

When testing really counts...



Nearly all product and materials testing has some implication for safety, but nowhere is this more clearly illustrated than in the case of Personal Protective Equipment or PPE. One of the UK's leading test centres is tackling the work with the help of equipment from the Hounsfield/ Tinius Olsen stable.

SATRA is the UK's leading consumer product test centre, providing quality assurance testing for member companies and statutory testing open to all companies. It was founded over 80 years ago by a group of industrialists as a not-for-profit organisation and has now grown to a membership of over 1,500 companies in 70 countries.

Although traditionally associated with footwear, today SATRA's work encompasses a wide range of consumer goods industries including floor-coverings, fabric care, clothing, furniture and toys.

In recent years this has expanded further and now includes a growing list of Personal Protective Equipment.

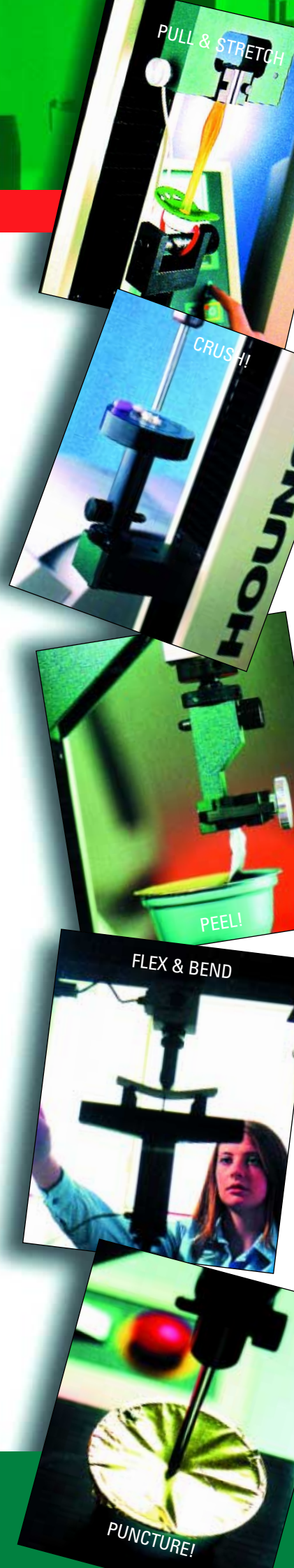
Products such as safety boots, headgear and webbing all have to be tested to the extreme, which is why SATRA bought an H100K-S tensile testing machine from Tinius Olsen/Hounsfield. They assess the effects on products as if being used by a person weighing 10 tonnes! While such a high loading may appear excessive, it provides a thorough test of safety margins.

"The Hounsfield machine is used every day and we've found it to be very good," comments SATRA business manager Austin Simmons. "The range of specimen holders and software makes it very versatile. A further plus point is the fact that the Hounsfield engineers are all UKAS-accredited, so they can conduct calibration checks and adjustments at the same time as service visits."

When circumstances dictate the use of equipment on which lives may depend, it's reassuring to know that it has been the result of such rigorous procedures.



SATRA's H100KS is in regular use for testing PPE



A question of standards



Impressed Standards Authorities are considering adoption of this calibration equipment developed by the company's own engineers

Imagine investing in test equipment only to find during suppliers' maintenance checks that, before the machine can be put back into service, another company has to be called in to do the calibration work – taking perhaps days or even weeks. How does Tinius Olsen make sure this doesn't happen to its customers?

To help customers avoid the expense and inconvenience of waiting for calibration checks, Tinius Olsen invests in the training and accreditation of its field support staff. Maintenance, servicing and, if necessary, calibration, can all be carried out by the same person, during the same visit.

This simple, convenient, support service is part of the company's dedicated and ongoing commitment to quality. Offering calibration services requires Tinius Olsen to be accredited by UKAS (United Kingdom Accreditation Service) in the UK and by A2LA (American Association for Laboratory Accreditation) in the USA.

