

TXL-GEN-002 / 27 October 2026 · One-year manufacturer warranty

UV Weathering / Ageing Tester

Uses fluorescent UV lamps, temperature and moisture cycles for accelerated material weathering. Condensation and water spray steps simulate outdoor exposure.



Model technical data

1	Principle: fluorescent UV, temperature and moisture cycles.
2	Lamp arrangement: 4 per side, 8 fluorescent UV lamps in total.
3	Lamp options: UVA-340, UVB-313 or UVA-351, selected with the method.
4	UV irradiance: closed-loop control with sensor feedback.
5	Operator interface: 7-inch touchscreen PLC/HMI.
6	Moisture stages: condensation and water spray.
7	Data interface: Ethernet; PC software and printer are optional.
8	Access from both sides; lamp family and irradiance calibration are specified together.

Physical specifications and utilities

Electrical supply	Approx. 220–240 V AC, 50/60 Hz, single phase; build-dependent.
Power / connected load	Approx. 1500–2500 W connected load for preliminary planning.
Overall instrument dimensions	Approx. 1400 × 600 × 1450 mm (W × D × H).
Instrument weight	Approx. 120–180 kg net.
Gross / shipping weight	Approx. 157–250 kg gross; estimated packing allowance.
Interfaces	Data interface: Ethernet; PC software and printer are optional.
Lab requirements	Ventilation; suitable purified water and drain for condensation / spray options.

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	Colour, surface and property changes after UV exposure
Parameters selected for the method	Lamp family, irradiance, temperature, time and moisture cycle
Verification points	Irradiance sensor, specimen temperature and cycle record

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.
- Irradiance, temperature and moisture stages are time-aligned; spectral band and integration interval are stated when calculating dose.
- 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

ASTM G154 · ASTM D4329 · ISO 4892-3 · ISO 16474-3 · EN 927-6

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.

ISO 4892-3:2013 / 4.1.1

1	UVA-340, UVA-351 and UVB-313 lamps have different spectral distributions, with peaks around 343, 353 and 313 nm respectively. Record lamp type, irradiance measurement band and cycle together; recipes are not assumed equivalent.
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ISO 16474-3:2013 + corrigendum 2015 / 5.1.1

1	For paint/varnish UV exposure, UVA-340 (1A), UVA-351 (1B) and UVB-313 (2) sources are selected separately. Measured irradiance, lamp type and exposure cycle must remain traceable in the report.
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EN 927-6:2018 / 5, 7.3.1-7.3.3

1	Exterior-wood-coating cycle: 24 h condensation at 45 ± 3 °C; then 48 repetitions of 2.5 h UV (60 ± 3 °C; 0.89 W/(m ² ·nm) at 340 nm) and 0.5 h spray with UV off. Repeat the weekly cycle 12 times, totalling 2016 h.
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ASTM G154-06 / 4.2, 6.1-6.1.3

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| 1 | Fluorescent-UV exposure records lamp type, irradiance, moisture step, temperature and duration separately. UVA-340, UVA-351 and UVB-313 spectra differ; monitor specimen-plane irradiance with a radiometer. No universal cycle is specified. |
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ASTM D4329-99 / 5.1–5.3.3, 6.5, 6.9

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| 1 | 1999 edition: G151/G154 fluorescent UV apparatus, UVA-340 unless specified otherwise. Installation ambient 18–27 °C; wall/equipment clearance ≥300 mm; remove heat/moisture by ventilation. At least three replicates; below 90% of peak irradiance, use equal-exposure or position compensation procedures. |
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