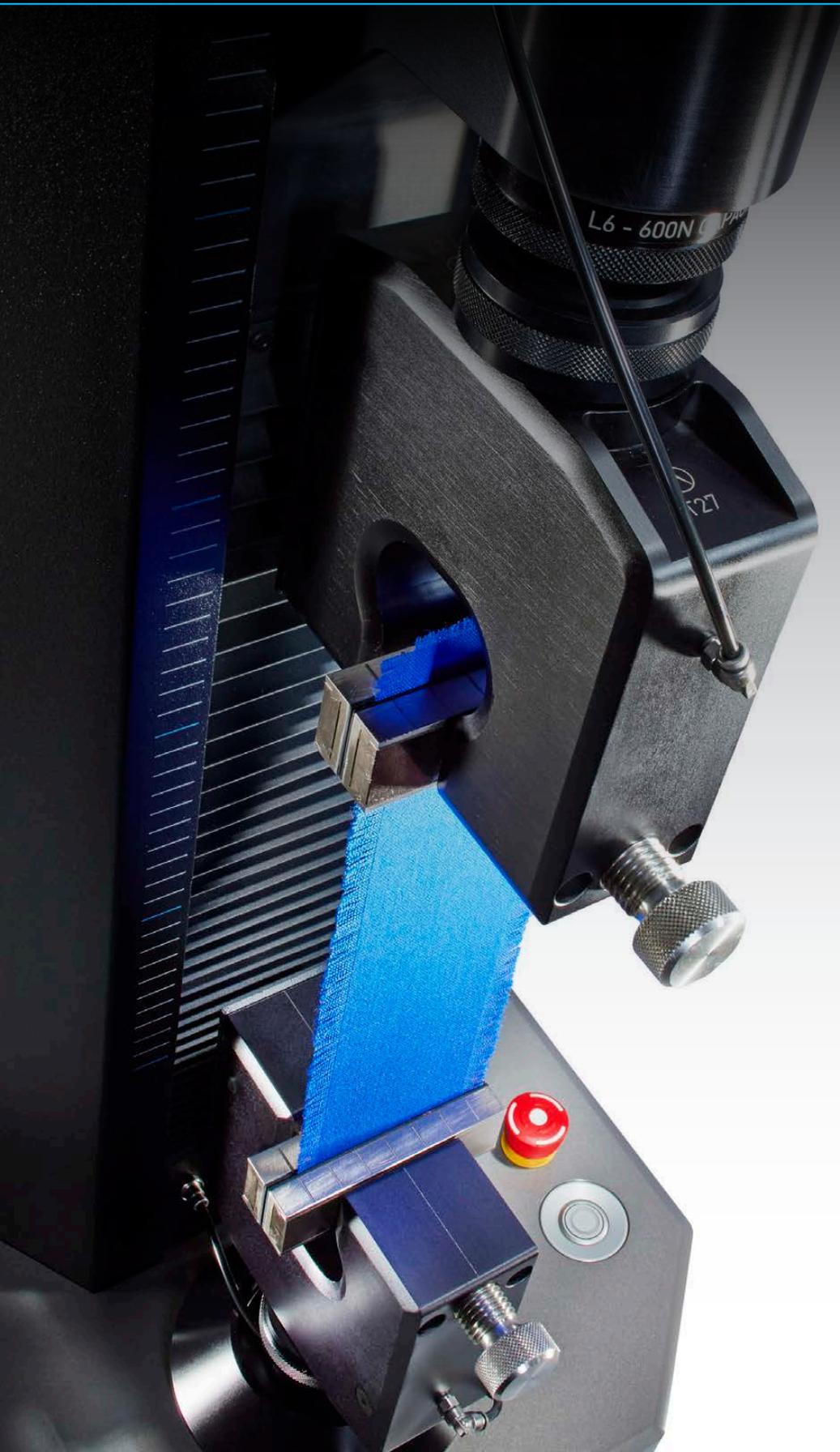




TITAN⁵

UNIVERSAL STRENGTH TESTER



5kN

AT JAMES HEAL WE DON'T DESIGN INSTRUMENTS, WE CREATE SOLUTIONS

Setting the Standard

We listen intently to textile technologists, engineers, software designers and most importantly to you.

Adding our expertise and ability to innovate, we strive to produce the most desirable, intuitive and productive testing machines in the world.

Not only do our machines do what we say, but they also look and feel good and are really easy to use.

Our unique product signature makes our instruments stand out, enhancing the appearance of your laboratory and creating

confidence in the minds of your customers.

Never willing or content to accept the ordinary, we challenge continuously and set the standard.

Brand values of Precision, Pedigree, Innovation, Leadership and Integrity guide our efforts to provide cost effective and attractive solutions for your testing needs.

You can count on James Heal to supply you with equipment and services of the highest standard and to complete every job to a level, which will exceed your expectations.

