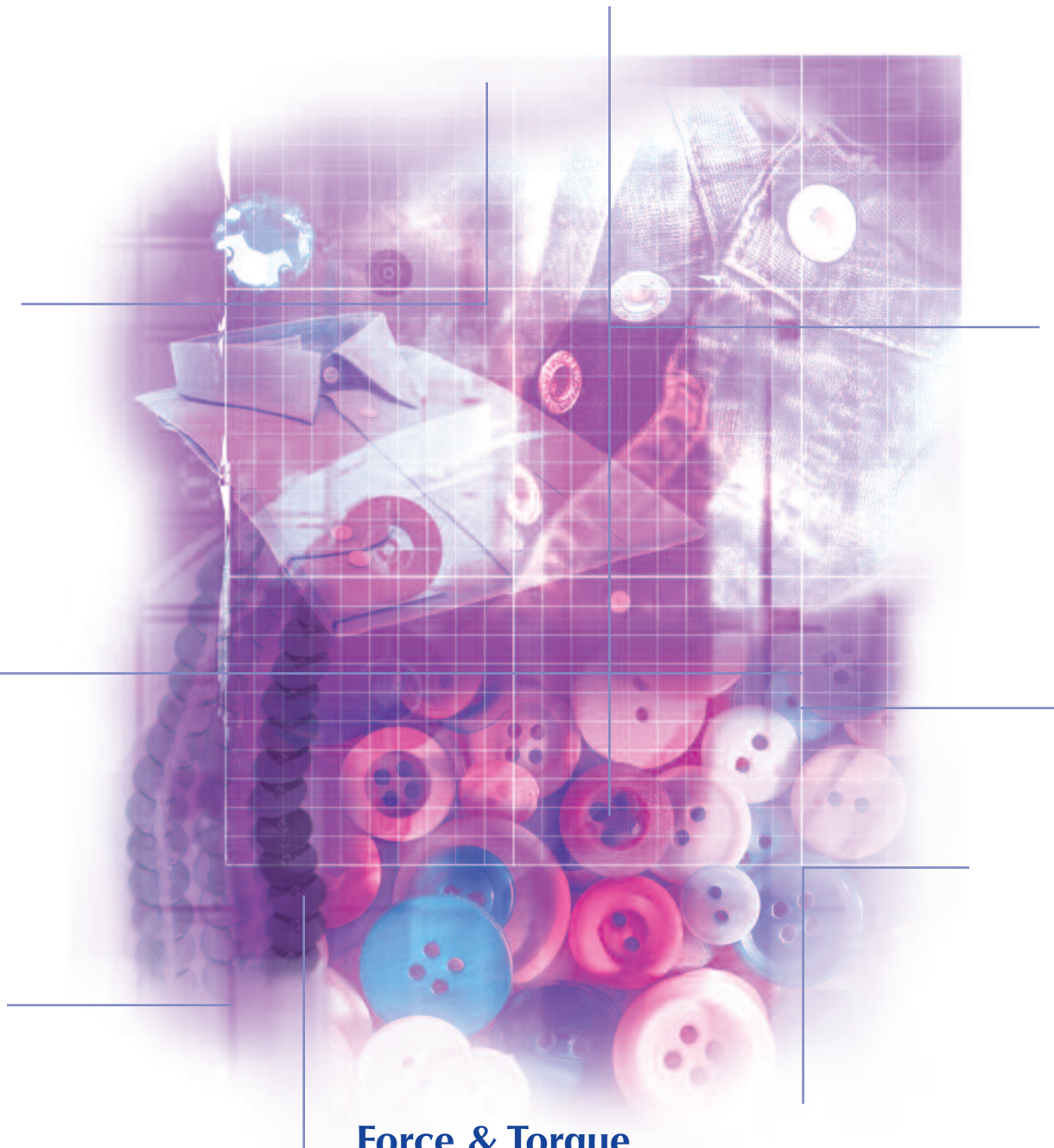


# Mecmesin

testing to perfection



**Force & Torque  
Test Solutions for**

# textile attachments

# What is TTF...

## ...to Clothing Retailers?

TTF is a way to guarantee that your ever-increasing network of global suppliers provide you with the high quality clothing that your brand is famous for.

