

## Test Equipment Suppliers for TAPPI Test Methods

TAPPI does not sanction the companies cited in this list. TAPPI provides this information as a service to its members and the general public. This information was obtained initially from a survey of industry test equipment suppliers; it is updated as new information is provided by the test method reviewers or the suppliers. To be included in the current supplier list, please email the Standards Department at [standards@tappi.org](mailto:standards@tappi.org), or call +1-770-209-7249, or fax a memo to that department's attention at +1-770-446-6947.

**Suppliers on the list must confirm their listing on a regular basis. Failure to respond to requests for updated information will lead to being deleted from the list. If your company has been deleted from the list, you must contact [standards@tappi.org](mailto:standards@tappi.org) to be reinstated.**

NOTE 1: Only TAPPI Test Methods with known equipment suppliers are listed. Any errors or unlisted suppliers may be brought to the attention of the TAPPI Quality and Standards Department.

NOTE 2: This list was updated April 29, 2024.

METHOD	EQUIPMENT	COMPANY
T 200 Laboratory beating of pulp (Valley beater method)	Complete Equipment Complete Equipment Complete Equipment	OpTest Equipment Inc. Testing Machines Inc. Voith Paper
T 205 Forming handsheets for physical test of pulp	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment	Adirondack Machine Corporation OpTest Equipment Inc. Technidyne Corporation Techpap, Inc. Testing Machines Inc.
T 210 Weighing, sampling, and testing pulp for moisture	Complete Equipment Complete Equipment	Adirondack Machine Corporation Testing Machines Inc.
T 213 Dirt in pulp	Micro-Scanner (FP Innovations/Paprican) Large Sheet In-speck-tor-A4 (LSI-A4) On-machine Dirt In-speck-tor (ODI) Complete Equipment Complete Equipment	OpTest Equipment Inc. OpTest Equipment Inc. OpTest Equipment Inc. Techpap, Inc. Testing Machines Inc
T 218 Forming handsheets for reflectance testing of pulp (Buchner Funnel procedure)	Reflectance testers Pulp Inspector Complete Equipment	Technidyne Corporation Techpap, Inc. Testing Machines Inc.

T 220	Physical testing of pulp handsheets	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment Retention aid testing Complete Equipment	ABB Lorentzen & Wettre Products AMETEK-Chatillon IGT Testing Systems Instron OpTest Equipment Inc. Techpap, Inc. Testing Machines Inc.
T 221	Drainage time of pulp	Intelligent Drainage Analyzer Complete Equipment	OpTest Equipment Inc. Testing Machines Inc.
T 226	Specific external surface of pulp	Intelligent Drainage Analyzer	OpTest Equipment Inc.
T 227	Freeness of pulp	Complete Equipment Intelligent Drainage Analyzer Pulp Inspector Complete Equipment	ABB Lorentzen & Wettre Products OpTest Equipment Inc. Techpap, Inc. Testing Machines Inc.
T 230	Viscosity of pulp (capillary viscometer method)	Complete Equipment Complete Equipment	Cannon Instrument Company OpTest Equipment Inc.
T 231	Zero-span breaking strength of pulp (dry zero-span tensile)	Complete Equipment Complete Equipment Complete Equipment Tensile Tester Complete Equipment	AMETEK-Chatillon Instron Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc. QS Fibre, Inc.
T 232	Fiber length of pulp by projection	Fiber Quality Analyzer - 360 (FQA-360) Fiber analyzer	OpTest Equipment Inc. Techpap, Inc.
T 233	Fiber length of pulp by classification	Fiber Quality Analyzer - 360 (FQA-360) Bauer McNett Fractionator Fiber analyzer Complete Equipment	OpTest Equipment Inc. OpTest Equipment Inc. Techpap, Inc. Testing Machines Inc.
T 234	Coarseness of pulp fibers	Fiber Quality Analyzer - 360 (FQA-360) Fiber Analyzer Classifier, Blotter Paper	OpTest Equipment, Inc Techpap, Inc. Testing Machines Inc.
T 236	Kappa number of pulp	Complete Equipment	OpTest Equipment Inc.

