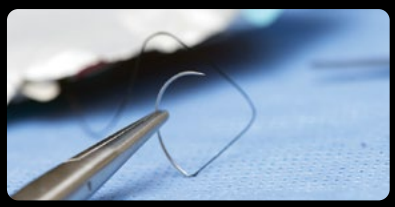







PRECISION TESTING SOLUTIONS





James Heal™
Extraordinary Testing Solutions

CONTENTS

About Us

James Heal is an international engineering company with over 140 years of experience in precision testing instruments and premium quality test materials. Based in Britain, the core of our company is founded on the seamless interaction between high quality, consistency and reliability combined with innovation, imagination and expertise.

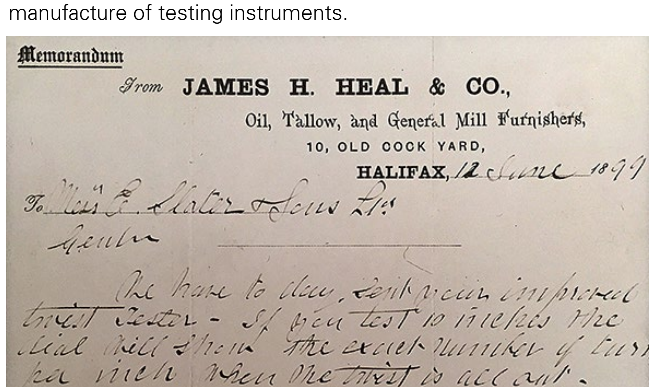
Our innovative, cutting-edge products and services have consistently taken the textile testing industry to new levels, and explain why James Heal has become the supplier of choice for textile testing instruments, test materials and services worldwide. **James Heal: Setting the standard.**

History

Established in 1872, James Heal has delivered premium quality, innovative solutions throughout its more than 140 years of existence. From its beginnings serving the needs of the local woollen textile industry to collaborating closely with Dr. Martindale to design one of the first Martindale Wear and Abrasion test instruments in the 1950s, James Heal has developed a reputation for quality, reliability and innovation and has shown an ability to evolve in-line with market trends and customer requirements and expectations to remain a pioneer in its field.

The company was a family run business until 2014 when it was acquired by Battery Ventures, a US venture capital company that invests in cutting-edge, category-defining businesses.

A delivery note from 1899 shows evidence of the early manufacture of testing instruments.


Memorandum

From JAMES H. HEAL & CO.,

Oil, Tallow, and General Mill Furnishers,

10, OLD COCK YARD,

HALIFAX, 12 June 1899

Innovation

Our passion for textile testing is sparked by imagination and fuelled by expertise. Indeed this passion for new ideas characterises the way we work with each other, with our customers and with our partners.

To provide the most innovative solutions that solve even the most complex and challenging material testing problems, we put the user at the forefront of our test instrument design process, combining intelligent and intuitive user interfaces with the best in instrument aesthetics, functionality and reliability.

Quality

Quality is an integral part of the James Heal DNA. Our vertically integrated production facilities in Halifax, in the north of England, enable us to have complete control over production parameters and quality to provide customers with the reassurances they are looking for from a premium supplier.

Furthermore, James Heal offers Service & Calibration services delivered by some of the most experienced and well-trained engineers in the industry, supporting our customers worldwide and optimising instrument life cycles for maximum return on investment.

Significant investment into CNC technology improve and increase our machined components.

Close to Customers

The James Heal network spans the globe, ensuring that customers benefit from the flexibility and reliability of having both technical and commercial contacts readily accessible in their local markets, as well as directly from James Heal in the UK.

Our local specialists speak the language of our customers and business partners and understand the service and on-site requirements of their markets. They are also deeply ingrained in the James Heal culture, drawing on our world-leading expertise in technology, innovation and quality to support customers in the more than 70 countries in which we operate.

ABRASION & PILLING

Martindale
ABRASION & PILLING TESTER

The James Heal abrasion and pilling tester, with the adaptability to test a wide range of applications, is the instrument of choice for many of the world's leading laboratories and global retailers.

Martindale Series - Abrasion & Pilling Tester

Designed with users in mind, the new intuitive touchscreen user interface will ensure that the James Heal Martindale is the most simple to use and efficient instrument in the market.

The instruments offer easy access to every station from the front which reduces time to load and unload. The largest model, the Maxi-Martindale also has a hinged top plate to allow the users to access each of the 9 stations without having to lift off the top plate.

The touchscreen on all models is intuitive and user-friendly to enable quick and easy set up.

The 1600 Series is available in three sizes to accommodate different levels of testing; the 2 station Mini-Martindale, the 5 station Midi-Martindale and the 9 station Maxi-Martindale 1309.

A comprehensive range of accessories are available for different specimen types, including sock abrasion, line contact plate and leatherball plate.

Our Martindale instruments conform to the requirements of all known international standards and retailers' test methods, including EN ISO 12947 Series and EN ISO 12945-2.

The Mini-Martindale 1302 is supplied as standard with 2 working positions.

Accessories are available with the Martindale for sock abrasion to EN 13770.

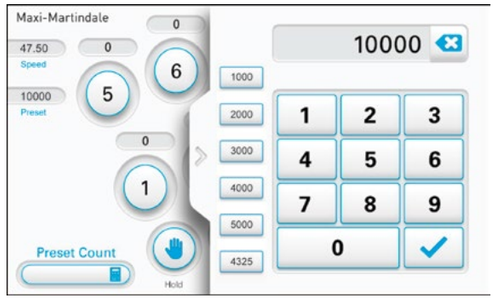
To accommodate mid-level use, the Midi-Martindale 1305 is equipped with 5 stations

Martindale with Touchscreen User Interface

Our designers worked closely with users and our textile technologists in our working laboratory to produce an intuitive touchscreen user interface which makes the Martindale easy to control. The different features are easy to access and navigation is quick, which ensures the set-up of a test is very simple. As the familiar feel of a touchscreen is similar to devices used in everyday life, users become experts instantly.

Key Features

- Minimal training time and increased user efficiency, as the touchscreen is totally intuitive
- A toughened glass cover which stands up to laboratory wear and tear including scratches and dropped weights
- A more enjoyable user experience - clean and clear settings make setting up testing quick



Quick and easy to set a test

Clear, easy to use controls enable setting up any test is very quick. Any user can pick up the process quickly as the screen is instinctive and intuitive, minimising training time.

End of test visibility

The display shows the Test End time and a progress bar, which allows the user to leave the instrument to work on other tasks and return on completion, a more efficient use of their time.

Control over individual stations

Individual station counters and an individual hold function give the user the ultimate control over each station when testing, allowing them to use the instrument to exactly meet their testing needs.

Easily accessible settings

Settings for brightness, volume, date, language and motor speed can all be easily accessed from the top menu bar.

Martindale Languages

The Martindale Touchscreen User Interface can be set in a total of 9 different languages, which can be accessed via the Settings menu. This further compliments how easy the Martindale is to use, enabling the user to work with a language they understand. Languages currently available are English, Chinese, Spanish, German, French, Bengali, Italian, Hindi and Turkish.

हिंदी / **Hindi**

中文 / **Chinese**

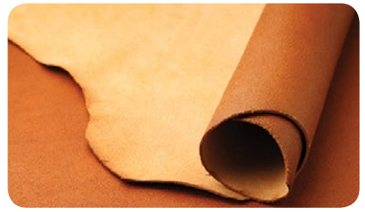
বাঙালি / **Bengali**

Applications

Through a range of kits, accessories and test materials, users can adapt the Martindale to allow for many applications in this one versatile instrument.

Textiles

Socks



Leather

Carpets

Coated Upholstery

Edges

Why James Heal?

James Heal was involved in the development of the original Martindale with Dr Martindale and WIRA in the 1940s. We have since established our position as a leading supplier, selling thousands of Martindales all over the world in the subsequent decades.

ABRASION

DurAbrasion
FLEXIBLE ABRASION TESTER

We have used our expertise in Martindale testing to create the DurAbrasion, a flexible abrasion instrument which can be used across a broad range of products. It is ideal for research and development, and for those who do not have a test method for their product.

DurAbrasion - Flexible Abrasion Tester

The different attachments of the DurAbrasion enable a wide variety of tests to be performed on a diverse range of product types. This includes wet and damp testing, lacquers, coatings, wood, laminates, paints, textiles, thick samples, liquids, sprays, powders, straps, ropes and shoelaces.

Wet & Damp Testing

A water bath allows for testing the abrasion resistance of properties or products which are required to resist the penetration of water. This includes footwear, waterproof and water resistant garments.

Thick Samples

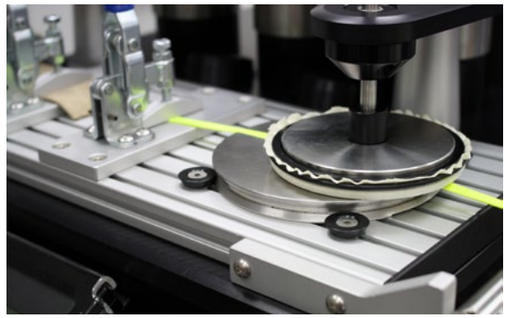
This attachment (pictured, left) enables abrasion resistance testing of thick samples such as carpets, leather, shoe components and vinyl.

Textile Testing

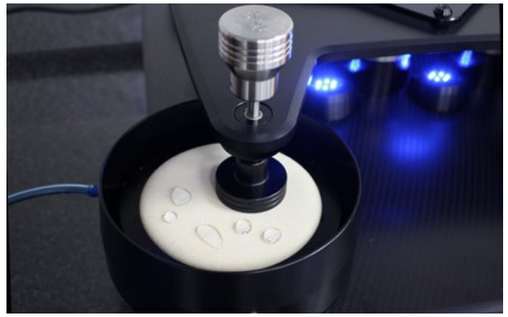
The DurAbrasion can be ordered with one station set up to test fabrics and textiles, and the other station to one of the other single station operations, for example woods and laminates.