## ...to Clothing Manufacturers?

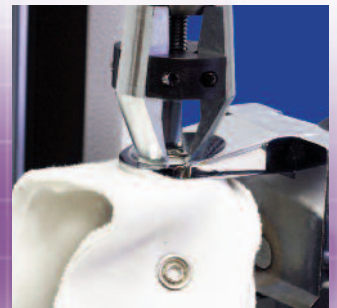
TTF is a way to demonstrate superior standards of quality assurance in production to put you head and shoulders above your competitors when it comes to winning and maintaining contracts with large international retailers.

## ...Technically?

TTF stands for 'test to failure', and describes the pull-off to destruction of clothing adornments such as buttons, poppers, sequins, bows and diamante decorations. Similar tests have been performed in the past in accordance with the EN 71 toys standard, but only to predetermined forces. Today the interest of suppliers, retailers and international standards authorities alike is focussed on testing to failure in order to gain irrefutable evidence of the garment's quality...or lack thereof.

## ...Practically?

TTF minimises the risk of infants and young children choking on textile adornments that have become detached, by ensuring sequins are secure, buttons don't budge and poppers won't pop off!





## At the Heart of the Matter

Mecmesin are at the very forefront of this issue, working alongside major international retailers and manufacturers to develop a unique customised testing solution, including Marks & Spencer and Next.

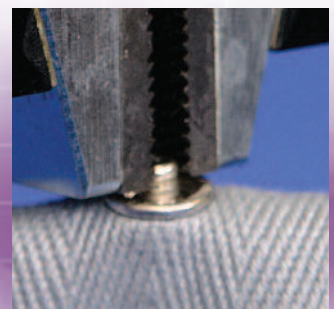
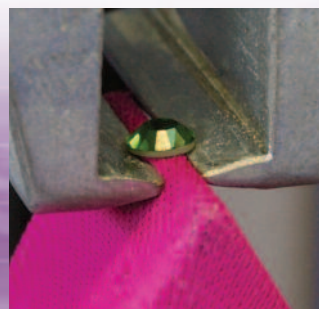
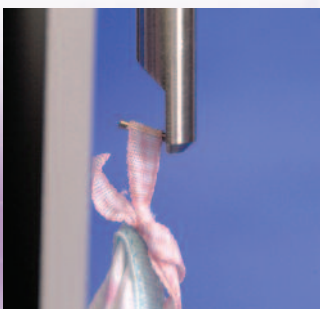
The EN/ISO equivalent of BS7907:2007 is due for release in 2009. These standards will specify 'test-to-failure' of textile attachments with a **motorised** testing system and associated specialised grips, all of which are immediately available from Mecmesin.

## Affordable, Portable & Easy-to-Use

Whether you are testing in accordance with 'in-house' company methods or international standards, the Mecmesin TTF testing system offers a simple yet powerful solution at a price that will not blow the budget.

## Globally Local

With a global distribution and support network, Mecmesin are able to offer internationally standardised high quality products and truly local sales and technical service, wherever you are in the world.



"Mecmesin provide our suppliers with test-to-failure equipment for testing the security of attachments for children's wear. They're professional and support our quality assurance and safety processes at our manufacturers by supplying simple to use total test-to-failure solutions, which fully meet the requirements of Marks and Spencer specifications."

Marks and Spencer

# TTF System

Fully motorised crosshead drive system guarantees testing at constant speeds for far greater testing repeatability over manually driven alternatives.

Adjustable upper and lower limit switches.

RS232, Digimatic & analogue data output & on-board memory of up to 100 readings.