Titan⁵ Universal Strength Tester

Titan⁵ is an outstanding fifth generation Universal Strength Tester, designed specifically for testing textiles, nonwovens, and leather products - whether they are in the form of yarns, fabrics, garments or attachments to garments. The instrument is easily adapted for testing other materials like paper and plastics.

Innovative, precision engineering and an intuitive understanding of a user's requirements are combined in an aesthetically pleasing and ergonomic instrument. The TestWise Test Analysis Software has a Microsoft Windows look and feel and utilises familiar textile terminology.

A choice of 5 different load cells (up to 5000 N capacity) are available together with a comprehensive range of manual and pneumatic grips. Titan⁵ is programmed with an extensive library of national and international standards as well as retailers' test methods. If you have something unexpected to test, the 'Standards Editor' makes it simple to modify existing test methods or to create new ones.

Helping you to make the most of your investment, the Software Maintenance and User Support Package provides online access to our applications engineers and includes one major software update every year.

"COMBINING EXPERTISE WITH INNOVATION TO CREATE EXTRAORDINARY TESTING SOLUTIONS"

TITAN⁵ AT A GLANCE

- Areas of Application
- Yarns
 - Woven and knitted fabrics
 - Coated fabrics
 - Nonwovens
 - Leather
 - Elastane
 - Footwear
 - Rivets
 - Studs
 - Velcro
 - Press studs
 - Poppers
 - Leather

- Operating Modes
- Tension
 - Compression
 - Max Capacity: 5000 N



TESTWISE SOFTWARE

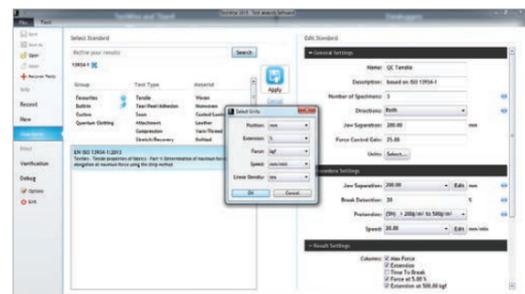
TestWise is specially developed test analysis software that complements the Titan⁵.

TestWise combines a simple user interface and comprehensive analysis functionality.

Developed by a James Heal software specialist this is intuitive software designed for the quick and effective administration of testing procedures.

STANDARDS

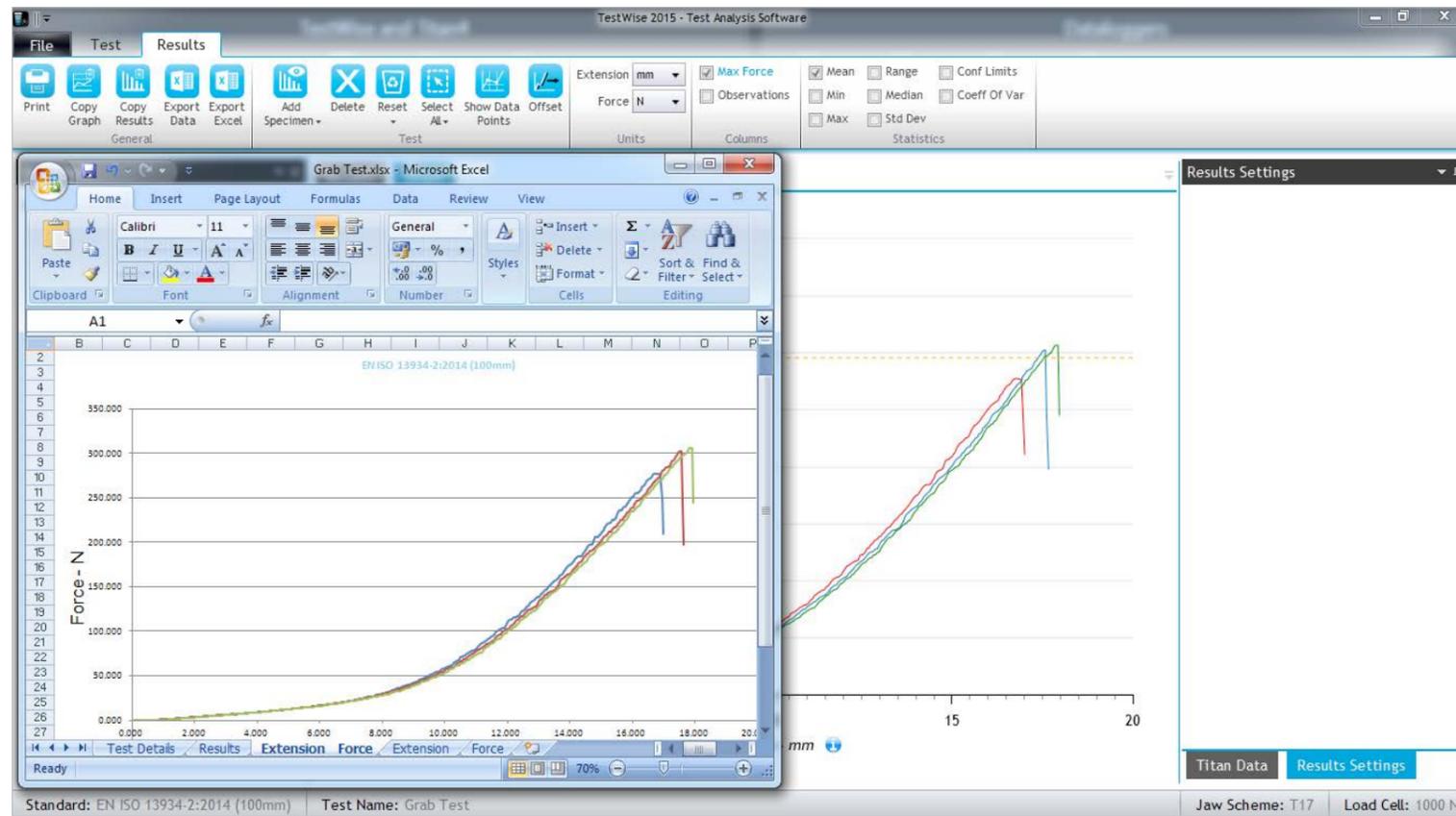
TestWise incorporates an ever expanding library of pre-loaded standards and test methods, and the Standards Editor enables users to create their own Standards to meet specific needs and customer requirements.