Other Applications

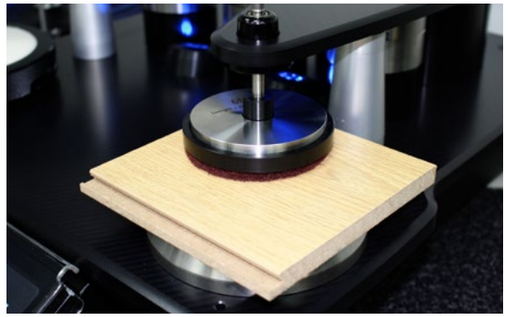
Other accessories are available to test liquids, sprays and powders, lacquers and coatings and paints and laminates. Other applications for this instrument can also be considered, and we can develop new components with the DurAbrasion as the foundation. A comprehensive DurAbrasion brochure is available and can be downloaded from our website.



A table assembly is attached across both stations to test abrasive properties of multiples types of **straps, ropes and shoelaces**.



The **water bath** accessory is used to test products while damp or fully submerged in water.



The station kit for **wood and laminates** tests micro scratch resistance, as the multi-directional pattern is representative of end use.

SNAGGING

ProMace
MACE SNAG TESTER

The ProMace is designed to rapidly determine the snagging resistance of fabrics in normal wear.

Mace snag testing is used for testing robust apparel, including military uniform and fabrics used for automotive seating and commercial and home furnishings.

ProMace is compliant with the VDA 230-220, ASTM D3939 and JIS L 1058 standards.

ProMace - Mace Snag Tester

The unique design of the cylinder length on the James Heal ProMace offers a significant reduction in the threat of the pin points breaking. This provides the user with more accurate and consistent results.

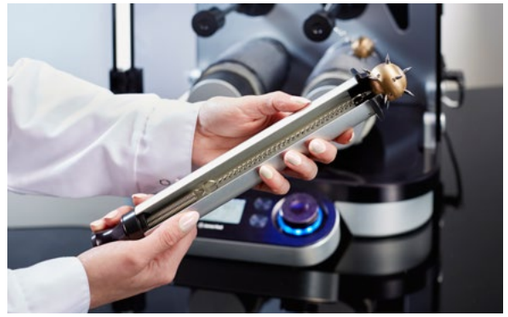
The vertical 2 x 2 configuration of ProMace provides a significantly smaller footprint in comparison with other mace snag testers, creating a saving of over 50% of laboratory bench space.

The four sample holder cylinders are removable to make the fitting and drying of the felt sleeves extremely easy. This also aids the mounting of samples.

When not in use the Mace balls are stored in non-contact mace ball holders designed to remove the risk of pin damage.

Safety - a key component

A hinged interlocked safety guard prevents the instrument from operating when opened, enabling tests to be performed in safety.



The Mace Ball Holder is specifically designed to hold the mace ball safely and securely whilst inspecting the points.

Simple and intuitive, the UniController minimises training time and can be understood in just 60 seconds.

The library of images on the ProView include those to grade tests from the Martindale, SnagPod and ICI Pilling.

PILLING

Impulse
RANDOM TUMBLE PILLING TESTER

Impulse, available as 2 and 4 chamber instruments, is designed to meet a broad range of standards. Specimens are agitated in a cork-lined cylinder, by a high-speed impeller, and are subsequently evaluated by reference to photographic standards.

The improved rotation of samples on this instrument mean that specimens are significantly less likely to fall during testing.

Impulse - Random Tumble Pilling Tester

Our Impulse range, available with either 2 or 4 chambers, are the only instruments that offer interchangeable impellers and greatly improved sample rotation throughout the test to give reliability, accuracy and flexibility.

The stylish design of the Impulse incorporates two or four test chambers which occupy only a small amount of bench space. The impellers rotate at 1200rpm to agitate the specimen and keep it tumbling.

Long life LED technology illuminates the chambers allowing the user to clearly view the testing through a window, and two dust extraction units at the rear of the instrument collect lint and loose fibre to keep the working area clean.

Neoprene liners are available for ISO 12945-3 and as they are reusable there is no need to change them after each test. This results in a reduction of downtime.

The touchscreen user interface is intuitive with minimal training required, allowing testing to be carried out quickly and simply.

Interchangeable impellers enable tests to be carried out in accordance with ASTM, JIS and other standards.

The air circulation is specifically engineered to keep the specimens tumbling for the duration of the test.

Orbitor

PILLING & SNAGGING TESTER

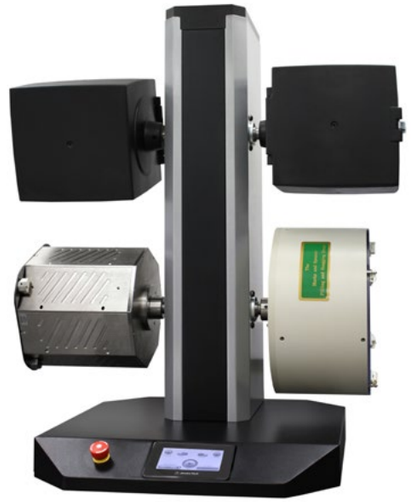
Available in two and four station models, the Orbitor is a consistent and reliable way to test the pilling and snagging properties of woven and knitted fabrics.

Orbitor - Pilling & Snagging Tester

Suitable for testing to a range of standards and retailer test methods, including BS, ICI, EN, ISO and The Woolmark Company, the Orbitor is a flexible instrument to which you can add different test boxes, drums or chambers depending on the type of testing you wish to carry out.

Any combination of pilling or snagging boxes can be used on both the two and four station models, to save time in between tests.

Improved safety features mean that the tumbling motion starts slowly to prevent user injury, and a torque limited motor stops if it detects any signs of resistance.



Simple and intuitive, the touchscreen is quick and easy to learn which minimises training time.

The magnetic qualities of the cork liners mean increased stability and tool-free fitting.

SnagPod®

James Heal led the development of the SnagPod® to solve the problem of testing for undesirable loops on the surface of garments, for which a suitable method did not exist.

The chamber is octagonal in shape and incorporates four pinned snagging bars, which are inclined forwards in the direction of rotation.

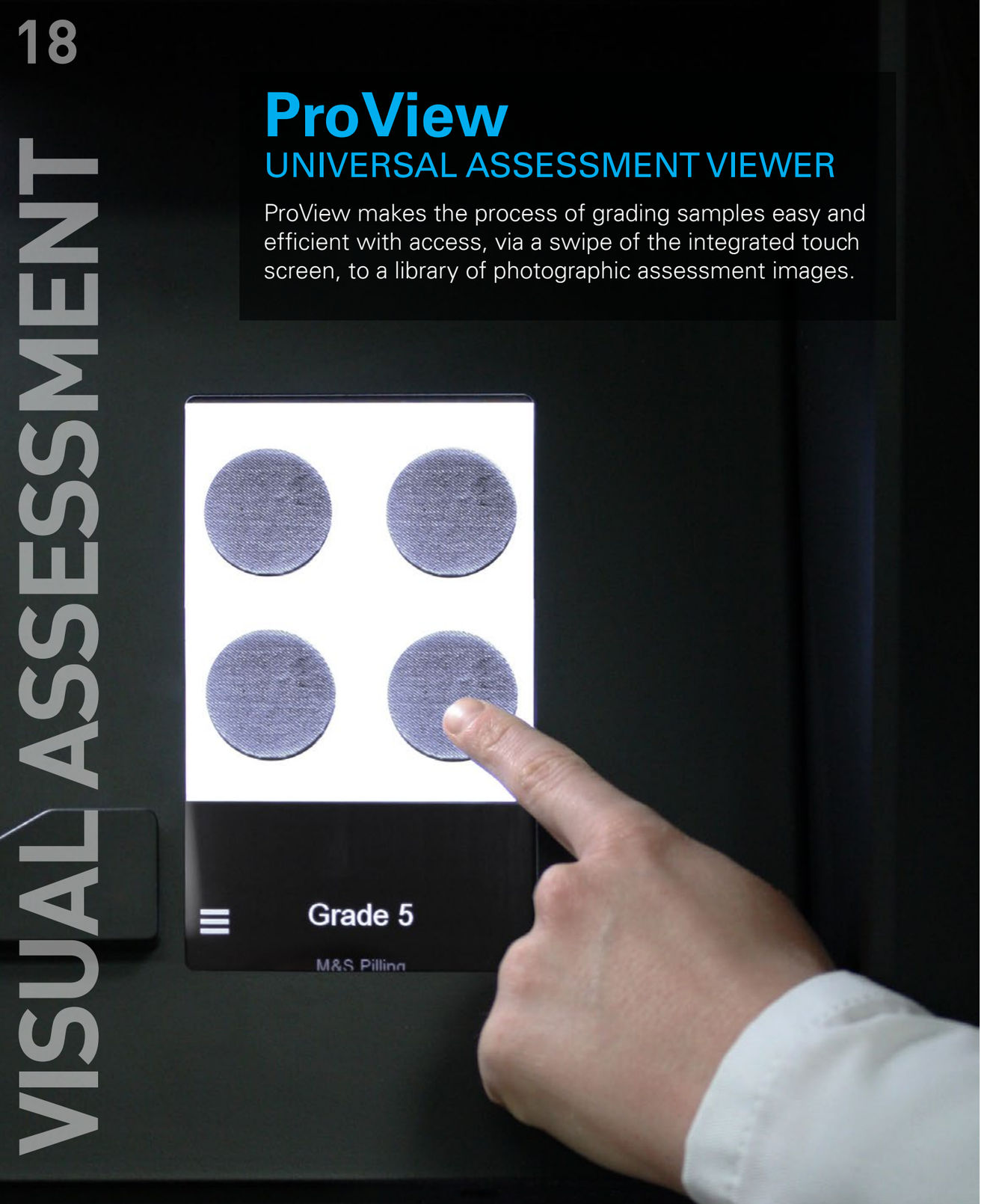
The SnagPod® design creates a gentler snagging test which provides consistent results which are more accurate to real life. It is ideal for testing lingerie and sports fabrics, such as football shirts.

