

Introduction

Proficiency testing should be an accurate representation of each laboratory's day-to-day operations. Consequently, laboratories should treat this program in the same manner as a customer request and follow its normal procedures for all aspects of their work. This includes contract review, safety assessments, laboratory testing and the reporting of results.

The following instructions relate to the Test Work. Perform only those tests in scope for your laboratory.

20 pieces of one sample are provided. These are labelled "Sample A"

Program Aim:

On program completion, participants will gain an objective measure of their test performance when compared to other laboratories.

Reference Standards and other Applicable Documents

- *IEC 60695-2-10 Edition 2*
- *IEC 60695-2-13 Edition 2.1*
- *IEC 60695-11-5 Edition 2*
- ISO/IEC 17025:2017

Sample Conditioning

Condition all samples for a minimum of 48 h at 23 °C ± 2 °C and relative humidity between 40 % RH and 60 % RH. Test the pieces within 4 hours after removal from the conditioning environment.

Sample Testing

1. In all cases, perform test work in accordance with the standard. (If required, sample pieces may be retested for verification purposes after removing all debris and residues from their surface and reconditioning in accordance with the above clause.)
2. **Glow Wire Test: refer to IEC 60695-2-10 Ed 2.0**
 - a) The test temperatures are **between 600 °C and 900 °C**. Each material is to be tested at each temperature.
 - b) The glow wire application time is 30 s ± 1 s.
 - c) The tip of the glow wire shall be applied to the centre of the planar area of the surface as required by clause 7.1c

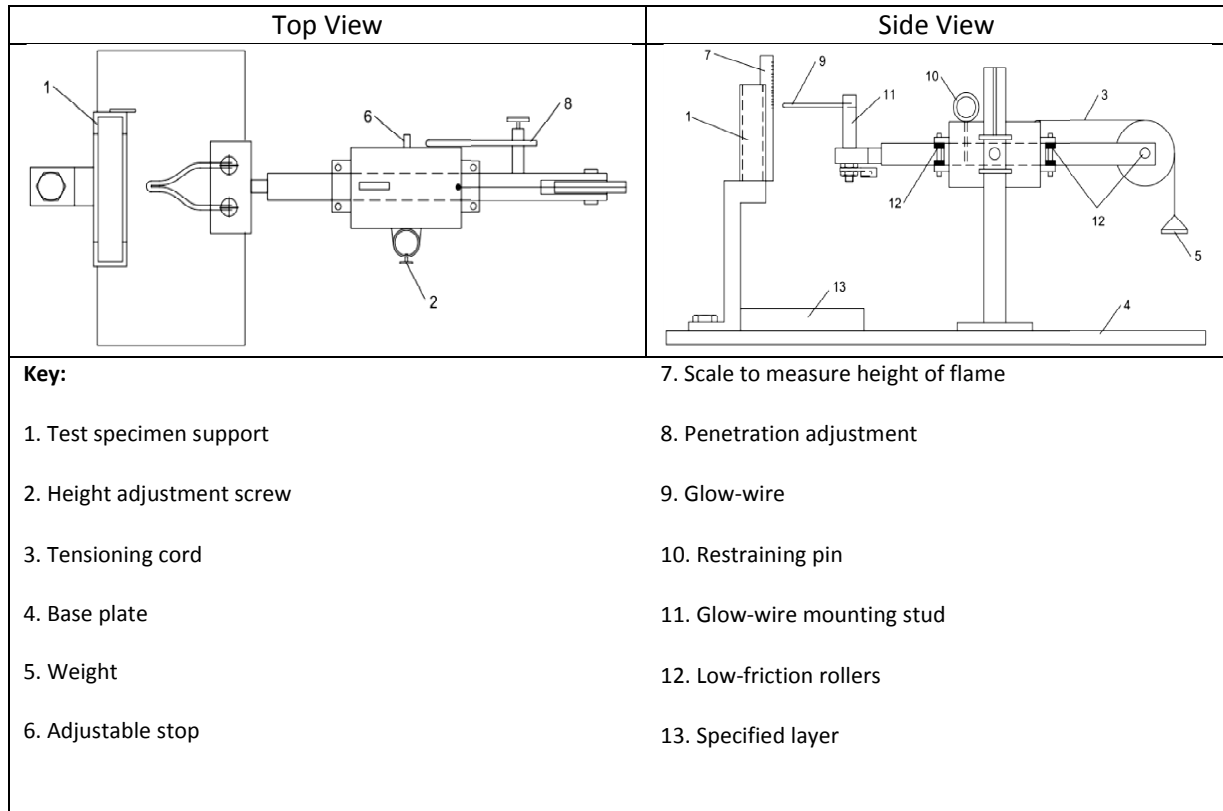
20e29.1 - Glow Wire Test & Needle Flame Test



