TEST REPORT

IEC 60695-2-12 and IEC 60695-2-13

Fire hazard testing - Glowing/hot-wire based test methods – Glow-wire flammability index (GWFI) test method for materials Glow-wire ignition temperature (GWIT) test method for materials

Equipment Under Test (EUT) No...:	**ST-56-68**
Testing Laboratory Name .....:	**Electrical and Electronic Products Testing Center**
Address .....:	PTEC Building, King Mongkut's Institute of Technology Ladkrabang, Chalongkrung Road, Ladkrabang, Bangkok, 10520, Thailand
Applicant's Name .....:	**Twothousand Progress Co., Ltd.**
Address .....:	81/17 Moo 1 Leabklongseevaparsavat Rd., Nadee, Muang, Samutsakorn
Test specification	
Standard .....:	IEC 60695-2-12:2010 IEC 60695-2-13:2010
Non-standard test method .....:	N/A
Test item description .....:	MMwall
Trademark .....:	-
Model and/or type reference .....:	-
Serial number .....:	-
Date of receipt of test item .....:	6 June 2013
Date(s) of performance of test .....:	15-18 July 2013
Date of report issue .....:	24 July 2013

Tested by

N. Ruengrit.

(Mr. Ruengrit Ninae)
Engineer

Approved by

A. Meemoosor

(Mr. Anake Meemoosor)
Operation Manager

1. Summary of testing

1) Glow-wire flammability index (GWFI) 750/3.0
2) Glow-wire ignition temperature (GWIT) 775/3.0

2. Material under Test description

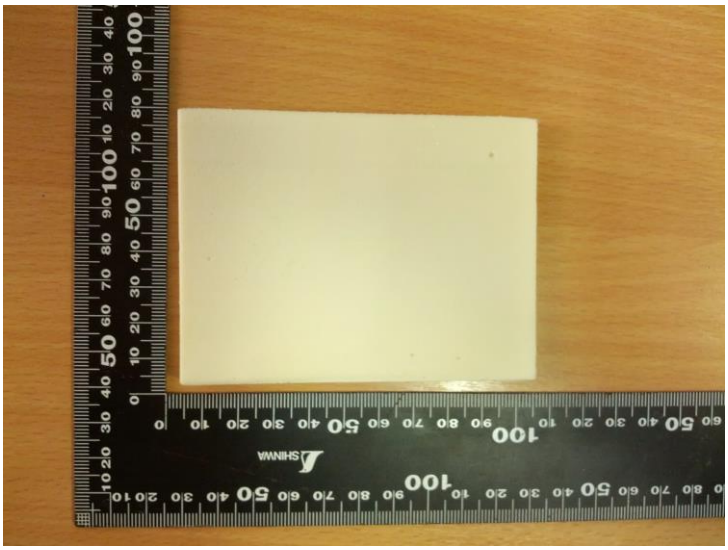

Figure 1 Material under Test

3. Standard reference

- IEC 60695-2-12:2010 Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials
- IEC 60695-2-13: 2013 Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignition temperature (GWIT) test method for materials

4. Test equipment

Equipment name	Trade name	Model	S/N	Traceability
Glow Wire tester	Testing	T4-08	23/04	NIMT

5. Test setup

5.1 Glow-wire flammability index (GWFI) test method

a) This test is used to determine the glow wire flammability index.
b) Pre-treatment::48 h/23 °C/50 % rel. humidity
c) -The temperature of the tip of the glow-wire is 550°C,600C 650°C,700°C, 750°C, 800°C ,850°C 900°C and 950°C.
d) Test criterion for three consecutive test pieces of the same thickness:
   - Highest temperature at which the flames or glowing are extinguished within 30s of removing the glow wire.
   - In addition, the tissue paper underlay beneath the test specimen must not ignite.
   - The test specimen does not ignite.