Standards can be easily located through a 'Filter' option, and regularly used Standards can be saved within 'Favourites' for instant access.

AUTOMATIC SET UP

TestWise transfers the test parameters, specified in the selected standard, to the instrument for automatic set up.



EXPORT TO EXCEL - NEW FEATURE

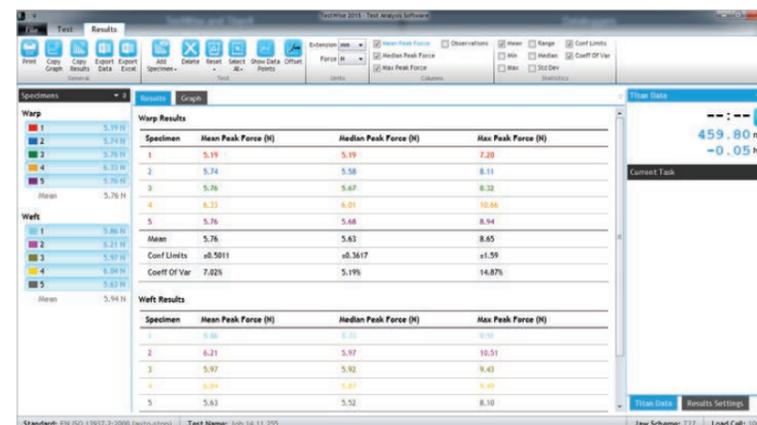
This new feature offers the full export of data to Excel with an automatic graph creation facility. This function enables the user to create their own custom analysis and statistics.

RESULTS

TestWise offers customisable statistical reporting, meaning the user gets exactly what they need, Specimen test results include a current mean value, allowing for immediate visibility of trends. Real time presentation of Time, Extension and Force values allows monitoring of results during testing.

AUTOSAVE - NEW FEATURE

The TestWise software has an autosave function active throughout the testing so in the event of a power failure test data is not lost but can be recovered.



Specimen	Mean Peak Force (N)	Median Peak Force (N)	Max Peak Force (N)
1	5.19	5.19	7.20
2	5.74	5.58	8.11
3	5.76	5.67	8.32
4	6.33	6.01	10.66
5	5.76	5.68	8.94
Mean	5.76	5.63	8.65
Conf Limits	+0.5011	+0.5617	+1.59
Coeff Of Var	7.02%	5.19%	14.67%

THE BENEFITS OF TESTWISE

- The TestWise menu bar gives easy access to all features
- The user interface has the familiar look and feel of Microsoft Office
- Single integrated application with no modules or additional costs
- TestWise has been optimised to run in Windows 7, Windows 8 and Windows Vista
- Runs in 32-bit or 64-bit Windows
- Connection to Titan⁵ is via USB
- Customisable statistical reporting – you get just what you need
- Automatic adjustment of test parameters, including gauge length, according to the Standard
- Specimen test results including current mean value allow immediate visibility of trends
- Testing in just three clicks of the mouse
- Real-time Graphing Area with Auto-Scaling and Zoom Control
- Real-time presentation of Time, Extension and Force values allows monitoring of results during testing
- Extensive Standards Library and Standards Editor allowing the creation of user-defined Standards
- Auto-Save function means data is never lost

TITAN TOOLING

T4 Button Holder (used with T27)