DRAFT INSTRUCTIONS

⚠ Due Date for Results: TBA ⚠

Result Entry will close at MIDNIGHT AUSTRALIAN EASTERN TIME ON THE DUE DATE



- d) The specified layer indicated by clause 4.4 shall be used. Conditioning of the specified layer shall be performed according to cl.6. For the purposes of consistency with participants, continue observing the layer for 2 minutes after the removal of the glow wire.
- e) In addition to reporting whether ignition occurred during the glow wire application, please also report (in cases of ignition only):
- I. The number of seconds elapsed between application of the glow wire and ignition.
 - II. Whether the flame persisted for 30 seconds or more after removal of the glow wire. In cases where persistent flames are noted, indicate in the comments field whether this applies to the plastic, the specified layer or both.

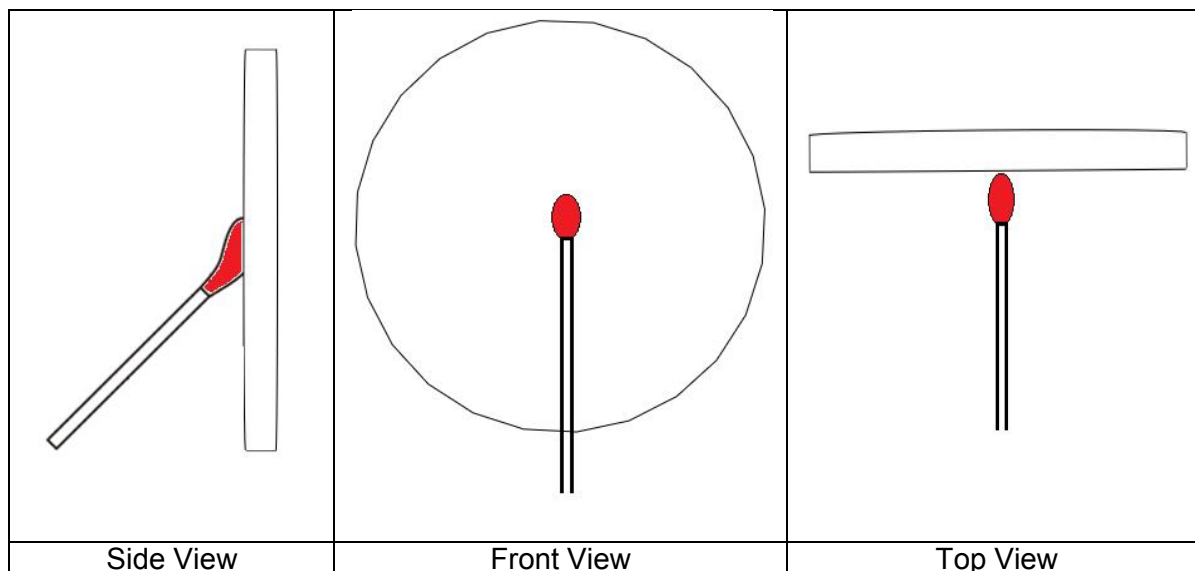
3. Modified Glow Wire Ignition Temperature (GWIT): refer to IEC 60695-2-13 Ed 2.1

If within your laboratory's scope, confirm and report the glow wire ignition temperature according to IEC 60695-2-13 with modifications as indicated below:

- a. Disregard clause 4. Test the provided test specimens as delivered.
- b. Clauses 5 to 10 shall be applied with the following differences:
 - i. The data obtained during the previous steps of the PTP shall be used to determine the initial test temperature (cl. 8.2).
 - ii. Observations according to clause 9 should be made, but it is not required to report them in the PTP.
- c. Report the glow wire ignition temperature according to clause 10.
- d. Clause 11 need not be applied.

4. Needle Flame Test: refer to IEC 60695-11-5 Ed 2.0

- a. The needle flame shall be applied to the planar surface of the specimen as shown in Figure 2b of the standard, plus the below supplementary information. **DO NOT TEST THE EDGES OF THE SPECIMENS.**



- b. The needle flame application time shall be 60 s. The tolerance for all values is $\begin{matrix} 0 \\ -1 \end{matrix}$ s.
- c. The specified layer indicated in clause 5.6.1 shall be used. For the purposes of consistency with participants, continue observing the layer for 2 minutes after the removal of the needle flame.
- d. Report duration of burning in accordance with clauses 10 and 11.
(If greater than 60 s, extinguish all burning/glowing material and report >60.)

Due Date

Results will not be accepted via the online result entry facility after the due date. Results submitted after the due date will only be accepted upon payment of a late fee.

Reporting the Results

An explanation of the questions can be found in Table 1 overleaf.

