

TXL-KMS-046 / 28 October 2026 · One-year manufacturer warranty

Wyzenbeek Abrasion Tester (WY-4, 4 Stations)

Evaluates the abrasion resistance of woven and upholstery fabrics by the ASTM D4157 Wyzenbeek oscillatory cylinder method. All four test stations work on one common cylinder; covered with the selected abrasant, the cylinder oscillates at 90 ± 1 double rubs/min over a 76 ± 2 mm arc. Specimen tension (up to 26.7 N) and pressure (up to 15.575 N) are set individually at each station. The target count is entered on the 4.3-inch touchscreen PLC/HMI; the instrument stops at the set count, and lint and dust are removed by a two-slot vacuum tube.



Model technical data

1	Test method: ASTM D4157 – oscillatory cylinder.
2	Test stations: 4, all on one common abrading cylinder, with individual tension and pressure adjustment at each station.
3	Oscillation stroke: 76 ± 2 mm (arc distance on the cylinder surface).
4	Test speed: 90 ± 1 double rubs/min; one forward and one back movement is one double rub.
5	Specimen size: 73×245 mm; specimens are clamped in front and rear jaws.
6	Pressure pad: 50×50 mm (± 1 mm); sponge rubber conforming to the curved surface.
7	Tension mechanism: 340 g sliding weight; adjustable up to 26.7 N.
8	Pressure mechanism: 150 g sliding weight; adjustable up to 15.575 N.
9	Upholstery test setting: 17.8 N specimen tension / 13.4 N pressure.
10	Abradant options: #10 cotton duck or wire screen.
11	Control panel: 4.3-inch touchscreen PLC/HMI showing current double rubs, target count and test status.
12	Cycle control: adjustable double-rub counter with automatic stop at the set count; physical start, stop and emergency-stop controls.
13	Lint and dust extraction: two-slot vacuum tube.
14	Housing and protection: painted metal housing, transparent cover, emergency stop.

Physical specifications and utilities

Electrical supply	Approx. 220–240 V AC, 50/60 Hz, single phase; build-dependent.
Power / connected load	Approx. 150–400 W connected load for preliminary planning.
Overall instrument dimensions	Approx. 850 × 700 × 650 mm (W × D × H).
Instrument weight	Approx. 70–110 kg net.
Gross / shipping weight	Approx. 102–162.5 kg gross; estimated packing allowance.
Lab requirements	Level, stable working surface; specimen conditioning follows the selected method.

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	Abrasion, appearance or damage change versus double rubs
Parameters selected for the method	Abradant, load, motion, cycles and endpoint
Verification points	Motion, counter, load and condition of abradant

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

ASTM D4157

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 D4157 (earlier edition) / 6.1

1	Oscillation travel 76 ± 2 mm; rate 90 ± 1 double rub/min; specimen tension and normal force are adjusted separately.
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