TXL-IPL-014 / 28 October 2026 · One-year manufacturer warranty

Yarn & Splice Strength Tester (CSSA-02, Portable)

Measures breaking force and elongation of parent yarns and spliced joints by the constant rate of extension (CRE) principle and compares splice performance with the reference yarn. Case-type housing for use beside the winding machine. Automatic electromagnetic grips, adjustable automatic pretension, 4.3-inch touchscreen HMI, integrated thermal printer and PC software over Ethernet.



Model technical data

1	Force capacity: 60 N / 6,000 cN.
2	Initial gauge length: 250 mm.
3	Usable extension travel: 110 mm.
4	Maximum elongation: 44% at 250 mm gauge length.
5	Crosshead speed: adjustable up to 1,000 mm/min.
6	Grips: automatically closing electromagnetic grips; adjustable automatic pretension.
7	Display: 4.3-inch touchscreen HMI; Ethernet port.
8	Printer: integrated mini thermal printer, RS232 interface.
9	Results: breaking force, elongation, RKM, splice strength ratio; minimum, maximum, mean and CV%.
10	PC software: force-extension curve, archive, PDF reports with graphs and CSV export.

Physical specifications and utilities

Electrical supply	Approx. low-voltage adapter with 100–240 V AC, 50/60 Hz input; output voltage is build-dependent.
Power / connected load	Approx. 20–80 W connected load for preliminary planning.
Overall instrument dimensions	Approx. 450 × 300 × 350 mm (W × D × H).
Instrument weight	Approx. 5–12 kg net.
Gross / shipping weight	Approx. 15.5–25 kg gross; estimated packing allowance.
Interfaces	Display: 4.3-inch touchscreen HMI; Ethernet port. Printer: integrated mini thermal printer, RS232 interface.
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	Yarn breaking force, elongation and splice strength
Parameters selected for the method	Grips, gauge length, pretension and test speed
Verification points	Force, elongation, speed and jaw slip

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.

• Breaking force and elongation; linear density and its unit are recorded when calculating tenacity.

• 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

ISO 2062 · ASTM D2256

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 2062:2009 / 5.1 / 8.1.2 / 8.1.4

1	Gauge length: 500 ± 2 mm or 250 ± 1 mm.
2	Normal CRE rates: 500 ± 10 or 250 ± 5 mm/min, matched to the selected gauge length.
3	Shorter gauge lengths or alternative automatic-test speeds are used and recorded under the conditions stated in the method.

ASTM D2256-97 / 5.9.2, 9.2-9.3

1	Yarn tensile recipe: gauge length 250 ± 3 mm or 500 ± 5 mm by agreement. Keep the 20 ± 3 s average time-to-break option separate from the 300 ± 10 mm/min fixed-speed option at 250 mm gauge; report straight, knot or loop configuration.