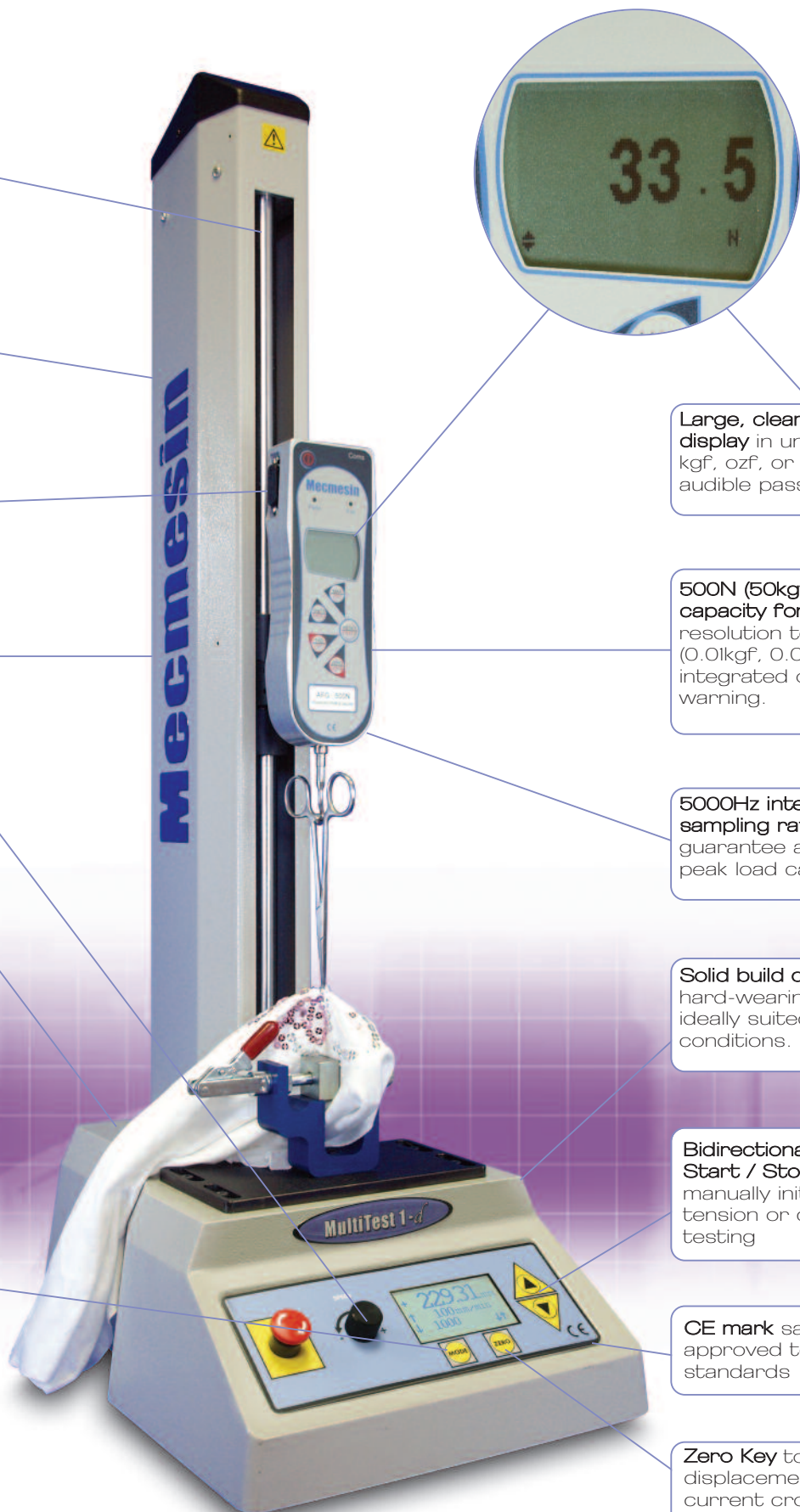
Large column length to accommodate samples up to 530mm (20.9") in height.

Speed Control digitally controlled speed selection

Small Footprint to occupy minimum bench space.

Manual/Single/Continuous Cycle Mode Key

- Select Manual Mode to perform a test by pressing and holding Start/Stop key
- Select Single Mode to semi-automate the test to run to a limit switch or a stop signal from a force gauge
- Select Continuous Mode and the stand will continue to run between limits, while counting cycles



33.5

Large, clear force display in units of N, kN, kgF, ozF, or lbf, with audible pass/fail alarms.

500N (50kgf, 110lbf) capacity force gauge resolution to 0.1N (0.01kgf, 0.02lbf), with integrated overload warning.

5000Hz internal sampling rate to guarantee accurate peak load capture.

Solid build quality, hard-wearing housing ideally suited to factory conditions.

