

NUMBER <b>GS-12-1821</b>	TYPE <b>GENERAL PRODUCT SPECIFICATION</b>	<b>Amphenol FCI</b>	
TITLE <b>Minitek MicroSpace™ High Voltage connector</b>		PAGE <b>1 of 6</b>	REVISION <b>A</b>
		AUTHORIZED BY <b>VALLIERE Jérôme</b>	DATE
		CLASSIFICATION <b>UNRESTRICTED</b>	

## 1.0 Objective

This specification defines the performance, test, quality and reliability requirements of the Minitek MicroSpace™ High Voltage product.

## 2.0 Scope

This specification is applicable to the termination characteristics of the Minitek MicroSpace™ High Voltage family of products which provides a unique design enables LV214 Severity-2 and performs at 3.81 mm, 6.35 mm, 8.89 mm pitch. Minitek MicroSpace™ High Voltage will be available in staggered version with top latch configuration.

## 3.0 Ratings

- 3.1 Operating Voltage Rating = 400V – 800V – 1200VAc
- 3.2 Operating Current Rating = 4A max , T° rise : 30° max
- 3.3 Operating Temperature Range = -40°C to +130°C

## 4.0 Applicable Documents

- 4.1 AFCI Specifications
  - 4.1.1 Engineering drawings
  - 4.1.2 Process drawings
  - 4.1.3 Application specification(s)
    - GS-20-0513 : Minitek MicroSpace™ CTW application specification
  - 4.1.4 Material specification(s)
- 4.2 Industry or Trade Association standards
  - 4.2.1 VW 75174: Motor Vehicle Connectors – Test Specification
  - 4.2.2 VW 60330: Crimp Connections – Solderless Electrical Connections
- 4.3 National or International Standards
  - 4.3.1 Flammability: UL94V-0 or similar applicable specification
  - 4.3.2 EIA 364: Electrical Connector/Socket Test Procedures Including Environmental Classifications.
  - 4.3.3 IEC 60512: Connectors for Electronic Equipment – Tests and Measurement
- 4.4 AFCI Laboratory Reports - Supporting Data
- 4.5 Safety Agency Approvals

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## 5.0 Requirements

### 5.1 Qualification

Connectors furnished under this specification shall be capable of meeting the qualification test requirements specified herein.

### 5.2 Material

The material for each component shall be as specified herein or equivalent.

- Contacts – High Conductivity Copper alloy
- Housing – High Temperature Thermoplastic, UL 94V-0

### 5.3 Finish

The finish for applicable components shall be as specified herein or equivalent.

- Full Tin Plated over Nickel underlayer
- Gold plating over Nickel underlayer

### 5.4 Design and Construction

Connectors shall be of the design, construction, and physical dimensions specified on the applicable product drawing. There shall be no cracks, burrs, or other physical defects that may impair performance.

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## 6.0 Electrical, Mechanical and Environmental Tests

Please refer to the Minitek Microspace™ family product specification GS-12-1422 for detailed tests list performed.

ITEM	TESTS	REQUIRMENTS	PROCEDURES
6.1	<b>Breaking Voltage Test For 400V version</b>	<ul style="list-style-type: none"> <li>- Visual inspection</li> <li>- Voltage : 1200VAC</li> <li>- Time : 1min</li> </ul>	EIA-364-20
6.2	<b>Breaking Voltage Test For 800V version</b>	<ul style="list-style-type: none"> <li>- Visual inspection</li> <li>- Voltage : 2500VAC</li> <li>- Time : 1min</li> </ul>	EIA-364-20
6.3	<b>Breaking Voltage Test For 1200V version</b>	<ul style="list-style-type: none"> <li>- Visual inspection</li> <li>- Voltage : 3600VAC</li> <li>- Time : 1min</li> </ul>	EIA-364-20

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## 7.0 QUALITY ASSURANCE PROVISIONS

### 7.1 Equipment Calibration

All test equipment and inspection facilities used in the performance of any test shall be maintained in a calibration system in accordance with ANSI Z-540 and ISO 9000.

### 7.2 Inspection Conditions

Unless otherwise specified herein, all inspections shall be performed under the following ambient conditions:

- a. Temperature: 25 +/- 5 deg C
- b. Relative Humidity: 30% to 60%
- c. Barometric Pressure: Local ambient

### 7.3 Sample Quantity And Description

Refer to called standards.

### 7.4 Acceptance

7.4.1 Electrical and mechanical requirements placed on test samples as indicated in paragraphs 6.0 and 7.0 shall be established from test data using appropriate statistical techniques or shall otherwise be customer specified, and all samples tested in accordance with this product specification shall meet the stated requirements.


7.4.2 Failures attributed to equipment, test setup, or operator error shall not disqualify the product. If product failure occurs, corrective action shall be taken and samples resubmitted for qualification.

### 7.5 Qualification Testing

Qualification testing shall be performed on sample units produced with equipment and procedures normally used in production. The test sequences shall be as shown in the qualification test table. Data shall be provided with the samples noting production history: production lot codes for components and assemblies, components and assemblies produced to print revision \_\_\_, verification of plating composition and thickness, etc.

### 7.6 Re-Qualification Testing

If any of the following conditions occur, the responsible product engineer shall initiate requalification testing consisting of all applicable parts of the qualification test matrix.

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- a. A significant design change is made to the existing product which impacts the product form, fit or function. Examples of significant changes shall include, but not be limited to, changes in the plating material composition or thickness, contact force, contact surface geometry, insulator design, contact base material, or contact lubrication requirements.
- b. A significant change is made to the manufacturing process which impacts the product form, fit or function.
- c. A significant event occurs during production or end use requiring corrective action to be taken relative to the product design or manufacturing process.

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**REVISION RECORD**

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