Developed with the support of prominent retailers and test houses, SnagPod® provides a more realistic method for evaluating snagging.

VISUAL ASSESSMENT

ProView
UNIVERSAL ASSESSMENT VIEWER

ProView makes the process of grading samples easy and efficient with access, via a swipe of the integrated touch screen, to a library of photographic assessment images.



ProView - Universal Assessment Viewer

ProView is a simple way of assessing and grading samples - all of the images are readily available within a pre-loaded library, eliminating time spent locating and setting up physical photographs. Everything you need for visual assessment is housed within this easy to use viewer.

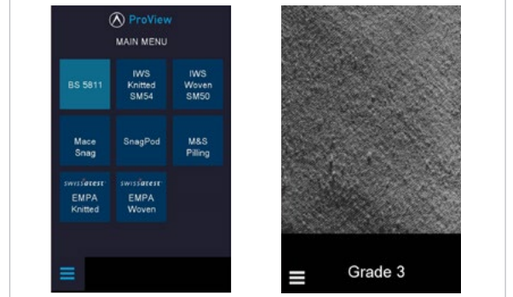
The library of photographic assessment images can be used to grade results from various test methods. The images pre-loaded into ProView are listed below:

- ASTM D 3939 Mace snagging (9 images).
- SnagPod; BS 5811:1979 & M&S - Woven (5 images), BS 5811:1979 - Single jersey (5 images) and BS 5811:1979 - Double jersey (5 images).
- Martindale: SM50 for woven fabrics - Martindale (20 images).
- Pilling Box: SM54 for knitted fabrics - Pilling box (20 images)

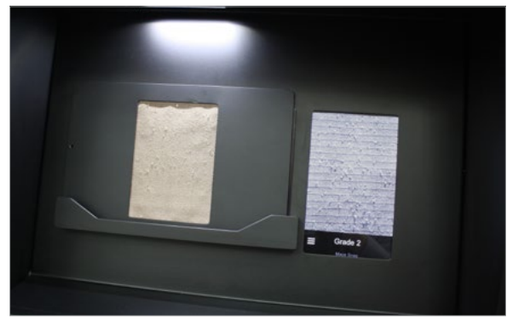
EMPA Pilling Standard Photographs

James Heal have entered into an exclusive agreement with Swissatest Testmaterialien AG who own the so-called EMPA images. Pilling Standard Photographs for EMPA Woven and Knitted standards are preloaded into the ProView to increase the range of images available.

A range of sample holders and masks make the process of assessing and grading the samples clear.



An easy to navigate menu leads to an extensive range of photographic standards.



Everything you need for visual assessment is housed within this easy to use viewer.

STRENGTH

Titan
UNIVERSAL STRENGTH TESTER

For Tension and Compression Testing with capacity to accommodate tests up to 5000 Newtons (5kN) on a wide range of product types.

An extensive range of tool-free specimen grips are available, including tools and grips to test fabric, yarns, leather, zippers, buttons and attachments such as rivets and studs.

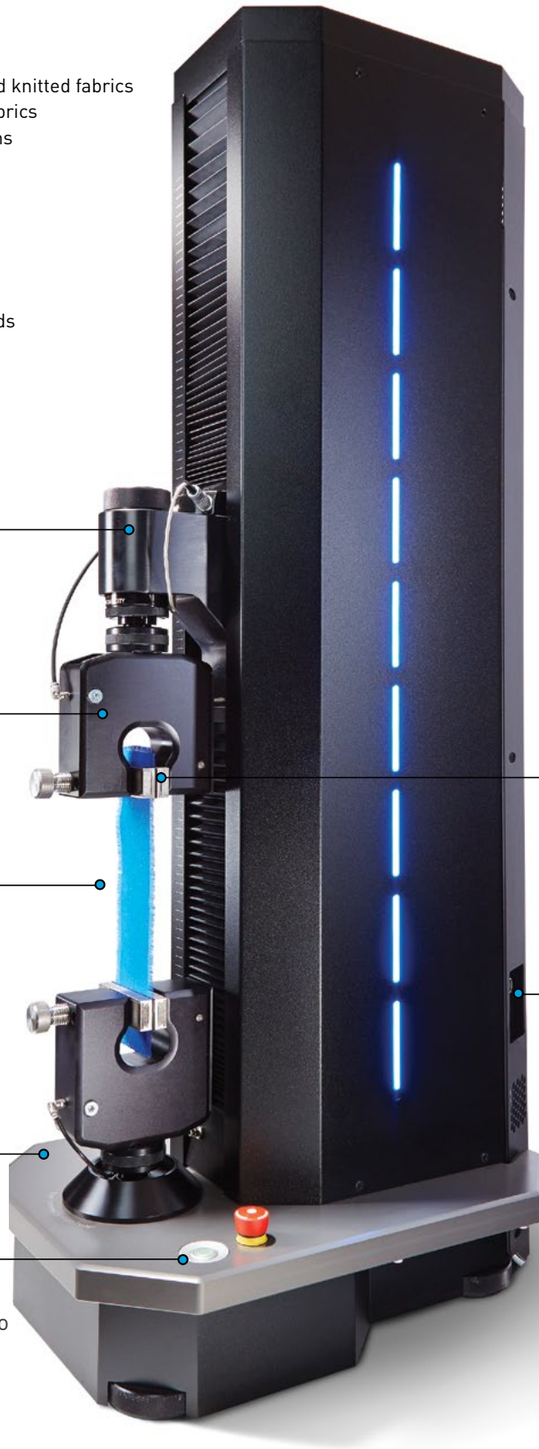
Titan - at a glance

Areas of Application

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

Operating Modes

- Tension
- Compression
- Max Capacity: 5000 N



Precision cartridge load cell for safe handling

Interchangeable manual or pneumatic grips (T27 shown)

Automatic setting of jaw separation based on selected Standard

The flat base enables the sample to be placed easily

'SMART' button
This aids the loading of the sample and is used to start the test - removing the need to constantly return the PC

Soft Close Jaws
The soft close is sufficient to grip the sample, and once the user's hands are moved away, full pressure is applied ready for testing.

A pneumatic connection to compressor or Factory airline, and a USB connection to laptop or PC and the foot switch control

CLEAN WORK AREA

- Integrated Power Supply
- No additional 'bolt-ons'
- No messy wiring or cables
- Everything is contained within the robust case.

Titan is a flexible machine with a wide range of tooling, examples of which can be seen below. We have the expertise to consider special grips and modified software upon request.

OctoGrip

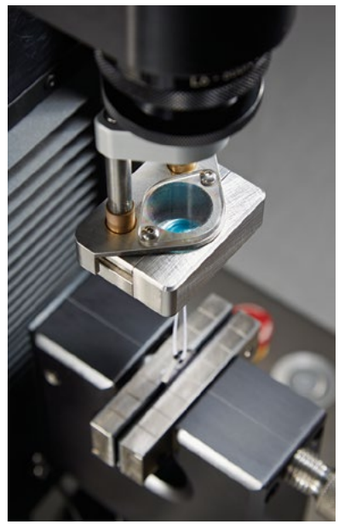
OctoGrip has 8 claws for gripping small attachments

Stud Strength (T24)

Suitable for testing buttons and tack-buttons (studs)

Security of Attachments (T12)

Puncture Test (EN 388)



Button Strength (T4)

Testing buttons to destruction and the security of attachment. Includes integrated debris shield.

Compression Test (T20B)

TestWise for Titan

TestWise is a specially developed test analysis software that complements the Titan Universal Strength Tester. It combines a simple user interface and comprehensive analysis functionality for the quick and effective administration of testing procedures.

TestWise is an integrated application with no modules or additional costs. The simplicity of the software means **you can start testing in only three clicks.**

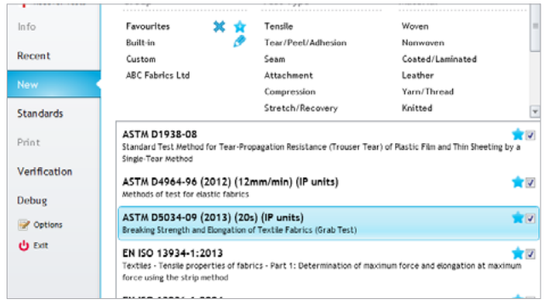
Standards

TestWise incorporates an ever expanding library of pre-loaded standards and test methods. We keep this 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.

TestWise includes a "Standards Editor" which allows you to customise existing Standards and create new ones which meet your more specific requirements.

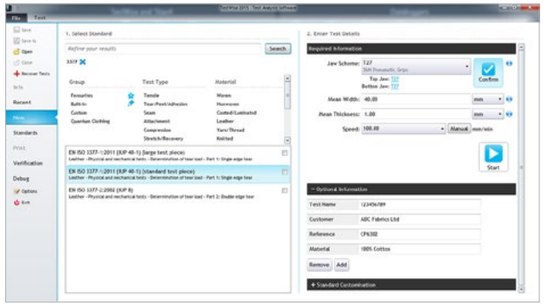
Once a new standard has been created it is available and ready for use in the Standards Library.

Other key features of TestWise include an autosave function, meaning data can be recovered after a power failure, and an easy to use menu bar with quick access to all features.



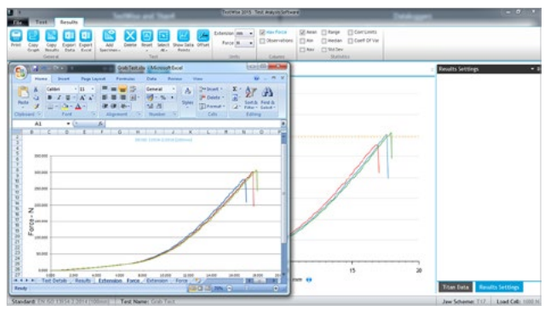
Filters & Favourites

Standards can be easily located through a 'Filter' option, and users can create a customised list of 'Favourites', including all the standards they use regularly. These are clearly highlighted for easy access.