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For information regarding the reporting of results, please refer to the Result Entry Guide:

<https://www.ifmqs.com.au/proficiency/Guides/Internet%20Result%20Entry%20Guide%20-%20Electrical.pdf>

After Testing and Reporting

Please retain the samples, your test notes and records, in the event a re-test is required.

Questions/Comments

Please direct questions or comments to: ingridflemming@ifmqs.com.au

Table 1: Definitions

Glow Wire Test			
	Question	Definition / Instruction	Reporting Unit
E01	GW Brand	Glow Wire Tester Brand name -(if made in house, enter "house made".)	
E02	GW Model	Glow Wire Tester Model number	
E03	GW Last Cal Date	Date of last full, formal calibration of glow wire tester	YYYY/MM/DD
E04	GW Next Cal Date	Date when next full, formal calibration of glow wire tester is due	YYYY/MM/DD
E05	GW Verification tests	Is there a formal glow wire test <u>verification</u> procedure within your laboratory? In the results field, enter "yes" or "no". (The verification procedure must be separate to formal <u>calibration</u> and confirms the proper function of the glow wire tester on a given day.) If yes, outline in the comments field, what this formal procedure entails.	Yes/No
E06	GW Verification frequency	Only complete this field if the answer to the above question is yes. Please indicate the frequency of these verification activities. (e.g., before/after each test, daily / weekly / monthly, etc.)	
Glow Wire 675 °C			
Q01	GW 675 Current	Report the current observed when the glow wire temperature is stable at 675 °C	A
Q02	GW 675 Ignition	Report Yes if the sample ignited with 675 °C glow wire test. Report No if no ignition occurred.	Yes/No
Q03	GW 675 Time to Ignite	If the answer to question 2 is Yes , report the elapsed time between application of the glow wire loop and occurrence of ignition. Leave this field blank if ignition did not occur.	sec
Q04	GW 675 Flame Persistent	If the answer to question 2 is Yes , report whether the flame persisted 30 seconds or longer after removal of the glow wire loop. Report Yes if flames persisted. Report No if flames did not persist. Leave this field blank if ignition did not occur.	Yes/No
Q05	GW 675 Layer Ignition	Report Yes if the specified layer ignited with the 675 °C glow wire test. Report No if the specified layer did not ignite.	Yes/No
Glow Wire 725 °C			
Q06	GW 725 Current	Report the current observed when the glow wire temperature is stable at 725 °C	A
Q07	GW 725 Ignition	Report Yes if the sample ignited with 725 °C glow wire test. Report No if no ignition occurred.	Yes/No
Q08	GW 725 Time to Ignite	If the answer to question 7 is Yes , report the elapsed time between application of the glow wire loop and occurrence of ignition. Leave this field blank if ignition did not occur.	sec
Q09	GW 725 Flame Persistent	If the answer to question 7 is Yes , report whether the flame persisted 30 seconds or longer after removal of the glow wire loop. Report Yes if flames persisted. Report No if flames did not persist. Leave this field blank if ignition did not occur.	Yes/No
Q10	GW 725 Layer Ignition	Report Yes if the specified layer ignited with the 725 °C glow wire test. Report No if the specified layer did not ignite.	Yes/No

Glow Wire Ignition Temperature			
	Question	Definition / Instruction	Reporting Unit
Q11	GWIT	Report the glow wire ignition temperature of the material	°C
Needle Flame Test			
E07	NF Last Cal Date	Date of last full, formal calibration of Needle Flame tester	YYYY/MM/DD
E08	NF Next Cal Date	Date when next full, formal calibration of Needle Flame tester is due	YYYY/MM/DD
E09	NF Verification tests	Is there a formal needle flame test <u>verification</u> procedure within your laboratory? In the results field, enter "yes" or "no". (The verification procedure must be separate to formal <u>calibration</u> and confirms the proper function of the needle flame tester.) If yes, outline in the comments field, what this formal procedure entails.	Yes/No
E10	NF Verification frequency	Only complete this field if the answer to the above question is yes. Please indicate the frequency of these verification activities. (e.g., before/after each test, daily / weekly / monthly, etc.)	

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Q12	Needle Flame ignition	After applying the 60 s needle flame test and removing the needle flame: Report Yes if ignition was observed. Report No if ignition was not observed.	Yes/No
Q13	Needle Flame Layer Ignition	Enter Yes if the specified layer ignited. Enter No if the specified layer did not ignite.	Yes/No
Q14	Needle Flame Burn Time	If the answer to question 12 or 13 is Yes , report the duration of burning for needle flame test in accordance with clauses 10 and 11. If burning persists longer than 60 seconds, extinguish the sample (or specified layer) and report >60. If there was no ignition, leave this field blank.	sec