Bidirectional Start / Stop Key to manually initiate / stop tension or compression testing

CE mark safety approved to European standards

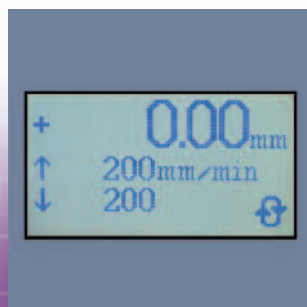
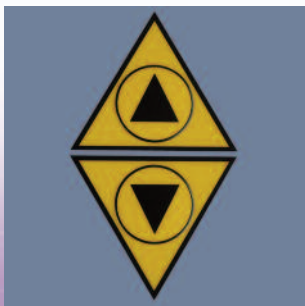
Zero Key to reset the displacement at the current crosshead position.

# Key Benefits

- Motorised Crosshead Travel
- Easy-to-Use
- Affordable
- Small Footprint
- Lightweight & Portable

## Z-Value Excel™ Macro

Mecmesin can supply the Z-Value Excel™ Macro, which at the click of a button will **automatically calculate the z-value** of your results, for simple quality compliance reporting. Following the Marks and Spencer recommendation that a batch of 30 samples should be tested this functionality has been programmed into the macro.



200 mm/min - TTF speed  
according to BS 7907 and M&S  
method P115B

Sample No.	Peak Reading
1	6.100 kg
2	5.900 kg
3	6.100 kg
4	6.300 kg
5	6.100 kg
6	5.900 kg
7	6.100 kg
8	6.300 kg
9	6.100 kg
10	5.900 kg
11	6.100 kg
12	5.700 kg
13	6.100 kg
14	6.300 kg
15	6.100 kg
16	5.700 kg
17	6.100 kg
18	5.900 kg
19	6.100 kg
20	6.300 kg
21	6.100 kg
22	5.700 kg
23	6.100 kg
24	6.000 kg
25	6.100 kg
26	6.300 kg
27	6.100 kg
28	5.900 kg
29	6.100 kg
30	6.300 kg

SL	6.000 kg
----	----------

Results	
Samples	30
Sum	181.900 kg
Mean	6.063 kg
SD	0.175
Z	0.362

M&S Sample z-value Calculation



# Buttons

To perform a pull-off test on a stitched button, the sample fabric is held in a 25mm/50mm 'Grab Test' Textile Fixture mounted to the anvil plate of the TTF System. The button is then slid into Mecmesin's specialised Button Pull Fixture, that features interchangeable location plates (with differing slot widths), and a shatter protection guard. A tensile test to destruction is performed at a constant speed to reliably capture the peak load.

## Accessories Required

- 1 x 25mm/50mm 'Grab Test' Textile Fixture  
Part no. 432-323
- 1 x Button Pull Fixture  
Part no. 432-175

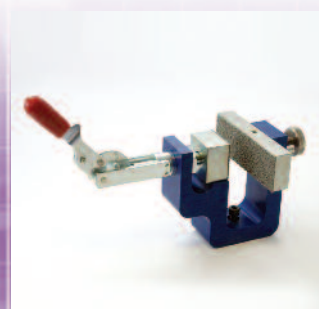
## Dimensions

### 25mm/50mm 'Grab Test' Textile Fixture

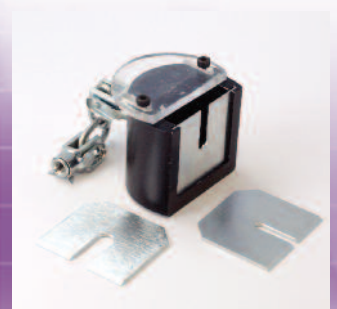
- Grip face width 25mm/50mm
- Max. material thickness 6.5mm
- Height 74mm

### Button Pull Fixture

- Slot width of interchangeable location plates 3, 5 & 7mm
- Chamber depth 35mm
- Chamber width 35mm
- Height 112mm



25mm/50mm "Grab Test" Textile Fixture (432 - 323)

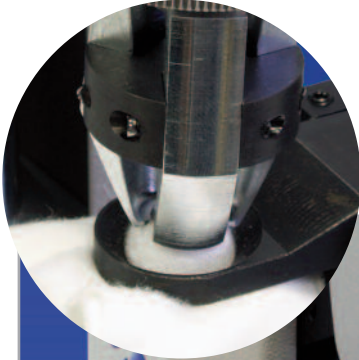


Button Pull Fixture

quality  
accuracy  
consistency

# Poppers

To perform a pull-off test on a popper fastener, the sample is placed within the location ring on the Popper Cam Base. The Base's quick release lever is then engaged, which raises the popper proud of the fabric, presenting it to the upper fixture. The 3-jaw Popper Pull-off Fixture is then attached to the sample from above, and a tensile test to destruction is performed. In the case of S-spring poppers a Modified Large Wedge Grip (part no. 432-212) may be used as an alternative upper fixture.