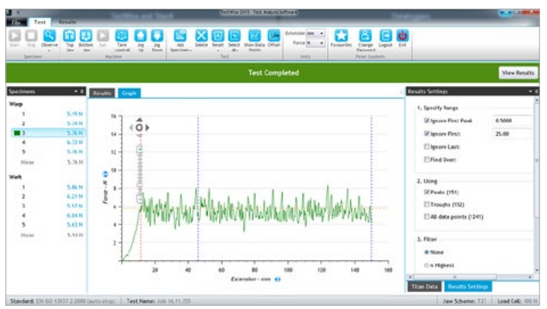
Automatic Set Up

TestWise transfers the test parameters, specified in the selected Standard, to the instrument for automatic set-up. This reduces the time to start the test which increases production efficiency and reduces training time.



Export to Excel

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 immediately after testing.



Results

The real time presentation of Time, Extension and Force values allows monitoring of results during testing, and specimen test results including current mean value show immediate visibility of trends.

STRETCH & RECOVERY

FlexiFrame

STRETCH & RECOVERY INSTRUMENT

The FlexiFrame offers flexibility and accuracy across a range of fabrics to meet a variety of standards for stretch and recovery testing.

FlexiFrame - Stretch & Recovery Instrument

FlexiFrame offers flexible and accurate static extension testing. Each of the stations is totally interchangeable, allowing any station to do any test at any one time. It meets the requirements of a broad range of standards, including those from ASTM, Arcadia and Ralph Lauren.

FlexiFrame is used for growth and recovery testing in several standards where the use of a tensile tester would be prohibitive due to the time (usually several hours) required for testing. It is supplied as either portable or wall-mounted to suit your laboratory environment.

The FlexiFrame is standardised and calibratable, giving you and your customers confidence in the quality and repeatability of your results.

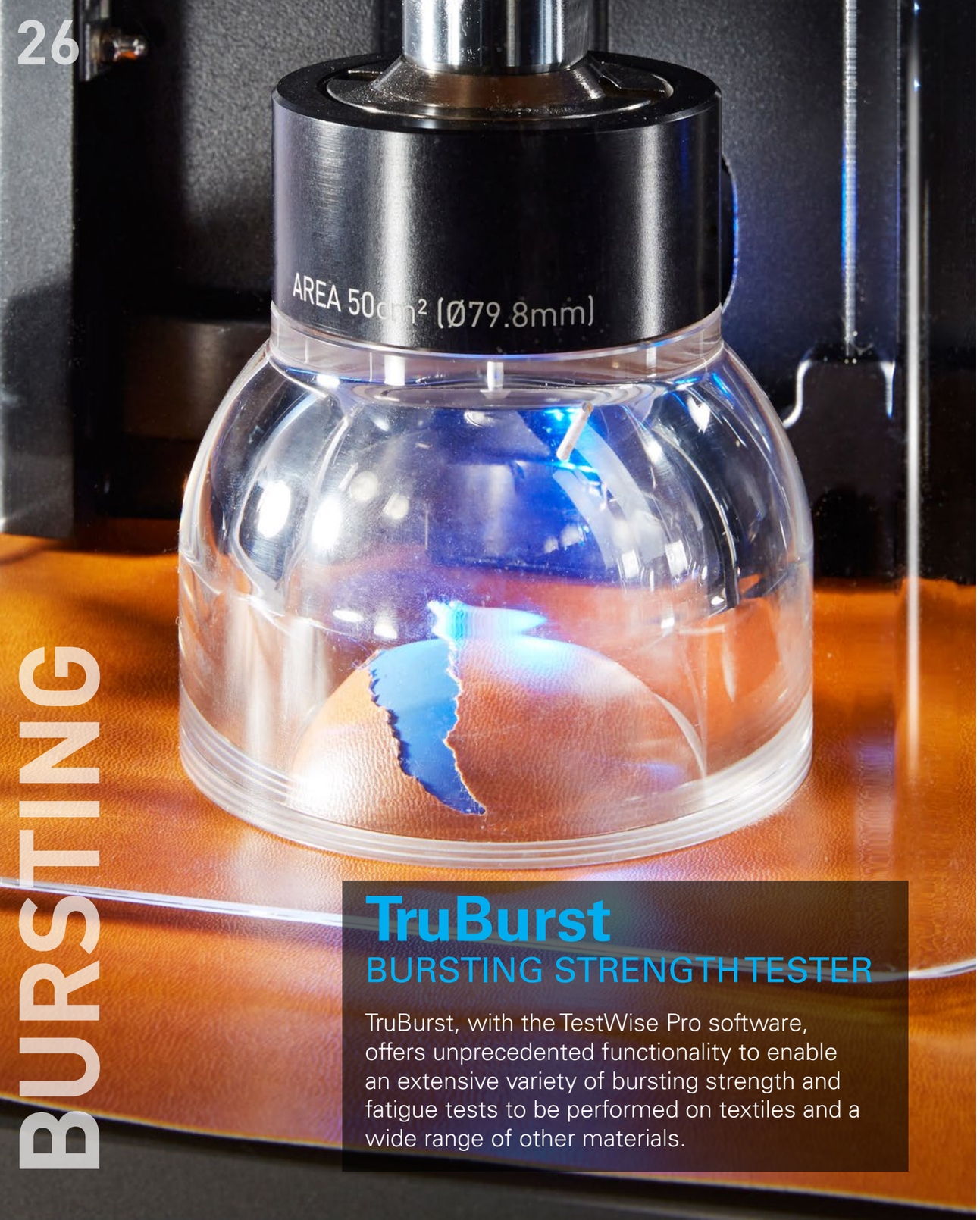
A range of accessories are available for the FlexiFrame, including hanger assembly, a dowel pin and stackable weights. This means the user has everything they need to begin testing to the relevant standard.

User error and working out time are minimized by using the stretch and recovery ruler which allows the user to measure percentage stretch and recovery directly without calculation (as pictured).

An extensive range of accessories means testing can be done to an assortment of standards.

The James Heal stretch and recovery ruler measures percentage stretch and recovery without calculation.

Each station has an independent timer which can be used in position or remotely, which minimises user downtime.



BURSTING

TruBurst
BURSTING STRENGTH TESTER

TruBurst, with the TestWise Pro software, offers unprecedented functionality to enable an extensive variety of bursting strength and fatigue tests to be performed on textiles and a wide range of other materials.

TruBurst - Intelligent Bursting Strength Tester

Unprecedented functionality enables an extensive variety of tests to be performed on a wide range of materials: textiles, medical supplies, paper, tin foil and plastic items - it is even used to test mosquito nets.

Automatic Flow Control Calibration

TruBurst provides the unique feature of automatic flow control for M&S P27 and adidas 4.09. For other instruments of this type, it is necessary for the user to repeatedly set the valve, time the flow with a stop watch and calculate the flow rate until it is correct. With TruBurst this process is fully automated, offering tremendous time-savings for the operator.

TruBurst is approved by Marks & Spencer for testing to M&S P27.

Automatic Time to Burst

For ISO 13938-2 and similar standards, the method requires the user to burst a specimen within 20s ± 5s. TruBurst will display a warning message if the specimen does not burst within the specified time. If instructed the instrument will then automatically adjust to the correct pressure rate to give the correct burst time.

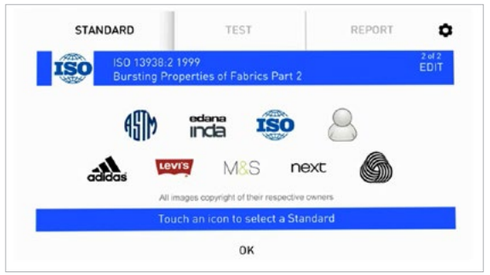
Accurate contactless laser distension measurement ensures pin point accuracy and extended diaphragm life.

The on-board software enables TruBurst to be operated independently of a PC for bursting strength testing.

TruBurst has five interchangeable domes with automatic recognition of dome size, which accelarates testing and minimises downtime.

TruBurst - 7” Colour Capacitive Touch Screen

TruBurst’s 7 inch capacitive touch screen is fast and very responsive. The screen angle is ergonomically designed to give the optimum fit between the users and the instrument. The clear and uncluttered display maximises user efficiency and significantly minimises training time.



Standards Driven Software

Required standards can easily be selected via the relevant icon on the start-up screen. The software is designed to minimise the number of key strokes required to set-up and activate the test, which contributes significantly to greater user and instrument efficiency.

Dome Clamp Pressure

The dome clamp pressure is set through the software, when previously it was necessary to manually adjust the pressure as required. Moving this function into the software makes the process very simple, and dome pressure during the test is recorded in subsequent reports.

Industries for TruBurst

TEXTILE

- Traditional knitted products, e.g. T-Shirts, casual/sportswear with and without elastane
- Woven
- Nonwoven; e.g. wet wipes, cleaning clothes such as J-Cloths.

AUTOMOTIVE

- Car Seats

MEDICAL

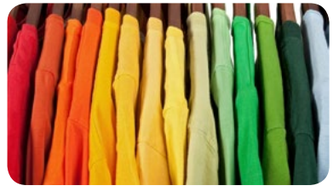
- Nonwovens - knee / elbow supports
- Wound dressings
- Suture strength
- Hernia patches
- Organ patches
- Animal skin
- Blister packs
- Mosquito nets for WHO (World Health Organisation)
- Technical textiles: e.g. surgical gowns/masks

PLASTIC

- Food packaging
- Bin liners
- Sacks and various plastic products
- Vacuum packaging

PAPER

- Light weight paper



BURSTING

TestWise for TruBurst

As standard, TruBurst is supplied with TestWise Lite which allows test results to be saved to a PC and printed. TestWise Pro, which can be ordered separately, gives access to more advanced features such as cyclic, rapid fatigue, extension and recovery, user-defined tests and export to Excel.