The process does not stop there, as new tests and standards appear all the time. Most recently the company's UKAS accreditation has been expanded to include calibration of extensometry to BS EN ISO9513 for metals and rigid plastics and ISO 9583 for elastic materials and rubber. Accreditation has also been received for other procedures derived from these for measuring devices such as linear transducers used in flexural and compression tests.

The Standard goes **International**

Hello and welcome to our new readers

Welcome to The Standard, formerly the newsletter of Tinius Olsen's British arm, Hounsfield Test Equipment. As the two companies work towards becoming a single, fully-integrated business in January 2004, customers of both are already beginning to enjoy the benefits.

Have you ever wondered how they do your job in other countries? The Standard gathers stories on an international scale, from testing polymer flow rates for oil majors in the USA to wine bottle corks in Belgium and from aerospace components in the UK to multifilament fishing nets in Peru. We try to show what equipment customers use, how and why they use it.

Customers in North America will find it easier to access the equipment developed for the plastics, textiles and packaging sectors developed in Redhill, UK while European customers, particularly in the metals sector, will benefit from better access to the

knowledge, experience and equipment perfected in North America. Worldwide, single company approval by standards organisations such as UKAS and A2LA will mean calibration certificates will be valid in any country.

So, (apart from The Standard!), what other evidence of these benefits is there so far? In Europe, one of the first developments has been the introduction of the Super L machines, extending testing capacity from 100kN up to a massive 3000kN. In North America, the company's aim to provide complete solutions to testing or quality requirements is now further reinforced with the hugely successful QMAT Pro software. In time, new products and new developments will be made available everywhere.

Customers can access more information on the Tinius Olsen web site at www.tiniusolsen.com or access the Hounsfield web site at www.hounsfield.com.



Champagne winners

Judging from the response to our competition in the last issue of the Standard to win one of five cases of champagne, there must be many people who (purely in the interests of science of course!) are keen to measure the forces needed to remove corks from champagne bottles.



Pictured here with UK sales manager Steve Taylor are Chris Holton from Visteon Automotive Systems, Middlesex and Val Board who received the champagne on behalf of the quality department at Clarks International's Dowlsh Ford site, Somerset. The other winners were Noel Brackenn from Boston Scientific Corporation, County Cork, Mark Ward from Smith & Nephew Medical, East Yorkshire and Steven Rees from BIP Pastex Ltd, West Midlands.

Diary dates – Where to see us this year

Sep 8 - 9	Roadshow New York (venue TBA)	Oct 8 - 12	Exhibition Plastic & Rubber Fair, Beylikduzu, Turkey
Sep 9 - 13	Exhibition Chinaplas, Beijing, China	Oct 14 - 16	Roadshow Texas (venue TBA)
Sep 17 - 18	Exhibition Medtec, Dublin, Ireland	Oct 22 - 23	Exhibition MASS Plas, Fitchburg, MA, USA
Sep 22 - 23	Roadshow Virginia (venue TBA)	Oct 22 - 29	Exhibition ITMA, Birmingham NEC, UK
Sep 25 - 28	Exhibition TIME 2003, Istanbul, Turkey	Oct 28	Exhibition SAMPE, Dayton, OH, USA
Sep 28 - 30	Roadshow Ohio (venue TBA)		

Web of intrigue...

The Science Museum in London wanted to demonstrate the incredible strength of a spider's silk to visitors, so it turned to Tinius Olsen/Hounsfield for a test machine and display screen to complete its exhibit.

Although Tinius Olsen/Hounsfield has recently introduced a new range of machines in the European market for materials testing at forces of up to 3000kN, the company is also demonstrating its measurement prowess at the lower end of the spectrum in a new exhibit at the Science Museum in London. The company has provided an H1 KS to the Museum to measure the strength of silk spun by spiders to make their webs.

The exhibit, entitled "Spiders' Silk" will run until January 2004 and is intended to show visitors the incredible versatility of this natural material. Although a strand of dragline spider's silk may measure only microns across, it is six times stronger than the equivalent weight of steel. "We wanted to demonstrate this point in an interesting manner," says the Museum's Mike Cronkshaw. "The Hounsfield machine with its display screen read out, is the ideal way to show just how strong the silk can be."

