

TXL-YAN-005 / 27 October 2026 · One-year manufacturer warranty

UL94 / IEC 60695 Burn Tester

Test cabinet for assessing horizontal and vertical burning behaviour of plastics. Configure burner, flame power, specimen support and timing for the selected UL/IEC/ASTM submethod.



Model technical data

1	Test flame: 50 W and 500 W.
2	Flame height: 20-175 mm.
3	Bunsen burner diameter: 9.5 mm ± 0.5 mm.
4	Burner tube: 9.5 mm ± 0.3 mm inner diameter, 100 mm ± 10 mm length.
5	Burner angle: 0°, 20°, 45°.
6	Temperature measurement range: 0-1000 °C.
7	Flowmeter: 105 ± 10 ml/min and 965 ± 30 ml/min.
8	Digital timers with 0.1 s resolution.
9	Power supply: 230 V, 50 Hz. Gas: methane (min. 98% purity, not supplied).
10	Switchable horizontal/vertical test program and top exhaust extraction fan.

Physical specifications and utilities

Electrical supply	Power supply: 230 V, 50 Hz. Gas: methane (min. 98% purity, not supplied).
Power / connected load	Approx. 50–200 W connected load for preliminary planning.
Overall instrument dimensions	Approx. 1400 × 900 × 1500 mm (W × D × H); 1 kW chamber option.
Instrument weight	Approx. 70–130 kg net.
Gross / shipping weight	Approx. 102–187.5 kg gross; estimated packing allowance.
Gas requirements	Power supply: 230 V, 50 Hz. Gas: methane (min. 98% purity, not supplied).
Lab requirements	Method-specified test gas, regulator and exhaust / fume hood; gas type and flow follow the selected method and burner.

Dimension order and approximate values are stated in each row. Packaging data are separate from instrument dimensions and net mass. Approx. rows are preliminary engineering estimates based on comparable equipment and function/capacity; they are not verified manufacturing measurements or standard requirements. Installation and shipment are finalised against the approved drawing and nameplate. Estimate scope: base product / one unit; external computer, bench and auxiliary plant excluded.

Specifications, dimensions, and power requirements are approximate and subject to change without prior notice for continuous design improvements.

Product technical specifications and images may vary according to manufacturing conditions and applicable standards.

Test and configuration

Measured output / function	Burning behaviour using HB/V methods
Parameters selected for the method	Horizontal/vertical setup, burner, cotton indicator and timing
Verification points	Burner/gas flow, geometry and timing

Control and recording specification

Method-specific software and recording requirements follow. Delivered software modules are defined by the order scope.

- Method code and edition, specimen ID, operator and selected test parameters are linked to the record.
- The calculation and endpoint are defined by the selected method edition; instrument signals and operator assessments are kept distinct.
- Raw measurements, units, valid/invalid test flags and the reported result remain traceable.
- Calculations are checked against known inputs and an independent calculation; sensor channels are checked against calibration values.

Related test methods

UL 94 · IEC 60695-11-10 · ASTM D635 · ASTM D3801 · ASTM D4986 · ASTM D4804 · ASTM D5048 · ISO 9772 · ISO 9773 · IEC 60695-11-2 · IEC 60695-11-20

Listed methods are application references. Suitability is established by assessing hardware, method edition and calibration together.

Test parameters for the reviewed method

The values below were reviewed in selected clauses of the stated source edition. They are not a declaration of equivalence to a later edition or independent instrument verification.

ASTM D4986-98 / 6.3, 6.5–6.6, 7.1

1	The cellular-plastics submethod requires a wing top with a 48 ±1 mm by 1.3 ±0.05 mm opening and a 6.4 mm mesh support; maximum specimen thickness is 13 mm. This fixture is distinct from solid-plastics horizontal/vertical setups; verify the selected hardware.
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ASTM D635-03 / 6.3–6.7, 9

1	The horizontal plastics submethod requires a D5025-type burner, uniform gas flow and a timing device accurate to 0.5 seconds. Record burning time and distance separately; verify burner/flame calibration for the horizontal method. Vertical and foam-plastic fixtures are distinct.
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ISO 9773:1998 / 6.1-6.15

1	Vertical thin-flexible-plastic method: draught-free enclosure at least 0.5 m ³ ; 50 W burner, length 100 ± 10 mm and bore 9.5 ± 0.3 mm. Methane at least 98%; timer resolution 0.1 s; mandrel 13 ± 0.5 mm. Select the VTM fixture separately.
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UL 94:2013, revision 2014-07-11 / 5

1	UL 94 apparatus check: draught-free enclosure at least 0.5 m ³ ; burner length 100 ± 10 mm, bore 9.5 ± 0.3 mm; timing to 0.1 s. HB/V, 5V and VTM configurations require different flames and fixtures; one setup does not cover every class.
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ISO 9772:2020 / SIST ISO 9772:2022 / 5.1-5.7

1	Cellular-plastic horizontal method: wing-top burner opening 48 ± 1 × 1.3 ± 0.05 mm, support gauze approximately 215 × 75 mm and specimen-to-burner gap 13 ± 1 mm. Draught-free chamber at least 0.5 m ³ ; the normal UL 94 vertical fixture alone does not provide this arrangement.
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ASTM D3801-00 / 4.1, 6.1-6.5

1	Vertical solid-plastic burning requires a draught-free chamber at least 0.5 m ³ , methane at least 98% and timer accuracy 0.5 s. Apply flame twice for 10 s; record afterflame after the first exposure and afterflame/afterglow after the second.
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IEC 60695-11-10:2013 / 5.1, 6.1-6.10

1	50 W horizontal/vertical plastic burning requires a draught-free chamber at least 0.5 m ³ , IEC 60695-11-4 burner and timer resolution at most 0.5 s. HB and V use different fixtures; the 500 W 5VA/5VB method is distinct.
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IEC 60695-11-2:2017 / GOST IEC 60695-11-2:2017 (IDT) / 4.1–4.2, 5.1–5.3, 6.1–6.3

1	This reference concerns a 1 kW premixed flame and requires a suitable burner/control option distinct from the 50/500 W arrangement. Propane purity ≥95%; method A flows at 23 °C/0.1 MPa: propane 650 ± 10 cm ³ /min, clean air 10.0 ± 0.3 dm ³ /min. Chamber internal volume ≥1.0 m ³ .
2	Flame confirmation: copper block heats from 100 ± 5 °C to 700 ± 3 °C in 46 ± 6 s; timing error ±0.5 s. Record flows and confirmation results with the recipe. 1 kW denotes thermal output, not electrical consumption.

IEC 60695-11-20:2015 + Cor.1:2016 / GOST IEC 60695-11-20:2017 (IDT) / 6.1–6.11, 8.1–8.3

1	500 W flame method: chamber internal volume ≥0.5 m ³ , dark surfaces, <20 lx at specimen; timer resolution ≤0.5 s. Burner is separately verified to IEC 60695-11-3 method A/C. Extraction is off during testing and on afterwards.
2	Bar specimen: five flame applications, 5 ± 0.5 s on / 5 ± 0.5 s withdrawn; operational burner angle 20 ± 5°, inner-cone tip 0–3 mm from specimen. Record afterflame/afterglow, cotton ignition and plate burn-through separately.

ASTM D5048-97 / 10.1.1, 10.1.3–10.1.4

1	1997 method: draught-free environment; bar-test burner angle 20 ± 5°. Five applications, each 5 ± 0.5 s flame / 5 ± 0.5 s withdrawn. Record post-test afterflame/afterglow and cotton-igniting drips.
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