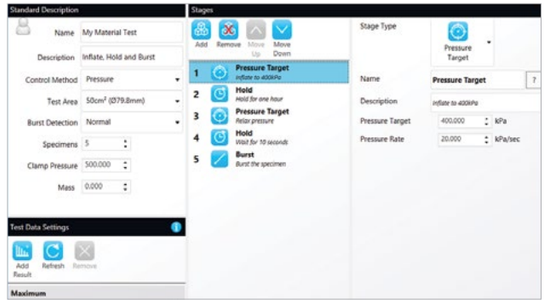
Why TestWise Pro?

TestWise Pro has enhanced features including enabling the user to have full control of the test parameters, offering users the facility to set-up complex exercise, recovery and fatigue tests.

This facility will undoubtedly be of interest to users and companies involved with product Research & Development and to laboratories who wish to offer a wider variety of tests.

Main Benefits

- Burst, Cyclic, Rapid Fatigue and Extension & Recovery
- The user can build their own tests to specifically match their own testing requirements
- The instrument data can be viewed live during a test
- The raw data from the test can be exported to Excel and manipulated as required by the user.

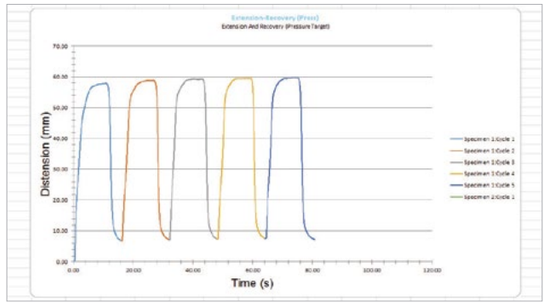


Stages

New, user-defined tests can be created using ‘Stages’, a function which enables a new test sequence to be simply built up by adding ‘stages’ to a list’. Various stages of testing can be modified by the user to create their own test.

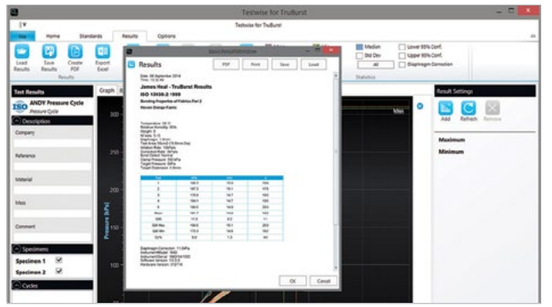
Live Instrument Data

Live graphing of Burst, Cyclic and Stretch & Recovery testing allows distension, pressure and time to be recorded in real time. The captured data can be saved for subsequent examination and analysis.



Export to Excel

The intelligent export to Excel function which means graphs are automatically created for Distension vs Pressure, Distension vs Time and Pressure vs Time. This enables the instant visualisation of the material’s properties.



Results

Results available include inflation rate, correction rate, burst detection, target distension and many more. Statistics and graphical analysis are created, with tables of individual results and averages.

ElmaTear

INTELLIGENT DIGITAL TEAR TESTER

The new ElmaTear is extremely versatile and may be used to test woven and nonwoven textiles as well as paper, plastic and other sheet materials.

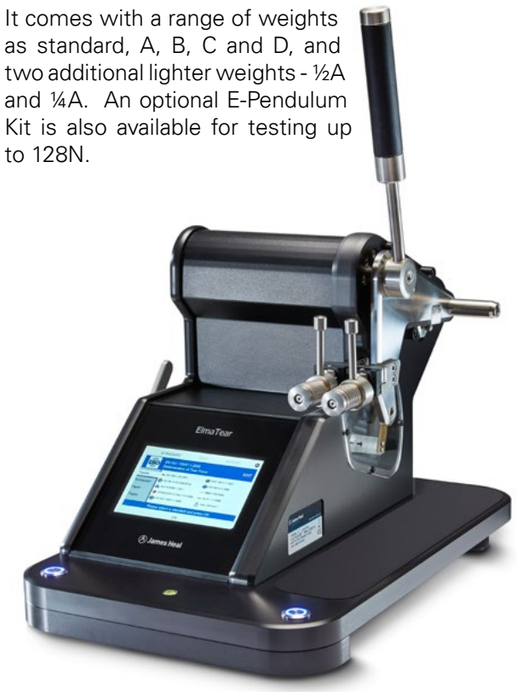
TEARING

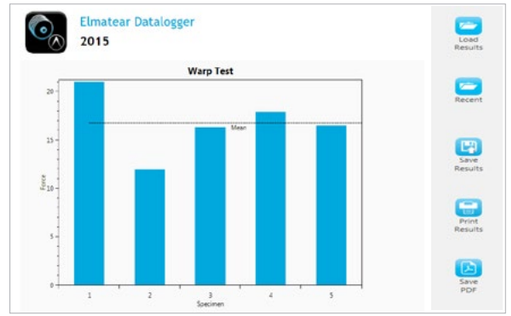
ElmaTear - Intelligent Digital Tear Tester

ElmaTear has a comprehensive list of existing standards organised by material type available for selection. The test parameters are pre-set for your convenience, and users can also create and save their own. This user-friendly approach cuts down on training time, and the downtime between tests is minimal helping you achieve maximum throughput.

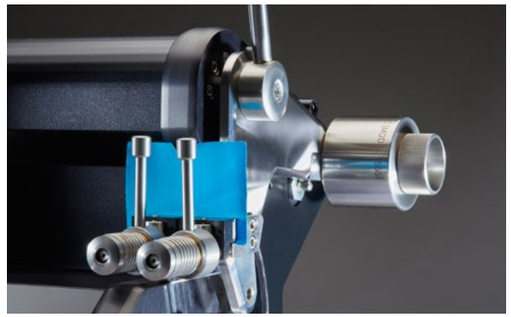
The ElmaTear is equipped with easy to fit pendulum weights which allow for a variety of materials to be tested.

It comes with a range of weights as standard, A, B, C and D, and two additional lighter weights - ½A and ¼A. An optional E-Pendulum Kit is also available for testing up to 128N.





TestWise for ElmaTear has the option of creating a bar chart of results and saving to PDF.



Innovative rotary cam lock jaws clamp the specimen ready for testing.

TestWise for ElmaTear

TestWise for ElmaTear packages the results and sends them directly to your computer. From here, the user then has the option to edit and add more detail. Bar graphs can be created and there is the option to save to PDF.

TestWise can be used as an archiving tool to keep a record of all previous results.

This quick and easy process makes analysing results simple. Less time needs to be spent on analysis, increasing user productivity.

The ElmaTear gives a range warning if results fall within the upper or lower end of the scale, and recommends a different pendulum be used.

FASTNESS

TruFade
XENON ARC LIGHT FASTNESS TESTER

TruFade genuinely simplifies light fastness testing and delivers accurate and consistent results. It features our latest 2200W, long-lasting xenon lamp, which in combination with current filter technology gets as close as possible to the spectrum of natural sunlight.

TruFade - at a glance

Extra wide access for loading and unloading samples

Up to 9 tri-sided specimen holders increase usable exposure space

Easy to load triangular sample holders which slot into place within the chamber

SolarSens is positioned on the same carousel as the samples to measure irradiance in the same position

A compact design means the lamp is easily accessible at a low height

Intuitive colour touch screen with access to TruFade software

Ergonomic user interface

A pull out water tank at the front of the instrument makes filling and cleaning an easy task

FASTNESS

TruFade comes with an easily operated, intuitive software which allows routine testing to be started in as little as three touches of the screen.

Menu Screen

The user interface is clean and easy to navigate, and starting the testing is quick to do. The menu screen gives the user access to:

Test Information - Press this when you are ready to start a test.

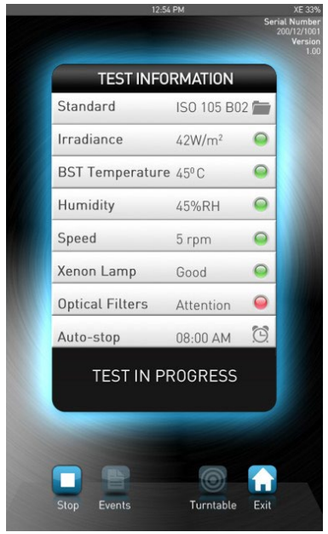
Standard - Choose from a list of pre-programmed Standards or define your own.

Timer - Select a timer to automatically stop the machine after a period of hours or at a specific time of day.

Exposure - Provides comprehensive sample management and reports the total sample exposure in kJ/m²or hours for each sample holder.

Service - For easy maintenance, this screen shows you the status of the Xenon Lamp and the Optical Filters.

Settings - Provides adjustments for various settings such as date, time, language etc.



Test Information

The test information works on a simple traffic light system which easily indicates to the user if any of their parameters are outside of the specification.

Once the instrument is started, feedback on the parameters is provided, meaning the user can act instantly to stop the test and correct any issues.

Standards Screen

There are five pre-programmed standards available, with the entire set of parameters associated with that standard pre-defined. This includes, where appropriate, Irradiance, temperature and relative humidity. Standards are selected with one touch of the screen, minimising downtime in between tests.

User defined standards can also be created, and each setting of the test is easily and freely programmed.

Exposure Screen

This feature lets you keep track of how long your samples have been in the TruFade, and also the exposure time for each face of the 3-sided sample holder.

If you remove a specimen and intend to keep the instrument running, there is a Hold function which can be used to freeze each individual sample's value until it is returned. Individual sides of the sample holder can also easily be reset.

Other Functions

An Events Screen records test events such as when tests are started or stopped, when the Xenon lamp has been changed and any system messages. This means any activity on the instrument can be tracked when it is left unattended.

The lamp serial number is recorded in the software for warranty purposes, and the instrument can be locked via an access code.

TruFade - Xenon Arc Light Fastness Tester

TruFade offers a fresh approach to light fastness testing - it streamlines and simplifies a difficult area of colour fastness testing to deliver consistent and accurate results. The compact ergonomic design, intuitive software and extensive range of user benefits make a TruFade a joy to use for both new and experienced users.

This high performance, long lasting, air-cooled zenon lamp works in 'controlled irradiance' and 'blue wool' mode, which comply with international standards for textiles, leather and other materials.