- Testing buttons to destruction
- Security of attachment of buttons
- Integrated debris shield
- Typical standards: BS 4162, M&S P122 and Next TM37

T5 Pneumatic Yarn Grips (pair)



- Testing strength of yarn
- Maximum force: 120 N
- Aluminium jaw faces (plain)
- Optional ABS jaw faces (corrugated)
- Standards: ASTM D2256, EN ISO 2062

OctoGrip



- Complementary gripping system for use with T12
- OctoGrip has 8 claws for gripping small attachments

T20A Clamp for Ball Burst and Puncture Tests



- Ball burst test for fabrics. Operates in compression mode
- Clamp only, order Ball Burst and Puncture probes separately
- Standards: ASTM D751, D3787, D6797, and WSP 110.5

T20B - Screwdriver Puncture Attachment



- Used with T20A Clamp
- Operates in compression mode
- Screwdriver Puncture Probe only, order T20A-Clamp separately
- Standard: ASTM D751

T21 C-Clamps (pair)



- Stretch and recovery tests
- Specimens up to 125mm wide
- 8mm and 10mm Ø bars
- Standards: EN14704-1 (Method B) and Adidas 4.27

T8 Needle Clamps - Apparel Version



- For apparel fabrics
- Seam slippage test (without sewing)
- Standards: EN ISO 13936-3

T9 Needle Clamps - Upholstery Version



- For upholstery fabrics
- Seam slippage test (without sewing)
- Standards: EN ISO 13936-3, IKEA IOS-PRG-0023

T12 Attachments Kit (used with T27)



- Testing security of attachments to garments
- Range of grips
- Pneumatic lower clamp
- Standards: EN 71-1, M&S P115, M&S P124 and Next TM42, TM45 and TM46

T22 Hank Bollards / Skein Spools



- To test the strength of Yarn in Hanks & Skeins
- Used for CSP
- Recommend using with 5000N load cell
- Standards: ISO 6939 and ASTM D1578

T23A Manual Fabric Grips (5kN)



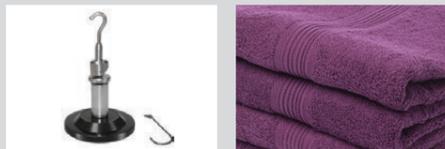
- Manually operated grips
- Used for test Strength, Seam, Tear tests
- Full width jaw faces 25 mm2
- Maximum force: 5000 N

T24 Stud and Button Holder (used with T27)



- Suitable for testing buttons and tack-buttons (studs)
- Standards: BS 7907 and forthcoming EN standard

T13 Pile Loop Extraction Kit



- For extracting loops from Terry Towels
- Standards: EN 15598

T14 Zip Testing Kit (used with T27)



- Testing strength of zip elements
- Wide range of grips included
- Standards: BS 3084, ASTM D2061, EN16732

T15 Pneumatic Yarn Grips (pair)



- Testing strength of yarn, cords and threads
- Maximum diameter: 6mm Ø
- Maximum force: 1000 N
- Standards: ASTM D2256, EN ISO 2062

T25 Manual Yarn Grip (pair)



- Testing strength of yarn
- Maximum force: 1000 N

Baumann / Slit Tear Clamps



- For the testing of leather items - Handbags, shoes, etc
- For use with ISO 3377-2 - Leather - Determination of tear load - Part 2: Double edge tear
- Also suitable for IUP 8 and M&S P35

T26 Bra Wire Penetration Tool (used with T27)



- To test puncture resistance of Bra Wire casing
- Standards: M&S P11A, Next TM36, Pacific Brands PB-002 and H&M DS-12

T18 Loop Bars (pair)



- Stretch and recovery tests
- Specimens up to 125mm wide
- 4mm, 6.5mm, 8mm, 10mm and 13mm Ø bars
- Standards: BS 4952 (withdrawn), BHS 15J, EN 14704-1 (Method B), ASTM D4964, Adidas 4.27

T19 Checkweight Set



- Recommended for regular user checks of the accuracy of the load cells
- Not to be used for calibration

T20A Ball Probe



- Used with T20A Clamp
- Operates in compression mode
- Ball Probe only, order T20A-Clamp separately
- Standards: ASTM D751, D3787, D6797, and WSP 110.5

Coefficient of Friction



- To test products such as cork flooring, packaging and other sheet materials
- Standards: ASTM D1894, DIN 53375, ISO 9295 and TAPPIT549

T27 Universal Pneumatic Fabric Grips (pair)



- Strength, seam slippage and tear tests
- Maximum force 5000 N

TITAN APPLICATIONS

The applications for the Titan⁵ are numerous. A selection some of the diverse range of tests, with the relevant tooling and grips, is shown below.