T 240 Consistency (concentration) of pulp suspensions	Complete Equipment Complete Equipment	Adirondack Machine Corporation Testing Machines Inc.
T 248 Laboratory Beating of Pulp (PFI Mill Method)	PFI Laboratory Mill	OpTest Equipment Inc.
T 252 pH and electrical conductivity of hot water extracts of pulp, paper, and paperboard	Partial Equipment	Paul N. Gardner Co., Inc.
T 254 Cupriethylenediamine disperse viscosity of pulp (falling ball method)	Viscosity Standard Oils	Baxter Diagnostics, Inc.
T 261 Fines fraction of paper stock by wet screening	Britt Jars/Complete Equipment & Parts Complete Equipment	Paper Research Materials Inc. Testing Machines Inc.
T 262 Preparation of mechanical pulps for testing	Complete Equipment Complete Equipment	Adirondack Machine Corporation Testing Machines Inc.
T 271 Fiber length of pulp and paper by automated optical analyzer	Fiber Quality Analyzer - 360 (FQA-360) Fiber analyzer	OpTest Equipment Inc. Techpap, Inc.
T 272 Forming handsheets for reflectance testing of pulp (sheet machine procedure)	Complete Equipment Reflectance testers Pulp Inspector Complete Equipment	Adirondack Machine Corporation Technidyne Corporation Techpap, Inc. Testing Machines Inc.
T 274 Laboratory screening of pulp (MasterScreen-type instrument)	Complete Equipment	QS Fibre, Inc.
T 275 Screening of Pulp (Somerville-Type Equipment)	Complete Equipment Complete Equipment	OpTest Equipment Inc. Testing Machines Inc.
T 277 Macro stickies content in pulp: the "pick-up" method	FP Auto Speck Coated paper/Silicone paper Complete Equipment	Technidyne Corporation Voith Paper Inc. QS Fibre, Inc.
T 278 Pulp screening (valley-type screening device)	Complete Equipment Complete Equipment	Testing Machines Inc. Voith Paper Inc.
T 401 Fiber analysis of paper and paperboard	Fiber Quality Analyzer - 360 (FQA-360) Fiber analyzer	OpTest Equipment Inc. Techpap, Inc.
T 403 Bursting strength of paper	Complete Equipment Complete Equipment Burst strength tester Complete Equipment	ABB Lorentzen & Wettre Products AMETEK-Chatillon Custom Scientific Instruments, Inc. Instron

	Complete Equipment Complete Equipment Complete Equipment	OpTest Equipment Inc. Technidyne Corporation Testing Machines Inc.
T 410 Grammage of paper and paperboard (weight per unit area)	Complete Equipment Circular Sample Cutter Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products OpTest Equipment Inc. Technidyne Corporation Testing Machines Inc.
T 411 Thickness (caliper) of paper, paperboard, and combined board	Complete Equipment Thickness gauge Complete Equipment	ABB Lorentzen & Wettre Products Custom Scientific Instruments, Inc. IGT Testing Systems
	Universal Micrometer Complete Equipment Complete Equipment Complete Equipment	OpTest Equipment Inc. Paul N. Gardner Co., Inc. Technidyne Corporation Testing Machines Inc.
T 412 Moisture in paper and paperboard	Complete Equipment Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products Paul N. Gardner Co., Inc. Techpap, Inc. Testing Machines Inc.
T 413 Ash in paper and paperboard	Complete Equipment	Testing Machines Inc.
T 414 Internal tearing resistance of paper (Elmendorf-type method)	Complete Equipment Pendulum tear tester Complete Equipment Complete Equipment Partial Equipment	ABB Lorentzen & Wettre Products Custom Scientific Instruments, Inc. OpTest Equipment Inc. Testing Machines Inc. Paul N. Gardner Co., Inc.
T 423 Folding endurance of paper (Schopper-type tester)	Complete Equipment Complete Equipment	OpTest Equipment Inc. Testing Machines Inc.
T 425 Opacity of paper (15°/diffuse illuminant A, 89% reflectance backing and paper backing)	Complete Equipment Complete Equipment Complete Equipment Opacity meter	Paul N. Gardner Co., Inc. Technidyne Corporation Technidyne Corporation Testing Machines Inc.
T 437 Dirt in paper and paperboard	Micro-Scanner (FP Innovations/Paprican) Complete Equipment Complete Equipment	OpTest Equipment Inc. Techpap, Inc. Testing Machines Inc.