## Accessories Required

- 1 x Popper Cam Base  
Part no. 432-179
- 1 x 3-jaw Popper Pull-off Fixture  
Part no. 432-409

## Dimensions

### Popper Cam Base

- Location ring ID 16mm
- Height 70mm

### Multi-Jaw Popper Grip

- Jaw Span 13.2mm
- Length 144mm



Popper Cam Base



3-jaw Popper Pull-off Fixture



# Bows

To perform a pull-off test on a bow decoration, the sample fabric is held in a 25mm/50mm 'Grab Test' Textile Fixture mounted to the anvil plate of the TTF System. Both loops of the bow are then fed onto an Extended Peg Hook. Alternatively the bow and tails may be clamped into the jaws of a Spring Action Vice Clamp (Part No. 432-381). A tensile test to destruction is then performed at a constant speed.

## Accessories Required

- 1 x 25mm/50mm 'Grab Test' Textile Fixture  
Part no. 432-323
- 1 x Extended Peg Hook  
Part no. 432-181

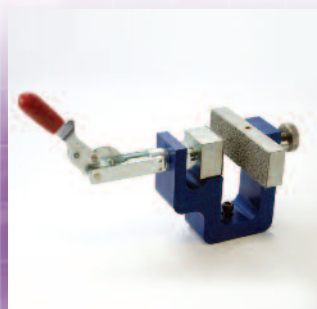
## Dimensions

### 25mm/50mm 'Grab Test' Textile Fixture

- Grip face width 25mm/50mm
- Max. material thickness 6.5mm
- Height 74mm

### Extended Peg Hook

- Length 115mm
- Peg length 10.5mm



25mm/50mm "Grab Test" Textile Fixture



Extended Peg Hook

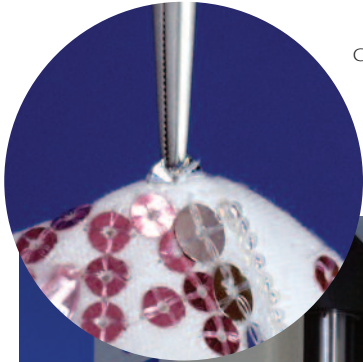


Spring Action Vice Clamp



# Sequins

To perform a pull-off test on a sequin, the sample fabric is held in a 25mm/50mm 'Grab Test' Textile Fixture mounted to the anvil plate of the TTF System. The sequin is then held in the serrated jaw of a pair of clamping forceps hooked over a stainless steel Test Hook, which together comprise the Sequin Pull-off Fixture. A tensile test to destruction is then performed at a constant speed to reliably capture the peak load.



## Accessories Required

- 1 x 25mm/50mm 'Grab Test' Textile Fixture  
Part no. 432-323
- 1 x Sequin Pull-off Fixture  
Part no. 432-291