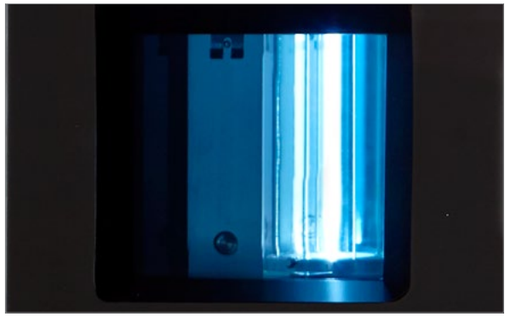
SolarSens Radiometer

When used in 'irradiance mode' the SolarSens is positioned on the turntable to measure the light output from the xenon lamp, keeping it constant by continuously adjusting power to the lamp.

The SolarSens is positioned on the same carousel as the sample holders, meaning irradiance is measured in the same position. An unparalleled accuracy of measurement is achieved.

SolarSens also measures the black standard temperature and ensures the target value is continuously maintained.

Our tri-sided sample holders are really easy to load and unload, and offer up to 1640cm² of useable exposure space.



The design of the sample holders brings them closer to the xenon lamp, making it more effective therefore extending its lifespan.

A pull out water tank stored tidily behind the front panel makes cleaning and filling an easy task.

GyroWash
COLOUR FASTNESS TESTER

Available in eight and twenty pot instruments, the GyroWash is a washing and dry cleaning colour fastness tester for textiles and leather.

FASTNESS

GyroWash - Colour Fastness Tester

Designed to test textile and leather samples, GyroWash is used to determine colour fastness to washing, dry cleaning and chlorinated water. Small and large test vessels are interchangeable, so testing can be carried out to both ISO and AATCC standards simultaneously and without adjustment.

Key features of the GyroWash include:

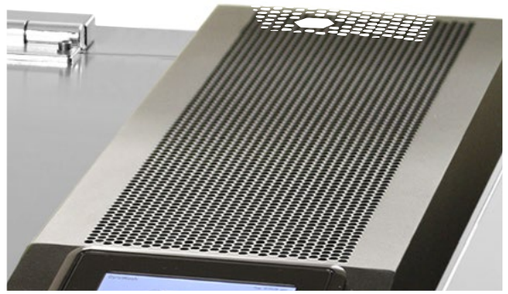
- Quick drain and fill with easy to reach fittings on the front of the instrument
- A cool touch lid for safe access
- A sealed, insulated bath and lid which results in lower energy usage
- An in-built document pouch for storage of verification readings
- Tool free, interchangeable vessels

Touchscreen User Interface

An intuitive touchscreen user interface, designed alongside textile technicians in a working laboratory, offers testing which is simple to set up. Pre-loaded standards, temperature settings, rotational speed and an autostart function can all be controlled from the touchscreen.

The touchscreen user interface allows you to programme the operation of the machine in less than three steps.

Interchangeable large (1200ml) and small (500ml) vessels can be fitted easily and without tools using a push and twist motion.



A dedicated preparation area means that any surplus water collects in a drip tray which drained automatically.

AccuDry

STANDARDISED TUMBLE DRYER

AccuDry provides you with repeatable and standard conditions for tumble drying. It is used to simulate domestic laundering conditions and conduct drying and shrinkage testing.

It is designed to reduce operator time to the absolute minimum.

Laundering

James Heal offers a range of instruments which simulate domestic laundering conditions in a precise and measurable manner. These are Wascator, a standardised washing machine, AccuDry, a standardised tumble dryer and Dynawash, a garment and printed fabric durability tester.

Wascator

The Wascator is used to determine fabric or garment shrinkage and appearance after washing and complies fully with the requirements of European standards and retailers test methods.

When you buy a Wascator from James Heal, it comes ready programmed for EN ISO 6330:2000, EN 26330:1993 and ISO 6330:1984. Other programmes: ISO 6330:2012, a suite of Marks & Spencer test methods and other standards are available to purchase on separate memory cards.

AccuDry

AccuDry is a standardised, air-vented, reverse-action European Tumble Dryer. It complies with EN ISO 6330:2012, is suitable for TWC-TM 31 and 254, and meets the requirements of a range of Retailers' specifications.

It is equipped with a Unicontroller - a smart and innovative interface which allows operation of the machine to be programmed in two steps. Test and cooling time is easy to set and quick to change, and the temperature can be set manually in increments of 5°.

DynaWash

Dynawash offers you a rapid and effective method for simulating multiple domestic washes in the laboratory - a 15 minute wash is approximately equivalent to 5 washes in a normal washing machine.

It can be used to evaluate the following properties of fabrics or garments; shrinkage, differential shrinkage (puckering or cockling), appearance retention, flock retention, security of garment attachments, print durability, shade change and pilling.

FLAMMABILITY

FlexiBurn
MULTI-PURPOSE FLAMMABILITY TESTER

FlexiBurn offers an effective, controlled way of testing ignition and flame spread properties of a range of materials.

FlexiBurn - Multi-purpose Flammability Tester

FlexiBurn, a vertical flammability tester, can be used to test the ignition and flame spread properties of apparel, curtains, drapes, nightwear, toys, protective clothing, technical fabrics, building and other materials.

Programmable User Interface

FlexiBurn is equipped with a robust Control Module which stores test data. A printer can be connected directly to the module to print test reports, or the data can be sent to and stored on a remote PC.

A Range of Standards

To comply with various BS, EN, EN ISO and retailer standards, we offer a comprehensive range of easily interchangeable gas burners, interchangeable test frames and test materials.

Radiator Assembly

When used with the optional radiator assembly, FlexiBurn complies with EN 13772 'Burning behaviour - curtains and drapes - measurement of flame spread with large ignition source'.

FlexiBurn Chamber - Optional Purpose Designed Chamber

The purpose-designed FlexiBurn Chamber is the ideal place to house your flammability testing to meet the stringent conditions as dictated by the standards. It minimises the risk to the health and safety of your operators.

Flammability testing should not be conducted in the open, because of the flames, smoke and gas generated by burning materials. So as not to influence the ignition and burning process, the standards specify a minimum volume of 4m³ of surrounding air, and an air speed of less than 0.2m/s.

Although a room can be adapted to meet these requirements, it is much safer and easier to use the purpose-designed FlexiBurn Test Chamber. This will contain the flaming material and the fumes generated by burning textile and similar specimens.

Small Instruments

James Heal's range of smaller instruments put innovation at the forefront of every day testing procedures.

Perspirometer

The Perspirometer is used to determine colour fastness to perspiration, cold water and sea water. The same instrument is employed to predict the potential of white or pastel coloured textiles to yellow in transit or storage.

It comprises of a stainless steel frame, with top and bottom plates and an intermediate spring plate. The springs, which act on this plate, are designed to maintain a uniform pressure on the specimens as they are drying out in the Incubator.

The James Heal Phenolic Yellowing Test Kit, for use with the Perspirometer, has been approved by leading retailers including Marks & Spencer.

Incubator

Incubation temperatures for colour fastness and phenolic yellowing tests are 37°C and 50°C respectively. Our incubators are designed to hold these relatively low temperatures within the specified tolerances.
The Incubator is used in conjunction with the Perspirometer - samples are transferred to the incubator whilst loaded in the Perspirometer and left for a predetermined period of time.

Two sizes of incubators are offered - thirty litres, which holds up to four Perspirometers, and sixty litres which can hold eight. Both models are fan-assisted to promote uniform temperature distribution in the heated chamber.

Thermaplate

Designed with safety in mind, the Thermaplate has a positive park position for the top plate, cool exterior surfaces and a warning light when temperatures exceed 60°C.

Independent digital controls are used to set the operating temperatures of the top and bottom plates, and a pre-settable digital timer is activated when the top plate is closed.

The top plate is designed so that its weight and subsequent pressure on the specimen can be easily checked. An optional temperature measurement kit is available for checking the performance of the top and bottom plates.

Spray Rating Tester

The Spray Rating Tester performs a shower test to determine the resistance of fabric to surface wetting by water. Its easy handling and precise components ensure accurate and convenient testing, ideal for testing waterproof materials and high-tech fabrics.

The spray rating tester comprises of a stainless steel framework, incorporating a funnel. The spray nozzle is a machined component which ensures the water flow is always correct. The specimen holder facilitates rapid and secure mounting of specimens in the correct position on the instrument.

Crockmaster

Available as either a hand operated or motorised instrument, Crockmaster is used to determine colour fastness to wet and dry rubbing.

Two alternative sizes of interchangeable rubbing fingers are available, together with an interchangeable token holder which allows a number of test standards to be accommodated.

Apart from textiles, our Crockmaster can be used to test the colour fastness of rubbing of carpet, laminates and printing inks, as well as the microscratch resistance of lacquers, coatings or painted surfaces.

Test Materials

Made in Britain

Our test materials are manufactured, processed and tested in our own purpose-built Test Materials Centre within the James Heal premises in the UK. Here we have facilities for warping, weaving, inspection, cutting, sewing, processing and packaging, as well as for physical and colour fastness testing.

Quality Assurance

James Heal have the technical experience and knowledge to understand the crucial importance of compliant Test Materials to the end user.

We have invested heavily in our Quality Control infrastructure, which includes two well-established and equipped ISO 17025-compliant in house Laboratories and a wide range of quality control procedures and processes, all of which are regularly and independently audited. A group of experienced Textile Technologists, residing in the Test Materials Centre, oversee and support our Quality framework, which includes daily testing in our conditioned laboratories of each and every batch of products or materials received for sale to our global partners and customers.

Bespoke Products

Our modern and flexible manufacturing facility, allows us to produce variants on standard products or develop totally new product lines to support our wide customer base.

Global Network

We have agents and distributors in over 60 countries so you can order products locally and pay in your local currency.

Martindale Test Materials

The Martindale test is sensitive to the use of the right test materials and as the instrument manufacturer, we have an intuitive understanding of this critical interface.

Whether it's Abrasive Cloth, Woven or Nonwoven Felt or Polyurethane Foam, we guarantee total compliance with the relevant standards.