T 441	Water absorptiveness of sized nonbibulous paper and paperboard (Cobb test)	Complete Equipment Complete Equipment Complete Equipment Water absorption apparatus Complete Equipment	IGT Testing Systems OpTest Equipment Inc. Technidyne Corporation Techpap, Inc. Testing Machines Inc.
T 448	Water vapor transmission rate of sheet materials at standard temperature and humidity	Test Dish Test Dish	Stewart Assembly and Machining Testing Machines Inc.
T 452	Brightness of pulp, paper, and paperboard (directional reflectance at 457 nm)	Complete Equipment Partial Equipment Brightness testers Complete Equipment	Paul N. Gardner Co., Inc. Techpap, Inc. Technidyne Corporation Testing Machines, Inc.
T 456	Wet Tensile Breaking Strength of Paper and Paperboard (“Wet Tensile Strength”)	Double Blade Cizalle Horizontal Tensile Machine Universal Tensile Machine	OpTest Equipment Inc. OpTest Equipment Inc. OpTest Equipment Inc.
T 458	Surface wettability of paper (angle of contact method)	Complete Equipment Complete Equipment	Paul N. Gardner Co., Inc. Testing Machines Inc.
T 459	Surface strength of paper (wax pick test)	Complete Equipment Complete Equipment	OpTest Equipment Inc. Testing Machines Inc.
T 460	Air resistance of paper (Gurley Method)	Complete Equipment Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products OpTest Equipment Inc.. Technidyne Corporation Testing Machines Inc.
T 461	Flame resistance of treated paper and paperboard	Flammability tester	Custom Scientific Instruments, Inc.
T 464	Water vapor transmission rate of paper and paperboard at high temperature and humidity	Test Dish	Testing Machines Inc.
T 476	Abrasion loss of paper and paperboard	Complete Equipment Complete Equipment Complete Equipment Complete Equipment	OpTest Equipment Inc. Paul N. Gardner Co., Inc. Taber Industries Testing Machines Inc.
T 479	Smoothness of paper (Bekk method)	Complete Equipment Complete Equipment Complete Equipment Topographical smoothness	ABB Lorentzen & Wettre Products AMETEK-Chatillon OpTest Equipment Inc. Techpap, Inc.

	Complete Equipment	Testing Machines Inc.
T 480 Specular gloss of paper and paperboard at 75°	Complete Equipment Glossmeters, 60° Geometry Bench Glossmeters Microgloss Glossmeters Glossmeter Complete Equipment	ABB Lorentzen & Wettre Products Paul N. Gardner Co., Inc. Sheen Instruments, Inc. Sheen Instruments, Inc. Technidyne Corporation Testing Machines Inc.
T 489 Stiffness of paper and paperboard (Taber-type stiffness tester)	Complete Equipment Complete Equipment Complete Equipment Complete Equipment	AMETEK-Chatillon Paul N. Gardner Co., Inc. Taber Industries Testing Machines Inc.
T 494 Tensile breaking properties of paper and paperboard (using constant rate of elongation apparatus)	Complete Equipment Tensile Testing Machine Complete Equipment Complete Equipment Controlled Testing Environment Complete Equipment Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products AMETEK-Chatillon Instron OpTest Equipment Inc. Parameter Generation and Control Paul N. Gardner Co., Inc. Technidyne Corporation Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.
T 500 Book bulk and bulking number of paper	Book Bulk and Bulk Number Tester	Custom Scientific Instruments, Inc.
T 503 Slide angle tester	Complete Equipment	Custom Scientific Instruments, Inc.
T 511 Folding endurance of paper (MIT tester)	Complete Equipment Complete Equipment Complete Equipment Complete Equipment	AMETEK-Chatillon OpTest Equipment Inc. Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.
T 515 Visual grading and color matching of paper	Color Matching Booths Complete Equipment	Paul N. Gardner Co., Inc. Testing Machines, Inc.
T 519 Diffuse opacity of paper ( <i>d/0</i> paper backing)	Complete Equipment Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products OpTest Equipment Inc. Technidyne Corporation Testing Machines Inc.

T 523 Vertical flammability test and water vapor transmission tester	Complete Equipment	Custom Scientific Instruments, Inc.
T 524 <i>L, a, b</i> , 45°/0° colorimetry of white and near-white paper and paperboard	Complete Equipment Complete Equipment Complete Equipment	Paul N. Gardner Co., Inc. Technidyne Corporation Testing Machines, Inc.
T 525 Diffuse brightness of pulp (d/0°)	Complete Equipment Complete Equipment Spectrophotometers Partial Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products OpTest Equipment Inc. Paul N. Gardner Co., Inc. Techpap, Inc. Technidyne Corporation Testing Machines Inc.
T 527 Color of paper and paperboard in CIE <i>Y; x, y, Y</i> , dominant wavelength and Excitation purity	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products OpTest Equipment Inc. Paul N. Gardner Co., Inc. Technidyne Corporation Testing Machines Inc.
T 529 Surface pH measurement of paper	Complete Equipment	Paul N. Gardner Co., Inc.
T 536 Resistance of paper to passage of air (high pressure Gurley Method)	Complete Equipment Complete Equipment	Technidyne Corporation Testing Machines Inc.
T 537 Dirt count in paper and paperboard (optical character recognition - OCR)	Micro-Scanner (FP Innovations/Paprican) Complete Equipment Complete Equipment	OpTest Equipment Inc. Techpap, Inc. Testing Machines Inc.
T 538 Roughness of paper and paperboard (Sheffield Method)	Complete Equipment Topographical and optical apparatus Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products Techpap, Inc. Technidyne Corporation Testing Machines Inc.
T 541 Internal bond strength of paperboard (z-direction tensile)	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment Tensile Tester	ABB Lorentzen & Wettre Products AMETEK-Chatillon Custom Scientific Instruments, Inc. Instron Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.

