# **Engineering** Report

502-106234

01APR, 2016 Rev.A

## New Generation Grace Inertia Connector 2.5 Glow Wire

## 1. INTRODUCTION

#### 1.1 Purpose

Testing was performed to evaluate the Glow Wire Flammability performance of new generation grace inertia connector 2.5.

#### 1.2 **Scope**

Testing was performed at TE Connectivity Shanghai Electrical Test Laboratory between 30Mar 2016 and 31Mar 2016. The associated test number is TP-16-00936. Testing was conducted in accordance with test specification IEC 60695-2-11 Edition 2.0, 2014-02 and IEC60335-1 Edition 5.1, 2013-12.

#### 1.3 Conclusion

Refer to Section 2- Summary of Testing for the result of glow wire flammability testing.

## 1.4 Test Specimens

Specimens with the following part numbers were used for test: (choose 3pos. and 8pos. as representative)

Test Set	Qty	Part Number	Part Revision	Description		
1	3	3-1971793-1	J	GI2.5 plug housing,3pos.,natural		
2	3	8-1971793-1	J	GI2.5 plug housing,8pos.,natural		
3	3	3-1971798-1	E GI2.5 header assembly,3pos.,nate			
4	3	8-1971798-1	E	GI2.5 header assembly,8pos.,natural		

#### 1.5 **Test Sequence**

<u> </u>	
	Test Sets
Test or Examination	All test set
	Test Sequence
Glow Wire Flammability	1

The numbers indicate sequence in which tests were performed.



## 1.6 Environmental Conditions

Unless otherwise specified, all the test shall be performed in any combination of the following test conditions.

Temperature: 15°C to 35°C Relative Humidity: 25% to 75%

# 2. SUMMARY OF TESTING

# 2.1 Glow Wire Flammability - All Groups

## 750°C Glow Wire Test Results

Specimen	Temperature	Ti(sec)	Te(sec)	Flame Height (cm)	Drops (yes/no)	Light tissue paper burns (yes/no)	Judgment					
Test Set-1 PN 3-1971793-1												
1	750°C	0	0	0	no	no	Meet Spec					
2	750°C	0	0	0	no	no	Meet Spec					
3	750°C	0	0	0	no	no	Meet Spec					
Test Set-2 PN 8-1971793-1												
1	750°C	0	0	0	no	no	Meet Spec					
2	750°C	0	0	0	no	no	Meet Spec					
3	750°C	0	0	0	no	no	Meet Spec					
Test Set-3 PN 3-1971798-1												
1	750°C	0	0	0	no	no	Meet Spec					
2	750°C	0	0	0	no	no	Meet Spec					
3	750°C	0	0	0	no	no	Meet Spec					
Test Set-4 PN 8-1971798-1												
1	750°C	0	0	0	no	no	Meet Spec					
2	750°C	0	0	0	no	no	Meet Spec					
3	750°C	0	0	0	no	no	Meet Spec					

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# Specimen Before and After Testing

Test Set-1, PN 3-1971793-1, GI2.5 plug housing





Test Set-2, PN 8-1971793-1, GI2.5 plug housing



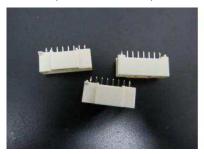


Test Set-3, PN 3-1971798-1, GI2.5 header assembly





Test Set-4, PN 8-1971798-1, GI2.5 header assembly





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## 3. TEST METHODS

## 3.1 Glow Wire Flammability

Prior to testing, all specimens were conditioned in a temperature-humidity chamber at 25°C and 50% relative humidity for a minimum of 24 hours. Test specimens were subjected to the glow wire test as per IEC 60695-2-11 with a test duration of 30 seconds. The glow wire was maintained at a temperature of 750°C. Test specimens were oriented in a manner that would not prevent the material from burning or dripping down onto the specified layer (tissue paper). The measured flame height, flame duration, drops, and condition of the specified layer was recorder above in Section 2. The specimens were considered to have passed the glow wire flammability testing per IEC60335-1, if all of the following conditions were met: a) flames produced during the test did not persist longer than 2 seconds and b) drops produced during the test did not ignite the specified layer (tissue paper).

#### 4. Conclusion

All of the Grace Inertia 2.5 samples can meet GWT750 requirement per IEC specification.

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