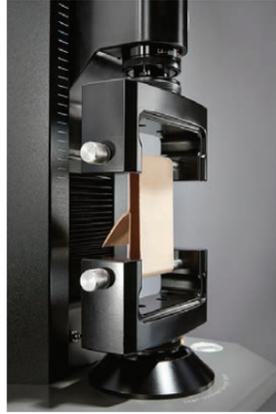
Fabric Strength Test (T27)



Tear Strength Test (T27)



Stretch & Recovery Test (T27)



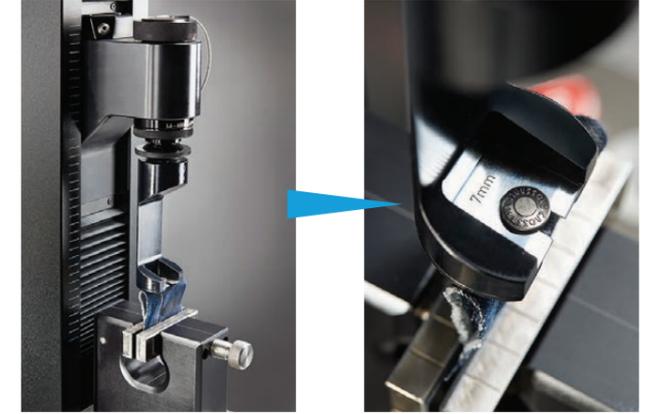
Seam Slippage Test (T27)



Octogrip



Stud Strength (T14)



Baumann Tear Strength



Hank (Lea) Strength Test



Compression Test (T20A)



Compression Test (T20B)



Puncture Test (T13)



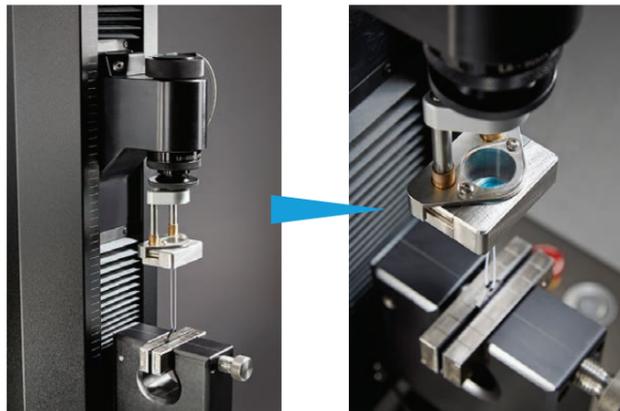
Line Contact



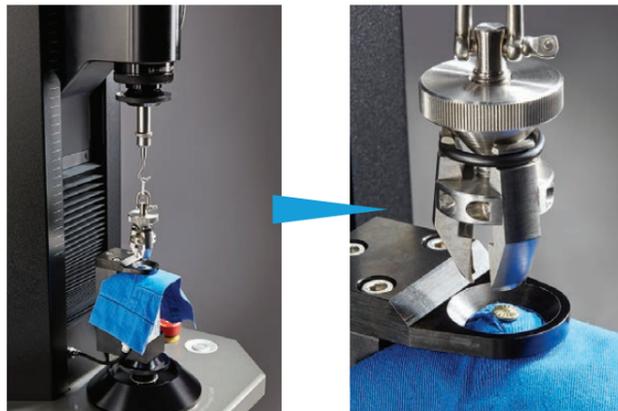
Coefficient of Friction



Button Strength (T4)



Security of Attachments Test (T12)



James Heal can also consider specific testing requirements with special grips and modified software upon request.

TITAN⁵

COMBINING PRECISION, FLEXIBILITY AND EASE OF USE

Installation and commissioning service

We offer an optional installation and commissioning service, where our engineer will unpack, position and connect your new Titan⁵ to electrical and air supplies. He will also install TestWise Software on your PC or laptop and ensure the entire system works perfectly.

Training will equip your laboratory technician with the confidence to start testing products, and more advanced training from a textile technologist is offered as a separate service either on your site or at James Heal in Halifax, England.



Contractual maintenance and calibration

The load cells should be calibrated once a year to confirm continuing accuracy. Our instrument technicians are accredited by UKAS, recognised worldwide as a leading calibration authority, and calibration procedures comply with ISO 17025.

Comprehensive certificates of calibration are issued to confirm the calibration of the load cells to satisfy your own accreditation requirements, whether based on your Quality Management System, your customers or independent accrediting organisations.

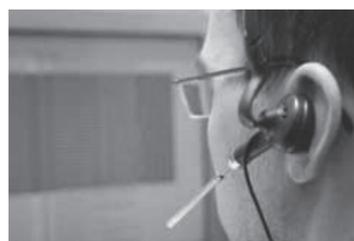


Software maintenance and user support

There is a continuous development programme for the TestWise Analysis Software, so that new Standards and test methods, as well as improved functionality, are being added. You can keep your own software and Standards Library up to date by subscribing to our Software Maintenance and User Support Scheme.