Delivery of the machine was undertaken by Tinius Olsen/Hounsfield's UK sales manager Steve Taylor who says the company is used to testing different materials, but this was his first delivery for testing spider's silk. "We like to work closely with our customers but thankfully the Golden Orb spiders on display (which can grow as large as a man's hand) are safely contained in a separate cabinet," says Steve.

The Golden Orb Spider is found in tropical areas from Africa to Northern Australia. Measuring up to 20cm (8") across, it is not the largest spider but it makes the strongest webs. These can be as much as 6m (20') high and 2m (6'6") wide. The silk is almost as strong as Kevlar and, if it could be manufactured, would have diverse applications from bullet proof vests to sutures for medical operations.



Smoothing out the bumps

Proper maintenance of road surfaces not only makes them last longer and give a smoother ride, it also makes them safer for traffic. In the USA the Departments of Transportation (DOT's) of a number of states use Tinius Olsen equipment in the work to keep everything 'on track.'



New Jersey DOT for example, has four machines, including a 600,000 lb (3,000kN) Super L used to test concrete cylinders and core samples from construction projects all over the state. A smaller 400,000lb (2,000kN) Super L is also used to test various sizes of rebar, fasteners, anchors, multi-strand steel cable and 7 wire strand cable for pre-stressed concrete.

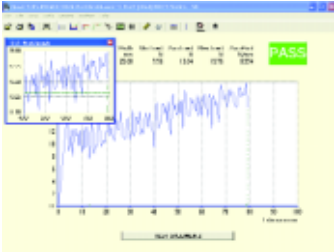
Concrete cylinder and core samples for testing are taken from the load bearing sub-layer, and upper wearing surface of the road, while the rebar, or reinforcement bars, add tensile strength to the concrete. The multi strand steel cables are used in the suspension of bridges and the seven strand wire cable is used in pre-stressed concrete sections,

again to counteract the inherent tensile weakness of concrete.

Almost half of all state DOTs in the USA use Tinius Olsen equipment, including Pennsylvania DOT, which has six machines of various capacities, including dedicated machines for testing similar materials for their civil engineering projects. Maryland DOT, which has eleven machines performing similar tests, also tests the elastomers used in road and bridge expansion joints.

Qmat vs Test Navigator

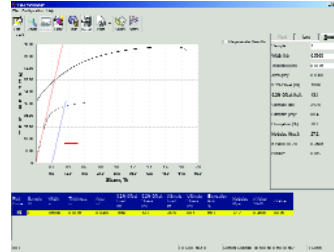
Tinius Olsen uniquely leads the field in testing software by offering multiple software packages; this means that we can find the correct testing mechanism for your needs rather than adapting your needs to the software.



Typical test result obtained with QMAT



Typical set-up in QMAT



Typical test result obtained with Test Navigator



Typical set-up in Test Navigator

The flexible packages we offer are Test Navigator and QMAT. Test Navigator is a powerful system solution running on the SQL database engine, and is designed around higher force applications that typically use hydraulic and high force electro-mechanical testing machines.

QMAT, by contrast, is a sophisticated testing solution that is designed around lower force applications such as textile, packaging, paper,

plastics, medical, rubber, food, education and final product batch samples.

While both these solutions have their own operational idiosyncrasies, they share common design characteristics:- they can be configured to control the testing sequences and acquire and then analyse the resulting data; they both have powerful, built-in statistical process control measurements and recording; they both draw on a huge library of

test methods, results and calculations (developed with our customers and our work with international standards organizations); and they are available in different languages. QMAT Pro, for example, can be used in French, Italian, German, Spanish, Greek, Korean, Turkish, Russian, Portuguese and even Mandarin Chinese tailored to local dialects.

Call us to see how we can satisfy your testing needs.

Tinius Olsen/Hounsfield

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