T 543 Stiffness of paper (Gurley type stiffness tester)	Complete Equipment	Testing Machines, Inc.
T 546 Machine direction grammage variation measurement (gravimetric method)	Complete Equipment	Instron
T 547 Air permeability of paper and paperboard (Sheffield-type)	Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products Technidyne Corporation Testing Machines Inc.
T 548 Slide angle tester	Complete Equipment	Custom Scientific Instruments, Inc.
T 549 Coefficient of static and kinetic friction of uncoated writing and printing paper by use of the horizontal plane method	Complete Equipment Static and Kinetic Coefficient Tester Complete Equipment Complete Equipment Complete Equipment Complete Equipment	AMETEK-Chatillon Custom Scientific Instruments, Inc. Instron OpTest Equipment Inc. Standard Scientific LLC Paul N. Gardner Co., Inc. Testing Machines Inc.
T 551 Thickness of paper and paperboard (soft platen method)	Complete Equipment	Testing Machines Inc.
T 555 Roughness of paper and paperboard (Print Surf method)	Complete Equipment Complete Equipment Topographical and optical apparatus Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products OpTest Equipment Inc. Techpap, Inc. Technidyne Corporation Testing Machines Inc.
T 556 Bending resistance of paper and paperboard (Lorentzen & Wettre type tester)	Complete Equipment Complete Equipment	OpTest Equipment Inc. Paul N. Gardner Co., Inc.
T 563 Equivalent black area (EBA) and count of visible dirt in pulp, paper and paperboard by image analysis	Micro-Scanner (FP Innovations/Paprican) Large Sheet In-Speck-Tor Complete Equipment	OpTest Equipment Inc. OpTest Equipment Inc. Testing Machines Inc.
T 566 Bending resistance (stiffness) of paper (Taber-type tester in 0 to 10 Taber stiffness unit configuration)	Complete Equipment Complete Equipment Complete Equipment	Paul N. Gardner Co., Inc. Taber Industries Testing Machines Inc.
T 568 Physical area of sub-visible contraries in pulp, paper and paperboard by image analysis	Micro-Scanner (FP Innovations/Paprican)	OpTest Equipment Inc.



T 569 Internal bond strength (Scott type) Complete Equipment	Complete Equipment Testing Machines Inc.	OpTest Equipment Inc.
T 576 Tensile properties of towel and tissue products (using constant rate of elongation apparatus)	Tensile Testing Machine Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment	AMETEK-Chatillon Instron OpTest Equipment Inc. Paul N. Gardner Co., Inc. Technidyne Corporation Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.
T 648 Viscosity of coating clay slurry	Complete Equipment Complete Equipment	Paul N. Gardner Co., Inc. Testing Machines, Inc.
T 653 Specular gloss of paper and paperboard at 20°	Glossmeters, 75° Geometry Complete Equipment Complete Equipment	Paul N. Gardner Co., Inc. Technidyne Corporation Testing Machines Inc.
T 802 Drop test for fiberboard shipping containers	Complete Equipment Complete Equipment	Lansmont Corporation Testing Machines, Inc.
T 803 Puncture test of containerboard	Complete Equipment Complete Equipment Complete Equipment Complete Equipment	AMETEK-Chatillon Instron OpTest Equipment Inc. Testing Machines Inc.
T 804 Compression test of fiberboard shipping containers	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment Compression Tester	AMETEK-Chatillon Instron Lansmont Corporation OpTest Equipment Inc. Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.
T 807 Bursting strength of paperboard and linerboard	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment	AMETEK-Chatillon Instron OpTest Equipment Inc. Technidyne Corporation Testing Machines Inc.
T 808 Flat crush test of corrugated board (flexible beam method)	Complete Equipment Complete Equipment	AMETEK-Chatillon Instron