For an annual subscription, you receive the following:

- Minimum of one software upgrade per annum
- Online Applications and Support (three one hour sessions per year)
- The opportunity to supply your own ideas and contribute to the future development of the software



INSTALLATION REQUIREMENTS

Power		Compressed Air Supply	
110-230V±10%	50/60 Hz	Working Pressure:	7-10 bar, 700-1000 kPa, 100-145 psi
Single Phase		Minimum Flow:	17 litres per minute
Watts:	750W	Filtration:	5 microns or better to remove oil and moisture
amps:	5A	Pipe Outlet:	4mm
		Air Regulator:	Not Required - Built into Titan

Electrical supply should be free from spikes and surges exceeding 10% of the working voltage.

TITAN⁵

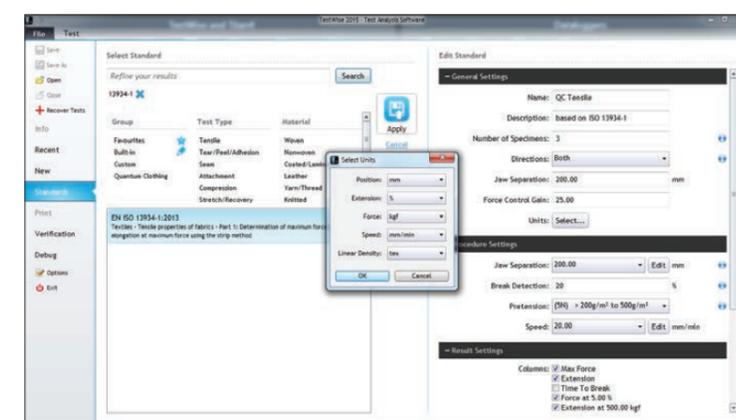
STANDARDS

Standards Library

Titan⁵ and TestWise have been developed based on a wide variety of national and international Standards and retailer test methods. Even if the Standard you want to work with is not on this list, we can normally develop it easily and add it to the Standards Library. Do not be afraid to ask, in most cases the development process is simple.

Attachments		Peel Bond / Delamination	
ASTM D2061	GB 6675	ASTM D2724	EN ISO 2411
ASTM D4846	ISO 8124	ASTM D5170	JIS L1085
ASTM D7142	JTA 8T 2012	DIN 54310	M&S P13
ASTM F963	M&S P115 series	EN ISO 11644 (IUF 470)	M&S P13A
BS 3084	M&S P122	Seam Strength & Seam Slippage	
BS 4162	M&S P124	ASTM D1683	EN ISO 13935-1
BS 7907	NextTM37	ASTM D4034	EN ISO 13935-2
BS 8510	NextTM42	ASTM D434	EN ISO 13936-1
EN 15598	NextTM45	ASTM D5822	EN ISO 13936-2
EN 16732	NextTM46	GB/T 2660-2666	M&S P12
EN 71-1	UNE 40902	GB/T 14272	M&S P12A
Compression		GB/T 18132	M&S P12B
ASTM D3787	EN 14704-2	EN ISO 13933-3	M&S P12C
ASTM D4830	EN 388	NextTM16 series	
ASTM D5748	EN 71-1	Stretch and Recovery (Cyclic)	
ASTM D6797	ISO 3303	ASTM D4964	FZ/T 70006
ASTM D751	ISO 9073-5	ASTM D6614	JIS L1096
EN 12332-1	WSP 110.5	BS 4952	M&S P14 series
Tear Strength		DECATHLON DS-275	M&S P15 series
ASTM D2212	EN ISO 13937-2	EN 14704-1	NextTM21 series
ASTM D2261	EN ISO 13937-3	FZ/T 70005	
ASTM D2724	EN ISO 13937-4	Fabric Strength	
ASTM D5587	GB/T 2711	ASTM D5034	ISO 9073-3
ASTM D5735	JIS L1096	ASTM D5035	JIS L1096
BS 3424: Part 5	NextTM25	EN ISO 13934-1	M&S P11
EN ISO 11644 (IUF 470)		EN ISO 13934-2	M&S P11A
Yarn Strength		EN ISO 1421	M&S P11B
ASTM D1578	EN ISO 2062	GB/T 3923.1	M&S P11C
ASTM D2256	ISO 6939	GB/T 3923.2	M&S P43
GB/T 3916	M&S P70	ISO 3376 (IUP 6)	NextTM27
BS1932-2		ISO 5081 & ISO 5082	NextTM36

Standards Library



TestWise includes a "Standards Editor" which allows you to customise existing Standards and create new ones which meet your more specific requirements. Once a new standard has been created it is available and ready for use in the Standards Library. We keep the Standards Library up to date with current Standards but it also contains many older Standards which may have been superseded although they are still widely used in industry.

If you are a retailer and would like James Heal to develop a suite of Standards for Titan⁵ then we would be pleased to create them for the benefit of your suppliers. Please contact us for more details.

