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Door to Body Connector

1. Scope

1.1 Content

This specification defines the test method for Door to Body connector, terminal and accessories.

1.2 Qualification

When testing the named products, the following specified specifications and standards shall be used.

All tests have to be done using the applicable inspection plan and product.

1.3 Applied Product

- 85216 Cap assembly
- 85218 Plug assembly
- 85217 Retainer housing
- 1897699 Plug assembly
- 1897700 Retainer housing

2. Applicable Documents

The following documents, if they are related, are sequent to this specification.

In case of conflict between the requirements of this specification and the product drawing or in conflict between the requirements of this specification and the referred documents, this specification has precedence

2.1 TE Connectivity Documents

- 109-1 General Requirements for Test Spec.
- 85216 Customer Drawing (Cap assembly)
- 85218 Customer Drawing (Plug assembly)
- 85217 Customer Drawing (Retainer housing)
- 1897699 Customer Drawing (Plug assembly)
- 1897700 Customer Drawing (Retainer housing)

2.2 HKMC specification

- ES-91500-00 HKMC Connector General Spec.
- MS300-08 HMC Combustibility Spec.
- MS300-34 HMC Smell Spec.
- MS201-02 HMC Material Spec.
- MS300-55 HMC VOCs Spec.

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3. Requirements

No.	Items	Characteristics			Remark
1	Appearance	No harmful crack, rust, burr, damage, deformation, discoloration etc.			
2	Connector engage and disengage force	18kgf or less			
3	Reverse insertion between housings	It shall not be incorrectly inserted by applying force of 20kgf			
4	Reverse insertion between terminal and housing	5.0kgf or less			
5	Engage force between terminal and housing	1.5kgf or less			
6	Housing locking strength	10kgf or more			
7	Lock release force	Force on release force point of lock part shall be 6kgf or less			
8	Terminal retention force	8kgf or more at secondary locking condition			
9	Terminal engage and disengage force	Engage force: 0.3~1.0kgf, Disengage force: 0.15~1.0kgf			
10	Crimp strength	Satisfy ES91100-00			
11	Voltage drop	Division	Initial	After endurance	
		070	5 mV/A or less	10 mV/A or less	
		110	3 mV/A or less		
12	Insulation resistance	Division	Initial	After endurance	
		Non-waterproof	100MΩ or more	100MΩ or more	
13	Leakage current	Division	Initial	After endurance	
		Non-waterproof	10 μA or less	1 μA or less	
14	High voltage test	There shall be no insulation break.			
15	Temperature rise	Division	After endurance		
		General Connector	30°C or less		
16	Durability test	See Requirement No: 3.1 / 3.11			
17	Engage/Disengage endurance test	See Requirement No: 3.1 / 3.11			
18	Over-current cycle test	See Requirement No: 3.1 / 3.11 / 3.15 @ Basic current: 2.4A			
19	Low temperature test	See Requirement No: 3.1 / 3.11 / 3.12 / 3.13 / 3.15			
20	High/Low temperature shock test	See Requirement No: 3.1 / 3.11			
21	High temperature test	See Requirement No: 3.1 / 3.11			
22	Temperature/Humidity test	See Requirement No: 3.1 / 3.11 / 3.12 / 3.13			
23	Dust test	See Requirement No: 3.11			
24	Oil and liquid test	See Requirement No: 3.1 / 3.11			
25	Sulfur gas test	See Requirement No: 3.1 / 3.11			

26	Complex environment endurance test	See Requirement No: 3.1 / 3.10 / 3.11 / 3.15	
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4. Test conditions

4.1 Specimen

Unless there is specific mention, initial sample should use for the test specimen, and test specimen shall be 5EA or more for each cavity. However, if performance is expected to be clearly satisfactory ever by applying load to the same specimen in turn, it is possible to apply multiple test items to the same specimen. In such case, performance shall be satisfied with each item.

4.2 Laboratory condition

Perform each test at designated temperature and humidity. And control humidity at designated absorption ratio for the connector which uses absorbent resin housing.

Temperature: 25 ± 5 °C, Humidity: $60 \pm 20\%$