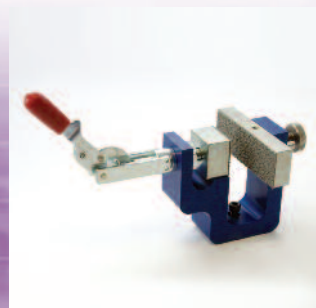
## Dimensions

### 25mm/50mm 'Grab Test' Textile Fixture

- Grip face width 25mm/50mm
- Max. material thickness 6.5mm
- Height 74mm

### Sequin Pull-off Fixture

- Height 157mm
- Note, clamping force controlled by 3-position lock



25mm/50mm "Grab Test" Textile Fixture

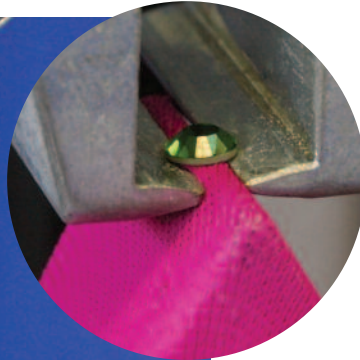
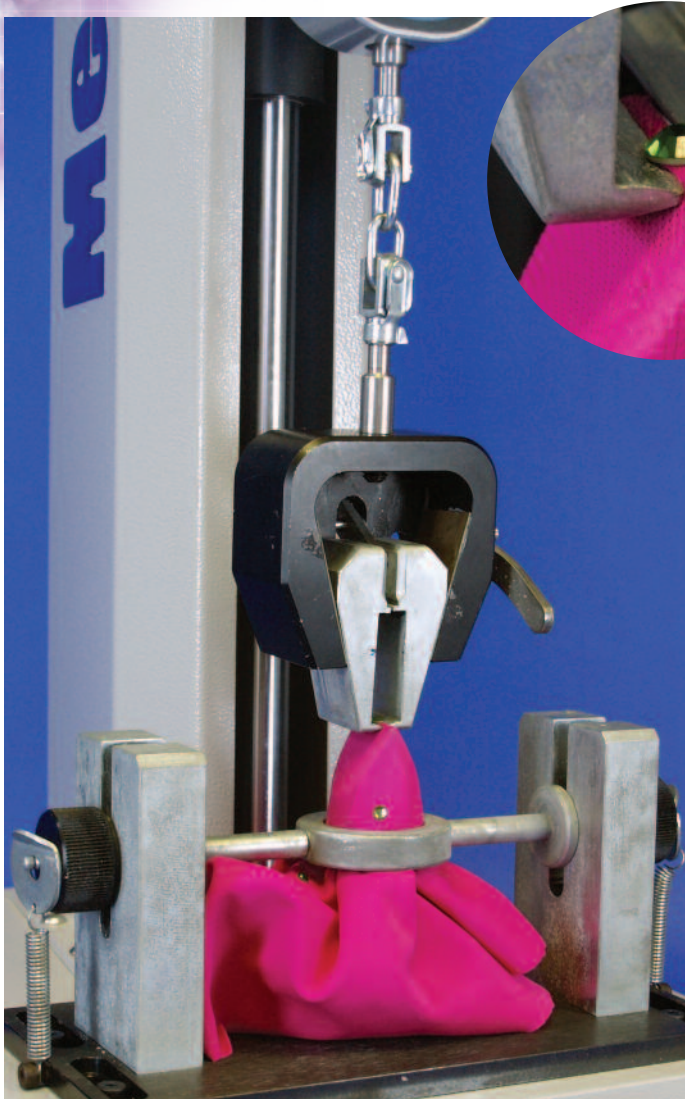


Sequin Pull-off Fixture

motorised control  
affordable  
portable

# Diamante

To perform a pull-off test, the individual diamante is placed directly over the pointed anvil edge on the lower part of the fixture, which features a lock ring to hold the fabric in place. The upper part comprises a self-closing claw which is brought down quickly over the anvil, and then retracted at a constant test speed until it engages with the diamante and pulls it away from the material.



## Accessories Required

- 1 x Diamante Fixture  
Part no. 432-412

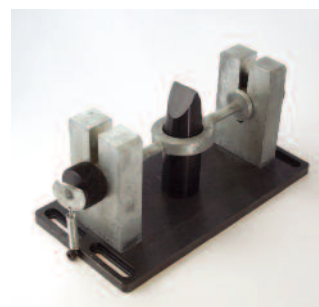
## Dimensions

### Lower Part

- Anvil edge width 20mm
- Effective anvil height 50mm

### Upper Part

- Claw span 0-10mm
- Total height 85mm



Diamante Fixture (lower)



Diamante Fixture (upper)