	Sample Crush Tester Complete Equipment Compression Machine	OpTest Equipment Inc. Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.
T 809 Flat crush of corrugating medium (CMT test)	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment Compression Machine	ABB Lorentzen & Wettre Products AMETEK-Chatillon Instron OpTest Equipment Inc. Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.
T 810 Burst strength of corrugated and solid fiberboard	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products AMETEK-Chatillon Instron OpTest Equipment Inc. Technidyne Corporation Testing Machines Inc.
T 811 Edgewise compressive strength of corrugated fiberboard (short column test)	Complete Equipment Complete Equipment Sample Crush Tester Complete Equipment Compression Tester	ABB Lorentzen & Wettre Products AMETEK-Chatillon OpTest Equipment Inc. Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.
T 812 Ply separation of solid and corrugated fiberboard (wet)	Complete Equipment Complete Equipment Complete Equipment	AMETEK-Chatillon Instron Testing Machines, Inc.
T 815 Coefficient of static friction (slide angle) of packaging and packaging materials (including shipping sack papers, corrugated and solid fiberboard) (inclined plane method)	Complete Equipment Complete Equipment Complete Equipment Partial Equipment	Custom Scientific Instruments, Inc. OpTest Equipment Inc. Testing Machines Inc. Paul N. Gardner Co., Inc.
T 816 Friction tester-kinectic	Complete Equipment	Custom Scientific Instruments, Inc.
T 818 Ring crush of paperboard	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products AMETEK-Chatillon Instron OpTest Equipment Inc. Techpap, Inc. Testing Machines Inc.

	Compression Machine	Tinius Olsen Testing Machine Co., Inc.
T 820 Flexural stiffness of corrugated board	Complete Equipment Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products AMETEK-Chatillon Instron Testing Machines Inc.
T 821 Pin adhesion of corrugated board by selective separation	Complete Equipment Complete Equipment Sample Crush Tester Complete Equipment	ABB Lorentzen & Wettre Products Instron OpTest Equipment Inc. Testing Machines Inc.
T 822 Ring crush of paperboard (rigid support method)	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Complete Equipment Compression machine	ABB Lorentzen & Wettre Products AMETEK-Chatillon Instron OpTest Equipment Inc. Techpap, Inc. Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.
T 824 Fluted edge crush of corrugated medium	Complete Equipment Complete Equipment Complete Equipment Complete Equipment Compression machine	ABB Lorentzen & Wettre Products AMETEK-Chatillon Instron Testing Machines Inc. Tinius Olsen Testing Machine Co., Inc.
T 825 Flat crush test of corrugated board (rigid support method)	Complete Equipment Complete Equipment Complete Equipment Sample Cutter Complete Equipment	ABB Lorentzen & Wettre Products AMETEK-Chatillon Instron OpTest Equipment Inc. Testing Machines, Inc.
T 826 Short span compressive strength of containerboard	Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products OpTest Equipment Inc. Testing Machines Inc.
T 829 Score quality test	Complete Equipment Force Gauge/Load Cell Complete Equipment Complete Equipment Complete Equipment Force Gauge/Load Cell	ABB Lorentzen & Wettre Products AMETEK-Chatillon Custom Scientific Instruments, Inc. Instron Techpap, Inc. Testing Machines Inc.

T 830 Ink rub test of container board and corrugated board	Complete Equipment	Danilee Company, LLC SUTHERLAND® Rub Tester
T 833 Internal bond tester	Complete Equipment	Custom Scientific Instruments, Inc.
T 834 Determination of paperboard roll hardness	Complete Equipment Partial Equipment	Testing Machines Inc. Paul N. Gardner Co., Inc.
T 836 Bending stiffness, four point method	Complete Equipment Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products AMETEK-Chatillon Instron Testing Machines Inc.
T 838 Edge crush test using neckdown	Complete Equipment Complete Equipment mullenECT Neck-down Cutter Complete Equipment	AMETEK-Chatillon Instron OpTest Equipment Inc. Testing Machines Inc.
T 839 Edgewise compressive strength of corrugated fiberboard using the clamp method (short column test)	Sample Crush Tester Complete Equipment	OpTest Equipment Inc. Testing Machines Inc.
T 843 Fluted edge crush of corrugating medium (rigid support method)	Complete Equipment Complete Equipment Complete Equipment	ABB Lorentzen & Wettre Products Instron Testing Machines Inc.
T 1015 Fiber Glass Mat Uniformity (Visual Defects)	Complete Equipment	Techpap, Inc.