

# TECHNICAL DATA SHEET

## UL 94 Horizontal & Vertical Flame Tester

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### 1. Product Overview

The **UL 94 Horizontal & Vertical Flame Tester** is a fire testing instrument designed to evaluate the flammability characteristics of **plastics and polymeric materials** used in electrical devices, appliances, and automotive applications. It determines the material's ability to **self-extinguish or propagate flames** under controlled conditions.

□ **Product Page:** <https://sites.google.com/view/kdmglobal/ul-94-horizontal-vertical-flame-test>

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### 2. Standards Compliance

This instrument complies with the following international standards:

- **UL 94** – Standard for Flammability of Plastic Materials for Parts in Devices and Appliances.
  - **IEC 60695-11-10 / IEC 60695-11-20** – Fire hazard testing.
  - **ASTM D635** – Rate of burning and/or extent and time of burning of plastics.
  - **ASTM D3801** – Measuring the comparative burning characteristics of plastics.
  - **ISO 9772 & ISO 9773** – Small-scale laboratory tests for determining the flammability of plastic materials.
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### 3. Technical Specifications

Feature	Specification
Test Method	Horizontal and vertical burning tests for plastic materials
Flame Application Time	Adjustable (1s – 999.9s)
Afterflame & Afterglow Time	Digital timer-controlled
Gas Supply	Methane or propane (adjustable flame intensity)
Burner Angle	20°, 45°, and 90° adjustable
Specimen Size	125mm x 13mm (UL 94 HB, V-0, V-1, V-2)
Flame Height	20mm to 125mm (adjustable)

Feature	Specification
Control System	Digital touch screen interface
Safety Features	Flame shut-off, exhaust system, emergency stop

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## 4. Test Principle

1. The **plastic specimen** is mounted in a horizontal or vertical position.
  2. A **controlled flame source** is applied for a defined duration.
  3. The material's **afterflame and afterglow times** are measured.
  4. The test determines the classification of the material based on self-extinguishing ability:
    - **UL 94 HB (Horizontal Burning)** – Slow burning rate classification.
    - **UL 94 V-0, V-1, V-2 (Vertical Burning)** – Self-extinguishing properties.
  5. The classification helps assess the **fire resistance** of plastic materials.
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## 5. Applications

The **UL 94 Flame Tester** is widely used for safety evaluations in:

- **Electrical & Electronics** – Testing plastic casings, circuit boards.
  - **Automotive Industry** – Evaluating interior polymeric materials.
  - **Household Appliances** – Assessing fire risk in plastic components.
  - **Building & Construction** – Fireproof materials for insulation.
  - **Aerospace & Railway** – Compliance with flame retardancy standards.
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## 6. Power and Gas Requirements

- **Electrical Requirements:** 230V, 50Hz (customizable for other regions).
  - **Gas Supply:** Methane or Propane with adjustable flame height.
  - **Compressed Air:** Required for precise flame control.
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## 7. Included Accessories

- **Adjustable specimen holder** for horizontal and vertical testing.
- **Precision gas control system** for accurate flame application.
- **Digital timer and afterflame measurement system.**
- **Exhaust system** for safe fume extraction.
- **Comprehensive software for automated test reporting.**

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## 8. Why Choose KDM Global?

- **Precise and reliable flammability testing** for various plastics.
  - **User-friendly digital control system** with automated reporting.
  - **Highly adjustable flame height** for accurate burn evaluation.
  - **Robust stainless-steel construction** for long-term reliability.
  - **Comprehensive technical support and after-sales service.**
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## 9. Contact Us

For inquiries, pricing, or customization options, contact us:

- **Email:** [saleskdmglobal@gmail.com](mailto:saleskdmglobal@gmail.com)
  - **Phone:** +91 8218470498 / +91 7983475310
  - **Website:** <https://sites.google.com/view/kdmglobal/>
  - **Product Page:** <https://sites.google.com/view/kdmglobal/ul-94-horizontal-vertical-flame-test>
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Providing Reliable Fire Testing Solutions for Global Safety.

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