

IEC 60695-2-10 Glow Wire Tip

Precision Heating Element for Glow Wire Flammability Testing



Standard: IEC 60695-2-10:2021 Figure 1

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1. Product Overview

The KingPo IEC 60695-2-10 Glow Wire Tip serves as the critical heating element in glow wire flammability testing. It is heated to a specified temperature and applied to test specimens to assess their ignition resistance and flame behavior under controlled conditions.

This Glow Wire Tip is precision-formed from high-grade Nickel/Chromium alloy to maintain dimensional stability during repeated high-temperature exposure. Proper annealing during the manufacturing process helps prevent fine cracking at the tip, ensuring reliable performance and extended service life in laboratory testing environments.

2. Applicable Standards

- **IEC 60695-2-10:2021 Figure 1** — Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods – Glow-wire apparatus and common test procedure
- This tip is the standardized heating element used in glow wire test apparatus for evaluating the ignition resistance of materials.

3. Test Purpose

In glow wire testing, the Glow Wire Tip is electrically heated to a specified temperature and then applied to the test specimen under defined force and duration. The test assesses the material’s tendency to ignite and the duration of any sustained flaming after the heat source is removed.

Consistent tip dimensions and material properties are essential for achieving reliable and repeatable test results. Variations in tip condition or geometry can lead to inconsistent heat transfer, affecting the accuracy and reproducibility of flammability evaluations.

4. Key Features

- **Precision Nickel/Chromium Alloy** — High-purity material (>77% Ni, 20 ± 1% Cr) for excellent high-temperature performance and dimensional stability.
- **Standard-Compliant Geometry** — Manufactured exactly to IEC 60695-2-10:2021 Figure 1 dimensions (4.0 mm ± 0.07 mm diameter before bending, 80 mm length after bending).
- **Thermocouple Hole** — 1.05 mm diameter hole for precise temperature measurement and monitoring.
- **Annealed for Durability** — Annealing during manufacturing minimizes cracking at the tip for extended service life.
- **Standard Terminal Configuration** — 36 mm width between terminals for compatibility with standard glow wire apparatus.
- **Quality Inspected** — Each tip is inspected for dimensional accuracy before delivery.

5. Technical Specifications

Parameter	Specification	Notes
Applicable Standard	IEC 60695-2-10:2021 Figure 1	Glow wire test method
Material	Nickel/Chromium (>77% Ni, 20 ± 1% Cr)	High temperature resistant alloy
Diameter (before bending)	4.0 mm ± 0.07 mm	Critical dimension for test consistency
Length (after bending)	80 mm	Per IEC 60695-2-10 requirement
Thermocouple Hole	1.05 mm diameter	For accurate temperature monitoring
Width Between Terminals	36 mm	Standard configuration
Annealing	Performed during forming	Prevents cracking at the tip

6. Testing Principle

In glow wire testing, the IEC 60695-2-10 Glow Wire Tip is electrically heated to a specified temperature and then applied to the test specimen under defined force and duration. The test assesses the material’s tendency to ignite and the duration of any sustained flaming after the heat source is removed.

Consistent tip dimensions and material properties are essential for achieving reliable and repeatable test results. Variations in tip condition or geometry can lead to inconsistent heat transfer, which may affect the accuracy and reproducibility of flammability evaluations across different laboratories and operators.

7. Typical Usage & Maintenance Notes

- Use a properly calibrated thermocouple inserted in the 1.05 mm hole to monitor temperature.
- Inspect the tip before each use for deformation, oxidation, cracks, or damage.
- Perform annealing when forming new tips to reduce cracking risk.
- Regularly check condition and replace when wear, deformation, or inconsistent heating appears.
- Maintain correct alignment and consistent contact force during testing.

8. Applications

- Flammability Testing Laboratories — Routine glow wire testing according to IEC 60695-2-10
- Electrical & Electronic Product Manufacturers — Material safety evaluation and compliance
- Certification Bodies — Standardized flammability testing and verification
- Research Institutions — Material combustion and ignition behavior studies
- Quality Control Departments — Incoming material inspection and flammability verification

9. Standard Configuration

Each Glow Wire Tip is supplied as:

- Precision-manufactured Nickel/Chromium alloy tip per IEC 60695-2-10:2021 Figure 1
- 4.0 mm $\pm$ 0.07 mm diameter before bending, 80 mm length after bending
- 1.05 mm thermocouple hole and 36 mm terminal width
- Annealed during manufacturing for durability

Note: Regular inspection of tip condition is recommended. Replace when wear or deformation is evident.

10. Ordering Information

To ensure correct supply, please confirm the following when requesting a quotation:

- Quantity required
- Any specific packaging or documentation requirements
- Need for technical support or usage guidance

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