5.2 Glow-wire ignition temperature (GWIT) test method

a) This test is used to determine the glow wire ignitability temperature.
b) Pre-treatment:48 h/23 °C/50 % rel. humidity.
c) The temperature of the tip of the glow-wire is 550°C,600C 650°C,700°C, 750°C, 800°C ,850°C 900°C and 950°C.
d) Test criterion for three consecutive test specimen of the same thickness:
e) The highest temperature at the end of the glow wire at which there is no ignition during the contact time (ignition that lasts for longer than 5s).
f) The glow wire ignition temperature is the temperature that is 25 °C higher than the highest temperature measured at the end of the glow wire.

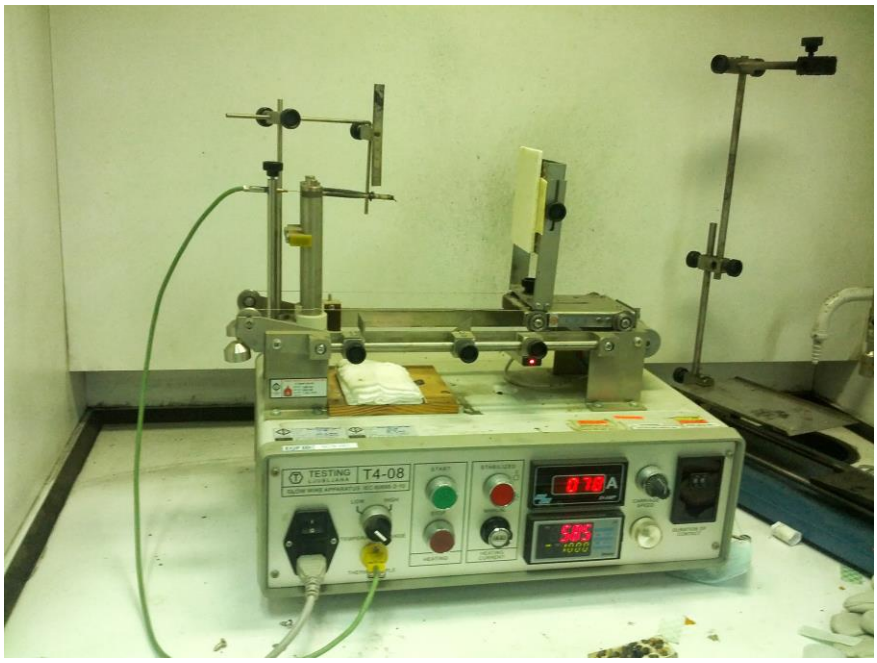

Figure 2 Glow-wire tests

6. Test result

6.1 Glow-wire ignition temperature (GWIT) test method for materials

Dimension of Samples: 75mm x 100mm x 3 mm

Applications	Test Temperature (°C)	Ignition of test sample (Yes/No)	Ignition of wrapping tissue (Yes/No)	t_i (/s)	Result
1	500	No	No	-	Pass
2		No	No	-	
3		No	No	-	
1	550	No	No	-	Pass
2		No	No	-	
3		No	No	-	
1	600	No	No	-	Pass
2		No	No	-	
3		No	No	-	
1	650	No	No	-	Pass
2		No	No	-	
3		No	No	-	
1	700	No	No	-	Pass
2		No	No	-	
3		No	No	-	
1	750	No	No	-	Pass
2		No	No	-	
3		No	No	-	
1	800	Yes	No	82	Fail
2		Yes	No	79	
3		Yes	No	74	
1	775	No	No	-	Pass
2		No	No	-	
3		No	No	-	
Reported GWFT : 775/3.0					

6.2 Glow-wire flammability index (GWFI) test method for materials

Dimension of Samples: 75mm x 100mm x 3 mm

Applications	Test Temp.	Ignition of test sample (Yes/No)	Ignition of wrapping tissue (Yes/No)	t_i (/s) (Sec)	t_e (/s) (Sec)	Result
1	750	No	No	-	-	Pass
2		No	No	-	-	
3		No	No	-	-	
1	800	Yes	No	1	82	Fail
2		Yes	No	1	79	
3		Yes	No	1	74	
Reported GWFI : 750/3.0						

ti: The duration from the beginning of tip application up to the time at which the test specimen or the tissue placed below it ignites:
te: The duration from the beginning of tip application up to the time when flames extinguish during or after the period of application

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