TITAN⁵

TECHNICAL DATA

Measuring Principle:	Constant Rate of Extension (CRE)
Capacity (Tension & Compression):	5000 N, 5kN, 500kgf and 1100lbf
Load Cells:	Three (3) load cells can be configured from a choice of five (5): 5000 N 1,000 N or 500 N (not 1000N and 500N) 100 N or 200 N (not 200N and 100N) Quick-change cartridge, auto-recognition "S" beam cells
Test / Return / Jog Speed:	1 - 2000mm/min
Accuracy of Load Cells Class:	0.5 (±0.5%) from 2 - 100% of load cell capacity
Speed Accuracy:	±0.005%
Maximum Stroke:	560mm - Maximum usable extension with T27 jaws fitted
Total Vertical Stroke:	700mm - Maximum movement of the head between limit switches when no jaws are fitted
Positional Accuracy:	± 0.00125mm
Calibration:	Load Cells: ISO 7500-1 (UKAS accredited) & ASTM E4 Instrument: ISO 7500-1 & ASTM D76
Safety:	CE marked (complies with Machinery, Low Voltage & EMC Directives)
Warranty:	18 months

DIMENSIONS

Height (mm)	Width (mm)	Depth (mm)	Approx. Weight (kg)
1339	400	568.5	82*

*Excludes transit frame

COMPUTER SPECIFICATION

Personal Computer (PC) - Minimum Specification	
PC	Personal Computer (PC) running Microsoft Windows The use of the operating systems running in Windows as a VM is not supported
Processor	As specified or required by the operating system (OS)
RAM	As specified or required by the operating system (OS)
OS	Windows 8, Windows 7, Windows Vista Not compatible with Windows XP Microsoft.NET 4.0 framework is required (included on disc)
Monitor	Minimum resolution of 1024x768 pixels
HDD	Minimum 250GB
Ports	At least 2 free USB 2.0 ports
Printer	Any Windows compatible printer Colour printer recommended but not essential