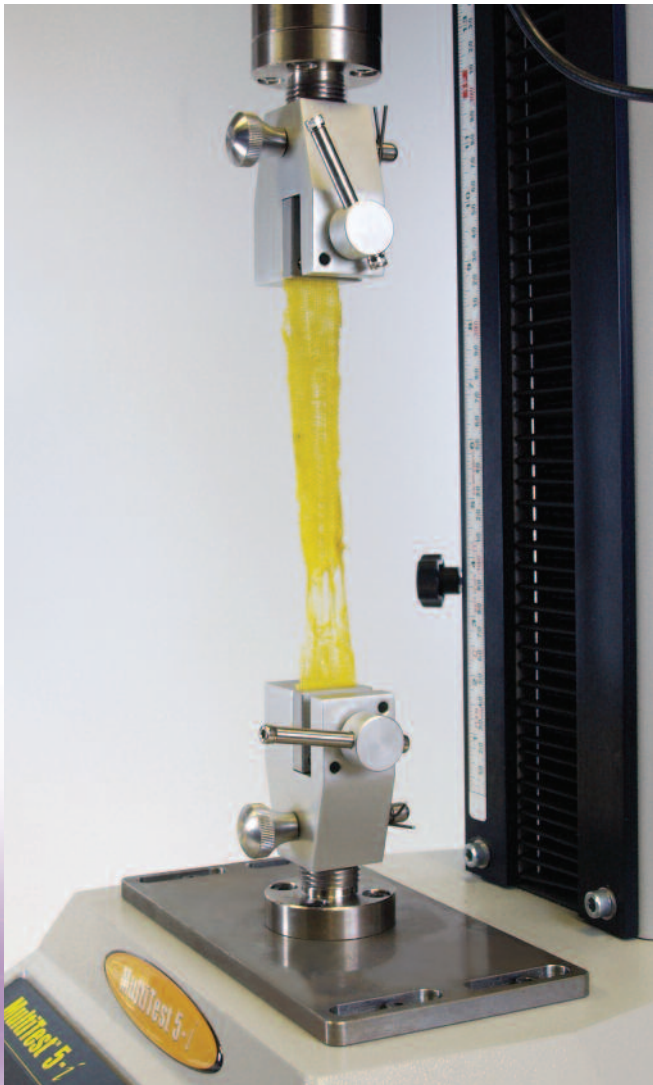
30 years of global support  
of experience



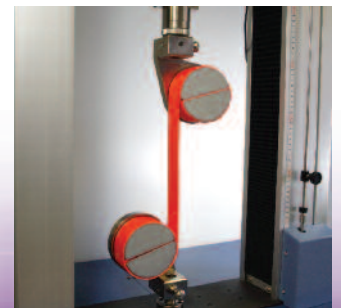
## Other Applications

Aside from 'test to failure' of textile attachments, Mecmesin offers a broad range of additional solutions to quality testing applications within the textiles industry, including:

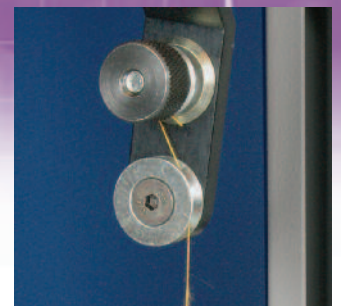
- Tensile testing
- Material strength
- Seam/stitching strength
- Belt strength
- Zip strength
- Dissociation strength of fasteners, including poppers, clasps, zips and 'hook and loop' patches
- Elongation of elastic materials



Tensile Strength Test



Belt Test



Yarn Strength Test

# Mecmesin

testing to perfection

## Over 30 years experience in force & torque technology

Formed in 1977, Mecmesin Ltd is today widely regarded as a leader in force and torque technology for quality control testing in design and production. The Mecmesin brand stands for excellent levels of performance and reliability, guaranteeing high quality results.

Quality control managers, designers and engineers working on production lines and in research laboratories worldwide rely upon Mecmesin force & torque measurement systems for a range of quality control testing applications, which is almost limitless.

Visit us on the web at  
[www.mecmesin.com](http://www.mecmesin.com)



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Canada	Japan	Spain
Chile	Korea	Sri Lanka
China	Lebanon	Syria
Colombia	Malaysia	Sweden
Czech Republic	Morocco	Switzerland
Denmark	Mexico	Taiwan
Egypt	Netherlands	Tunisia
Finland	New Zealand	Thailand
France	Norway	Turkey
Germany	Philippines	USA
Greece	Poland	Venezuela
Hong Kong	Portugal	Vietnam

Wherever you are in the world Mecmesin can help you through its global distribution network.  
covering a number of sectors including



safety



aerospace



electrical



automotive



plastics



medical



packaging



textiles



pharmaceutical



ISO 9001 CERTIFICATE NUMBER  
FS 58553

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