We also stock a variety of alternate abradants, dependent on the material under test.

Cotton Lawn/Crocking Cloth

Crocking cloth, also known as cotton lawn or cotton rubbing cloth, is used in a Crockmaster (Crockmeter) to check the amount of dye transfer, following a dry or wet rub fastness test.

We manufacture both ISO and AATCC cloths in accordance with their different specifications.

We supply either cut pieces or in roll form. Cut pieces can be ordered with either straight or gimped edges.

Multifibre DW

We weave our own Multifibre DW, inspecting every metre to ensure you receive perfect fabric every time.

It complies with the requirements of ISO 105 F10 and is approved by many UK and European specifiers.

It is supplied in rolls or cut pieces. American Multifibers, suitable for AATCC test methods, are different in composition and construction. We stock the most commonly used variants.

Multifibre LW

Approved by Marks & Spencer, our Multifibre LW is as the traditional Multifibre DW, but the Acetate strip is replaced by a regenerated cellulose strip.

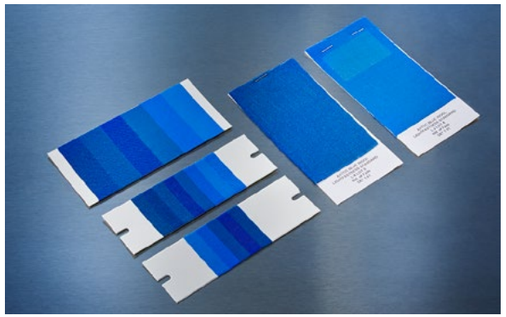
Is is considered that regenerated cellulose is more relevant than Acetate to the fibres commonly found in current apparel fabrics.

We have added a thoroughly tested colourfast identification strip into the selvedge of our Multifibre LW to aid stock identification.

Blue Wools

Blue Wools are used for light and weathering fastness testing. They are individually dyed wool pieces, each with a different degree of fastness to light.

We supply Blue Wools in pieces or in strips bonded to card to accommodate your preferences. We can develop bespoke cards to meet your exact needs.



Makeweights

Makeweights, also known as 'Ballast' or 'Loading Fabrics', are used to make up the load in washing, dry cleaning, drying or durability tests.

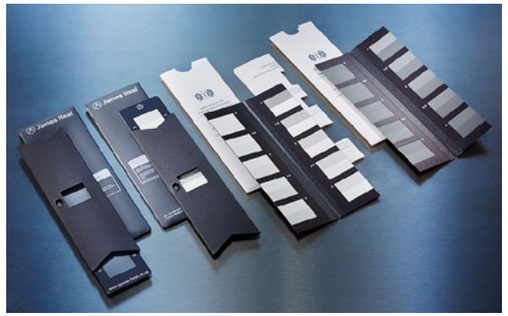
We manufacture Makeweights to the precise specifications demanded by various ISO standards. We also supply American Makeweights as specified in AATCC Test Methods. In addition to standard Makeweights, we are flexible and willing to produce non-standard components.

Grey Scales

Grey scales are used for assessing colour change and staining during colour fastness testing.

The colour change scale consists of nine pairs of grey coloured chips, from grades 1 to 5 (with four half steps). Grade 5 represents no change and Grade 1 depicts severe change in some standards.

The staining scale consists of nine pairs of grey and white coloured chips from grades 1 to 5 (with four half steps).



Detergents

We manufacture a comprehensive range of standardised soap and detergents, used for colour fastness and shrinkage testing and specified in many European, International and American standards.

Our commitment to 'made in the UK' is no different for bulk Detergent manufacturing and as such, a comprehensive quality control flow process sits around each tonnage produced. External and independent Laboratory testing under-pins the final part of our sign off procedure, carried out by our Textile Technologists to ensure complete compliance with the strict specifications in place.

Pilling/Snagging Materials

We offer an extensive range of test materials to complement our portfolio of pilling and snagging instruments.

These include cork liners, pilling tubes, and snagging points for Orbitor; liners, ramps, half-size pilling tubes, locking rings and snagging bars for the M&S Pilling/ Snagging Drum; cork liners, cotton sliver and specimen edge glue for Impulse; and felt covered pilling tubes, locking rings and snagging bars for SnagPod.

Photographic Standards

Standard, graded photographs are still widely used for evaluating surface changes after testing.

To ensure absolute consistency from batch to batch and to make the photographs as easy as possible to use, they are produced in-house and under strictly controlled conditions.

Our ProView Assessment Cabinet has these photographs preloaded into its software.

Yellowing Test Kit

Our Yellowing Test Kit is the original, developed by Courtaulds Research, for investigating complaints arising from transit or storage yellowing.

Beware of copies and counterfeit products, which do not produce accurate or consistent results or might cause health and safety issues.

AATCC Test Materials

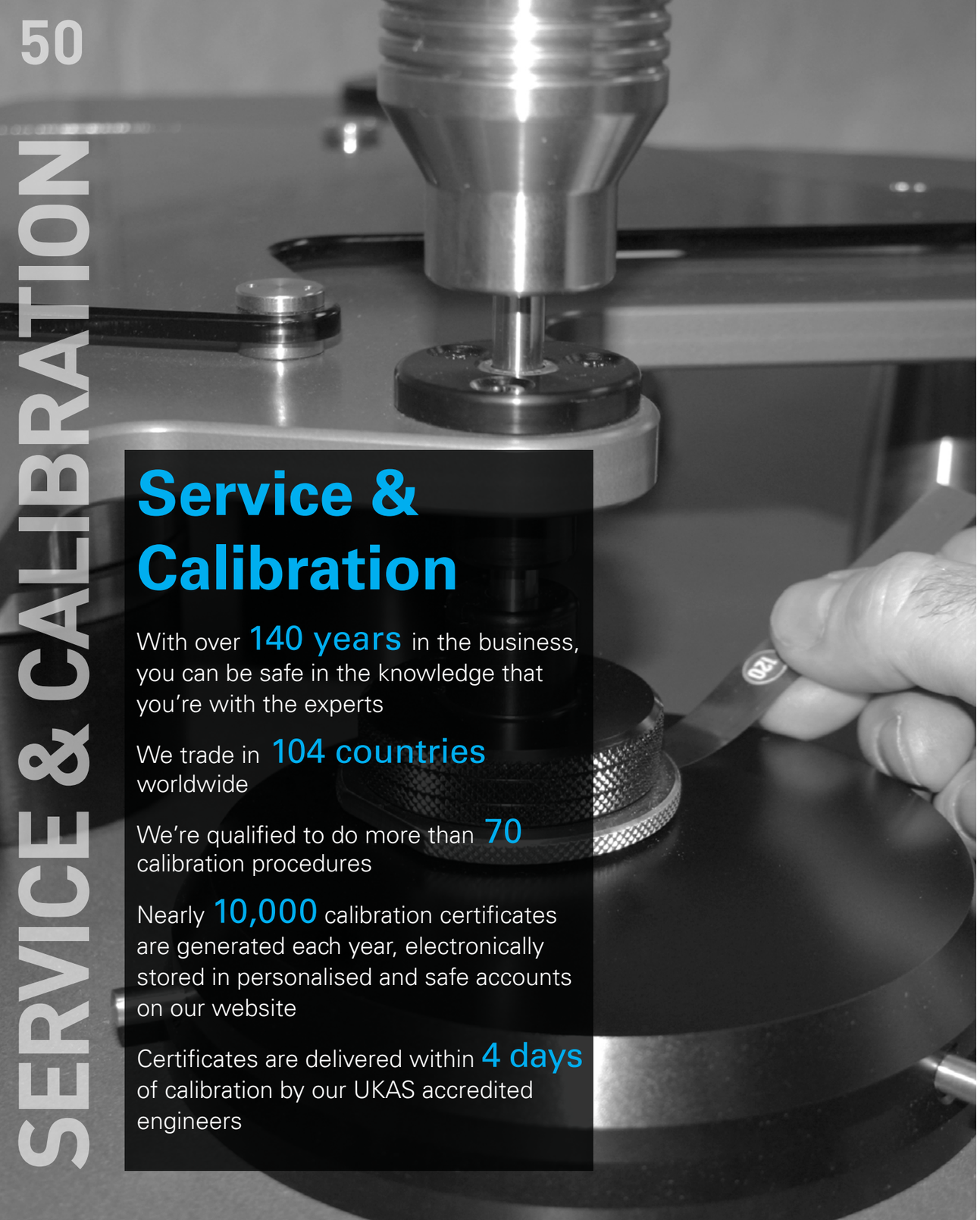
We stock a comprehensive range of genuine AATCC test materials including gray scales, crocking cloths, ballasts, multifibers, light fastness testing standards and detergents.

Test Materials

PRE-CUT SAMPLES

For your convenience, pre-cut test materials in different sizes are available for many of our products including Martindale Test Materials, Multifibre DW, Multifibre LW and Crocking Cloth.

Pre-cut test materials eliminate preparation time to increase the efficiency of the testing process.



Service & Calibration

With over **140 years** in the business, you can be safe in the knowledge that you're with the experts

We trade in **104 countries** worldwide

We're qualified to do more than **70** calibration procedures

Nearly **10,000** calibration certificates are generated each year, electronically stored in personalised and safe accounts on our website

Certificates are delivered within **4 days** of calibration by our UKAS accredited engineers

We know you have no time for down time

which is why it's so important to keep your testing equipment running well to minimise disruption and maximise uptime.

We also know how important your reputation is

which is why it's crucial to have testing equipment which performs consistently, so you can pass these results onto your customers.

We understand that unexpected repairs have a cost

which is why keeping your instruments serviced, calibrated and performing well throughout the year will pay itself back time and time again.