ORDERING IS MADE EASY WITH THIS SELECTOR TABLE

LEGEND	
● Essential / Recommended	■ User Choice dependent on Applications

STOCK CODE	Fabric Tensile	Yarn Strength and Tenacity	Seam Slippage	Security of Attachments	Zip Testing	Button Strength	Pile Loop Extraction	Tear Strength	Peel Bond / Adhesion	Stretch & Recovery	Ball Burst	Puncture	Leather Testing	Friction Testing
MODEL 1410														
Titan ⁵ - Universal Strength Tester 110-230V 50/60Hz	904-506	●	●	●	●	●	●	●	●	●	●	●	●	●
SOFTWARE														
TestWise Test Analysis Software	794-896	●	●	●	●	●	●	●	●	●	●	●	●	●
TestWise Test Analysis Software Maintenance & User Support Package														
1 year subscription	206-001	■	■	■	■	■	■	■	■	■	■	■	■	■
2 years subscription	206-002	■	■	■	■	■	■	■	■	■	■	■	■	■
3 years subscription	206-003	■	■	■	■	■	■	■	■	■	■	■	■	■
CARTRIDGE LOAD CELLS														
Load Cell L8 (5000N) 5000N - 50N (500kgf - 5kgf)	794-730	■	■	■	■	■	■	■	■	■	■	■	■	■
Load Cell L9 (1000N) 1000N - 10N (100kgf - 1.0kgf)	794-704	■	■	■	■	■	■	■	■	■	■	■	■	■
Load Cell L11 (500N) 500N - 5N (50kgf - 0.5kgf)	794-706	■	■	■	■	■	■	■	■	■	■	■	■	■
Load Cell L10 (200N) 200N - 2.0N (20000gf - 200gf)	794-705	■	■	■	■	■	■	■	■	■	■	■	■	■
Load Cell L12 (100N) 100N - 1.0N (10000gf - 100gf)	794-707	■	■	■	■	■	■	■	■	■	■	■	■	■
CALIBRATION														
ISO Certificate of Calibration for Titan (Machine Only) *	201-928	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 5000N Load Cell (9 point calibration in tension)	202-531	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 5000N Load Cell (9 point calibration in compression up to 3000N only)	202-532	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 1000N Load Cell (9 point calibration in tension)	202-534	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 1000N Load Cell (9 point calibration in compression)	202-535	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 500N Load Cell (9 point calibration in tension)	202-537	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 500N Load Cell (9 point calibration in compression)	202-538	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 200N Load Cell (9 point calibration in tension)	202-540	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 200N Load Cell (9 point calibration in compression)	202-541	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 100N Load Cell (9 point calibration in tension)	202-543	●	●	●	●	●	●	●	●	●	●	●	●	●
UKAS Certificate of Calibration for Titan 100N Load Cell (9 point calibration in compression)	202-544	●	●	●	●	●	●	●	●	●	●	●	●	●
GRIPS & FIXTURES														
T27 Universal Pneumatic Fabric Grips (pair)	794-927	●	●	●	●	●	●	●	●	●	●	●	●	●
2 line contact jaw faces 100 x 6mm diameter and 2 plain steel jaw faces 100 x 30mm	794-877	■	■	■	■	■	■	■	■	■	■	■	■	■
2 line contact jaw faces 75 x 6mm diameter and 2 plain steel jaw faces 100 x 30mm	794-929	■	■	■	■	■	■	■	■	■	■	■	■	■
T4 Button Holder (used with T27)	794-864	■	■	■	■	■	■	■	■	■	■	■	■	■
T5 Pneumatic Yarn Grips (pair)	794-806	●	●	●	●	●	●	●	●	●	●	●	●	●
T8 Needle Clamp [Apparel Version] (used with T27)	794-686	■	■	■	■	■	■	■	■	■	■	■	■	■
T9 Needle Clamp [Upholstery Version] (used with T27)	794-687	■	■	■	■	■	■	■	■	■	■	■	■	■
T12 Attachments Kit (used with T27)	794-866	■	■	■	■	■	■	■	■	■	■	■	■	■
OctoGrip	794-867	■	■	■	■	■	■	■	■	■	■	■	■	■
T13 Pile Loop Extraction Kit (used with T27)	794-844	■	■	■	■	■	■	■	■	■	■	■	■	■
T14 Zip Testing Kit (used with T27)	794-879	■	■	■	■	■	■	■	■	■	■	■	■	■
T15 Pneumatic Yarn Grips (pair)	794-883	●	●	●	●	●	●	●	●	●	●	●	●	●
T18 Loop Bars (pair)	794-889	■	■	■	■	■	■	■	■	■	■	■	■	■
T19 Check Weight Set	794-891	■	■	■	■	■	■	■	■	■	■	■	■	■
T20A - Clamp for Ball Burst and Puncture Tests	794-894	■	■	■	■	■	■	■	■	■	■	■	■	■
T20A - Ball Probe	794-895	■	■	■	■	■	■	■	■	■	■	■	■	■
T20B - Screwdriver Puncture Attachment	794-839	■	■	■	■	■	■	■	■	■	■	■	■	■
T21 C-Clamps (pair)	794-838	■	■	■	■	■	■	■	■	■	■	■	■	■
T22 Hank Bollards / Skein Spools	794-602	■	■	■	■	■	■	■	■	■	■	■	■	■
T23A Manual Fabric Grips (5kN)	794-920	■	■	■	■	■	■	■	■	■	■	■	■	■
T24 Button & Stud Holder (used with T27)	794-858	■	■	■	■	■	■	■	■	■	■	■	■	■
T25 Manual Yarn Grips (pair)	794-931	■	■	■	■	■	■	■	■	■	■	■	■	■
T26 Bra Wire Penetration Tool (used with T27)	794-932	■	■	■	■	■	■	■	■	■	■	■	■	■
T28 Coefficient of Friction Fixture	794-936	■	■	■	■	■	■	■	■	■	■	■	■	■
GRIPS FOR LEATHER														
Baumann / Slit Tear Clamps	794-885	■	■	■	■	■	■	■	■	■	■	■	■	■
ASTM Slit Tear Clamps	794-882	■	■	■	■	■	■	■	■	■	■	■	■	■
Adhesion of Finish Kit	794-886	■	■	■	■	■	■	■	■	■	■	■	■	■
Leather Ball Burst	794-887	■	■	■	■	■	■	■	■	■	■	■	■	■
COMPRESSORS (used with T5, T12, T15 and T27)														
Titan Compressor 230V 50Hz	783-218	■	■	■	■	■	■	■	■	■	■	■	■	■
TruBurst Compressor 230V 50Hz	783-217	■	■	■	■	■	■	■	■	■	■	■	■	■
Dual User Compressor (Titan and TruBurst) 230V 50Hz	783-219	■	■	■	■	■	■	■	■	■	■	■	■	■
Titan Compressor 110V 60Hz	783-221	■	■	■	■	■	■	■	■	■	■	■	■	■
TruBurst Compressor 110V 60Hz	783-220	■	■	■	■	■	■	■	■	■	■	■	■	■
Dual Use Compressor (Titan and TruBurst) 110V 60Hz	783-222	■	■	■	■	■	■	■	■	■	■	■	■	■

*Based on ISO 7500-1 Annex A and ASTM D76

TESTING INSTRUMENTS

High precision textile testing instrumentation

TEST MATERIALS

Guaranteed fit-for-purpose test materials for textile testing procedures

SERVICE AND CALIBRATION

Worldwide installation, maintenance and calibration service

TECHNICAL ASSISTANCE

Expert engineering and applications support



A world wide presence

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