapter Shell: Aluminum Alloy.

2.1.2 Ferrule: Copper Alloy

2.1.3 SolderShield: Copper Braid tinned with Sn96 per ANSI J-STD-006.

2.1.4 Plating: Electroless Nickel conforming to SAE AMS-C-26074 Class 3 Grade B, with a suitable underplate.

#### 2.2 Performance Requirements

##### 2.2.1 Temperature Cycling

Test in accordance with MIL-STD-1344, Method 1003 (5 cycles with -55 to +125°C). Following the test, the adapter DC Resistance shall meet the requirements specified on 2.2.7.

### 2.2.2 Maintenance Aging

Each sample is dismantled and assembled 10 times. The various components of each adapter can be mixed together during the disassembly. Following the test, the adapter DC Resistance shall meet the requirement specified on 2.2.7.

### 2.2.3 Vibration

Test in accordance with MIL-STD-1344, Method 2005-1, Test Condition V, letter E. There shall be no electrical discontinuities greater than 1  $\mu$ s, and no evidence of cracks, breaks or loosening of parts.

### 2.2.4 Mechanical Shock

Test in accordance with MIL-STD-1344, Method 2004-1, Test condition A. There shall be no electrical discontinuities greater than 1  $\mu$ s, and no evidence of cracks, breaks or loosening parts.

### 2.2.5 Cable Pull-out

Individual ferrules are tested with 4 shielded twisted pairs AWG 22, in accordance with MIL-STD-1344, Method 2009-1. Test Condition A. Each ferrule shall not pull-out. During the test, the adapter DC resistance shall meet the requirement specified on 2.2.7.

### 2.2.6 Salt Spray - Corrosion

Test in accordance with MIL-STD-1344, Method 1001-1, Test Condition letter B. The adapters shall show no exposure of basis metal due to corrosion, which could affect performance.

### 2.2.7 DC Resistance

HexaShield™ adapters shall be tested in accordance with MIL-STD-1344A, method 3004-1 or equivalent test equipment. Test current 1.0  $\pm$ 0.1 ampere.

Voltmeter probes or four wire connections shall be applied as follows: (see figure 1).

- Probes between A and B
- Sample DC resistance = R1 - R2

Where R2 shall be the DC resistance of an equivalent length of cable.

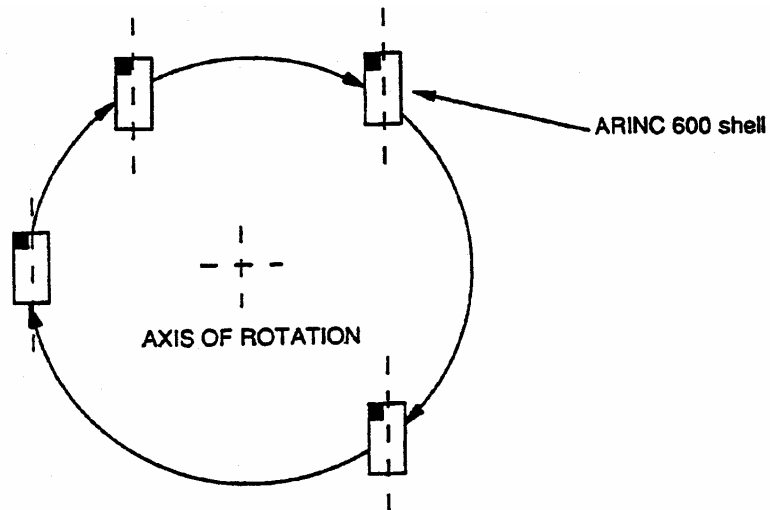
The DC resistance shall not exceed 5.0 mohms before or after conditioning.

### 2.2.8 Post Test Examination

The tested adapters shall be examined for evidence of cracking, loosening of parts, or missing parts.

### 2.2.9 Ferrule Walkout

Test in accordance with the Arinc 600, section 19.5.21. The connector must remain in the same plan as described hereunder.



Following the test, the adapter DC resistance shall meet the requirements specified in 2.2.7

## 3.0 Quality Assurance Provisions

### 3.1 Qualification Inspection

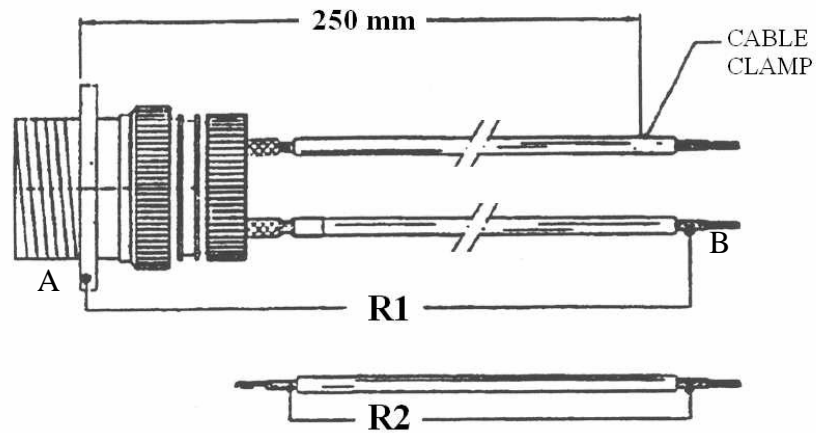
It shall consist of all of the applicable examinations and tests performed in the sequence specified in Table 1, on the qualification test samples. (For each design, one piece per test group).

### 3.2 Qualification By Similarity

For parts which differ in minor details from those submitted for qualification, the manufacturer needs only provide inspection and test data to validate the differences.

**Table 1**

	Sample 1	Sample 2
DC Resistance	X	X
Maintenance Aging		X
Temperature Cycling		X
Vibration	X	
Mechanical Shock	X	
Salt Spray	X	
DC Resistance	X	X
Ferule Walkout		X
Cable pull-out		X
Visual Examination	X	X

**Figure 1**

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