We Provide

- Installation, commissioning and training
- Technical support for both engineering and applications
- Skilled engineers with an average of over 12 years experience
- Onsite calibration & certification
- Preventative maintenance
- Breakdown repairs
- Spare parts
- A flexible service which meets our customer's evolving needs
- A worldwide service supporting our global network of customers

You can expect

- High quality, comprehensive calibration and service to keep your assets in prime condition
- Knowledge that your equipment will be serviced by James Heal, UKAS accredited service engineers
- Access to our experienced applications Technicians
- Support from our Technical Engineers
- Training to ensure your staff are productive as quickly as possible
- Availability of spare parts, many only manufactured and supplied by James Heal
- Excellent customer service and peace of mind

Service & Calibration

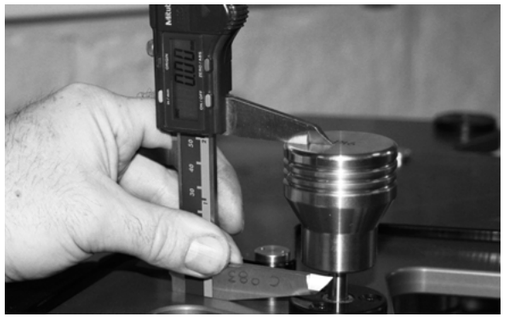
We recognise the investment our customers make in purchasing James Heal instruments and want to ensure that investment is protected. This is why we offer comprehensive after-sales service, repairs and technical support, plus UKAS accredited calibration. **Why would you risk anything less?**

Calibration

UKAS accredited James Heal engineers calibrate each instrument to ensure it totally complies with the relevant standard – there is no compromise.

Your instruments may produce inconsistent and inaccurate test results if they do not meet calibration standards and so fail to fulfil the expectations of your customers. This could compromise your reputation for reliability.

Our comprehensive approach to instrument calibration is demonstrated on the following page.



Your instrument will undergo an unrivalled degree of calibration to ensure total compliance to standards.

Service

Our team of engineers, who average in excess of 12 years field experience, travel the world to satisfy customer needs for service and calibration.

They possess extensive knowledge of test equipment from a range of manufacturers and are ideally placed to ensure every part of your instrument is performing accurately.

Regular visits from James Heal engineers will minimise downtime and ensure compliance to standards is achieved and maintained.

Regular service visits by our UKAS accredited engineers will help to minimise downtime to produce accurate and consistent results.

Technical Support

Instrument failures can lead to lost revenue, higher costs and a shortage of testing capacity. James Heal has teams offering both Technical and Applications support who will respond to your needs with minimum delay.

We continuously monitor and improve the performance of our instruments and after-sales support in order to establish permanent solutions that comply with standards.

Our Technical Support Teams are totally committed to continuous improvement of our after-sales service.

A wealth of knowledge about our instruments and others

Our engineers have the training and diagnostic tools required to maintain and calibrate James Heal instruments, plus a broad range of other brands on the market. Even if you didn't purchase from us, you can make use of our industry experience and hands on knowledge on all the products below.

Accredited by UKAS (United Kingdom Accreditation Service) and compliant with ISO 17025

AccuDry Tumble Dryer
Air-Matic Burst Tester
Crockmaster, Crockmeter
FlexiBurn, Rhoburn, Other Vertical Flammability Testers (and associated test frames)
Gyrowash, Rotawash, Launderometer, Other Washwheels
Impulse, Other Random Tumble Pilling Testers
Load Cells for Titan, Tinius Olsen, Hounsfield, Testometric and Other Tensile Testers (up to 5000N)
Martindale, Nu-Martindale, Other Martindale Abrasion Testers
Orbitor, Other Pilling Testers
Perspirometer
Sample Cutters
Tautex, Other Crimp Testers
TruBurst, Other Pneumatic Bursting Strength Testers
Wascator CLS
Wascator 7IMP-LAB
Wascator 7IMP

Compliant with ISO 17025

Apollo Light and Weathering Fastness Tester
Balances (1-900g capacity and up to 0.0001g)
Bundesmann Water Repellency Tester
Bursting Strength Testers (max. 6000kPa)
Check Weights (up to 6000g)
Contact Heat Tester
Crease Recovery Tester
Crockmeter (rotary)
Digital Timers
Durawash
Dynawash
ElmaTear
Elmendorf Tear Tester (Mechanical)
Electrolux Tumble Dryers T4130 & T5130
Electrolux Washers W455H & W555H
Fabric Extensiometer
Force Gauges (snap/button testers)
Hydrostatic Head Tester
Incubators (laboratory)
Load Cells for Alphatens Tensile Tester
Mace Snag Tester
Martindale Ball Plate
Martindale Sock Abrasion Kit
Miele Rotary Iron
Miele Washers
Ovens (laboratory)
Pick Counters
Piece Glasses
ProMace
Seam Slippage Tester
Shrinkage Rulers
Shrinkage Templates
SnagPod
Spray Rating Tester (including spray nozzle)
Steel Rulers (up to 1m)
Stroboscope (Analogue)
Stroboscope (Digital)
Tension Meter (Analogue)
Tension Meter (Digital)
Thermaplate Contact Heat Tester
Thermohygrograph
Thermometers (up to 90°C)
Thickness Gauges
TruFade Light Fastness Tester
Titan
Tumble Dryer (ISO 6330)
Tumble Dryer (M&S)
Twist Testers
VeriVide Colour Assessment Cabinets
Veslic Rub Fastness Tester
Whirling Hygrometer
Whirlpool Dryer
Whirlpool Washer
Wira Rapid Drying Unit
Wira Steaming Cylinder
Wrap Reels
Wrinkle Recovery Tester

Why have your Martindale calibrated to UKAS standard by James Heal?

UKAS CALIBRATION 0610

LISSAJOUS FIGURES

Our Engineer will calibrate the lissajous motion for abrasion testing and the pattern measured for both width and length using digital callipers. This process is then repeated for pilling testing.

If the lissajous motion is **NOT** calibrated and measured - your Martindale **WILL NOT COMPLY** to the Standard.

SPINDLE BEARING FRICTION TEST

To check the bearing is working correctly our Engineer will place a 12kPa weight on the top of the spindle and a 10g weight hung from a filament. The movement of this is measured. If the bearing is working correctly, the 10g weight will spin freely.

If this process is **NOT** carried out during a Calibration, test results from the Martindale **WILL BE INCONSISTENT**.

SAMPLE HOLDER INSERT PROTRUSION

A James Heal Engineer will use a micrometer to measure the sample holder insert protrusion for each plate, taking the measurement of depth between the protrusion and the edge.

If each sample **DOES NOT** protrude at the same level the test results **WILL BE INCONSISTENT.**

ENVIRONMENT

The temperature of the environment in which the Martindale is located is measured using a digital thermometer.

If the ambient conditions are **NOT** as stated in the Standard the samples will **NOT** produce the correct results.

MASS

The sample holder, plus both of the weights used, are weighed on a calibrated balance.

This process is repeated for the pilling mass - two weight measurements are taken, one for the pilling ring and another for the specimen holder, spindle and O rings.

This is a requirement of the Standard. If these weight are incorrect the test results will be **COMPROMISED.**

PRESSING WEIGHT MASS

The mass of the pressing weight is measured on a balance which has first been checked with a calibrated weight. The diameter of the pressing weight is also measured using digital callipers.

INCORRECT weight or dimensions of the Pressing Weight will result in **NON-COMPLIANCE** to the Standard and **INCONSISTENCY** of results.

PARALLELISM

The sample holders are tested in-situ. A 0.05mm feeler gauge is inserted under the sample holder to ensure the plates are flat and the spindles are not bent.

An imbalance in the sample holder would result in uneven wear of the material surface resulting in **INACCURATE** test results.

SPEED

Speed is measured in two ways; a tachograph is used to determine rotation speed and a stop-watch to measure the number revolutions in a given time.

The speed is specified in the Standard, therefore incorrect speed equals **NON-COMPLIANCE** and the materials will deteriorate at a quicker/slower rate resulting in **INACCURATE** test results.

SAMPLE HOLDER LIFT

Our Service Engineer will use digital callipers to measure how far the sample holder lifts off the plate.

Any deviation from the measurement within in the Standard will result in **NON-COMPLIANCE** and **INCONSISTENT** test results.

CLAMPING RING INNER DIAMETER

Digital callipers are used to measure the inner diameter of each clamping ring in three equally spaced places.

If this is **NOT** calibrated the samples will be loose and **NOT** within the specification.

James Heal - playing a role in everyone's life

We've built a strong foundation in the textiles industry, based on over 140 years of experience and expertise. We're proud to lead the way in our innovative approach to precision testing instruments, continuing to build upon our pedigree.

Part of our success comes from working closely with customers from around the world. We listen and respond to their evolving requirements to ensure we meet their testing needs. Feedback is valued in the development process.




Our instruments test automotive parts, including lacquers and coatings, elastomer components and car seats.

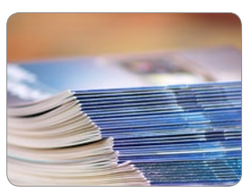



Our instruments test medical supplies, including sutures, bandages, wound dressings and mosquito nets.

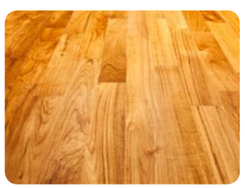
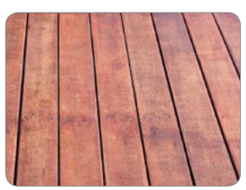
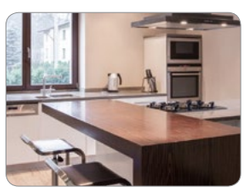
A result of this is the development of testing methods for more than just the textile industry. We've partnered with both small companies and big brands to create testing solutions for a range of materials, with the vision of playing a role in everyone's life.

Whether it's adapting our existing instruments or creating new, we aim to stay at the forefront of testing solutions. We're open to ideas and thrive on the challenge of solving problems - speak to us to see how our knowledge and innovation could benefit you.






Our instruments test plastic and paper products including food packaging, bin bags, carrier bags and brochures.

Our instruments test wood and laminates including furniture, counter tops and laminate flooring.

DIVERSIFY

James Heal™

Engineering Excellence

Testing Solutions

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AGENT

James Heal™
Extraordinary Testing Solutions

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