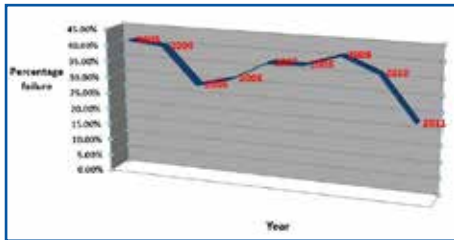


A Guide to Understanding SRT



Background

As a result of increased auditing and the MHRA raising awareness with its *“Don’t judge a mattress by its cover”** campaign, the problem of replacing contaminated mattresses in many healthcare settings reached a crisis point by 2009/2010. With failure rates as high as 40% at audit in some Acute Trusts, customers asked Invacare to use their experience in product development to come up with **a solution to reducing mattress failure rates**.



The main cause of mattress cover failure is **Strikethrough**, when the mattress cover fibres break down or separate, and small cracks develop, which may not be visible upon inspection. This results in penetration of fluids and other contaminants seeping through the cover and into the interior mattress foam, and the mattress “fails” upon audit inspection.

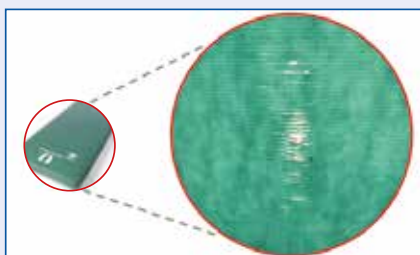
It was with this market feedback **Invacare approached Dartex, world leaders** in supplying specialist healthcare fabrics to work in collaboration to develop a mattress cover that could withstand the daily rigours of today’s demanding healthcare environment. After a significant investment of R&D resources and an extensive programme of product testing in the laboratory and in the field, Invacare introduced the revolutionary “SRT” (Dartex Endurance) mattress cover.



How does STRIKETHROUGH occur?

Strikethrough mostly occurs due to the intensive cleaning processes that are undertaken in many healthcare settings. When covers are cleaned using detergent and water, the top layer of the polyurethane absorbs water, which causes a **temporary swelling effect**. This does not mean that the covers are not waterproof, but some level of moisture penetration will inevitably occur within the top layers of the polyurethane. The mattress coating is softer when it is swollen and it is at this time it is more **prone to physical damage**, which can result in **striekthrough**. As a cloth or sponge is moved across the mattress surface it is inevitable some amount of abrasion will take place

Cover swells when wet and becomes susceptible to abrasion damage through cleaning process



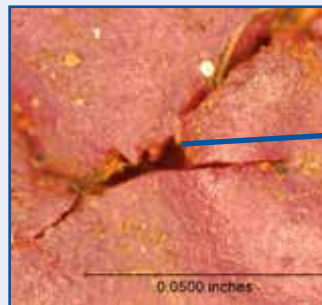
As well as damage from abrasion when wet, over time chemical **cleaning agents damage** polyurethane mattress covers through chemical reactions, which weakens the fabric coating’s film strength. This can result in **striekthrough** even without physical abrasion!

As all mattress covers are cleaned regularly to meet infection control standards and ensure patient safety it is an inevitable consequence that some level of **striekthrough** will appear and continue to increase over time

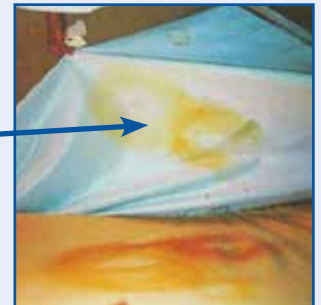
Why is STRIKETHROUGH a problem?

Once **striekthrough** develops the internal mattress foam is at risk from fluid contamination which ultimately results in **mattress failure** on audit examination. The higher the failure rate, the higher the replacement costs which can have a significant impact on budgets.

Once the cover is compromised the foam core will show evidence of damage and staining, which greatly increases the risk of infection and is detrimental to maintaining patient safety.



Strikethrough under the magnifying glass



The result of Strikethrough on the mattress interior

What is the answer – how can STRIKETHROUGH be overcome?

SRT Technology

Strikethrough Resistant Technology (SRT) is a polyurethane-coated specialist textile that has been developed in collaboration by Dartex® and Invacare® to offer **unbeatable chemical and abrasion resistance for mattress covers** in a medical setting.



Fig.1 Invacare SRT (Dartex Endurance) fabric cover on a Sofiform® Premier mattress



Yes, you can.®

STRIKETHROUGH – the science explained!

SRT has been specifically developed to withstand the vigorous cleaning regimes in place in healthcare settings. It has been designed to swell less during cleaning, therefore reducing the risks of continuous abrasion and chemical damage to which the mattress cover is exposed to on a regular basis.



With SRT coating, the polymer structure of the polyurethane coating offers much **greater resistance to chemical attack** than other polyurethane coated textiles. By investing their years of expertise in coatings and PU covers, Dartex have been able to use their knowledge to produce a fabric with advanced chemical resistance, along with high abrasion resistance.

This engineered coating formulation developed in the Dartex laboratories is significantly more suited to the demanding cleaning regimes which are in place to fight against hospital and nursing home acquired infections.

The durability of SRT minimises the risk of strikethrough and ensures endurance in product performance. In an environment where chemicals may not always be fully rinsed from the mattress cover and the time taken for the cover to be completely dry may be compromised, **SRT provides reassurance that there will be no lasting damage.**

Abrasion Test: Comparison of fabrics after crockmeter test of a 900g load rubbed evenly across the wet surface x10:



Chemical Resistance Test: Comparison of fabrics after exposure to strong bleach for 16 hours

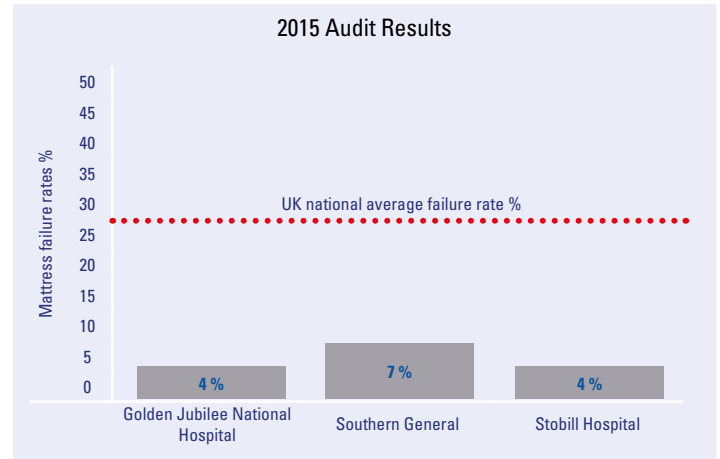


SRT - Proven results over time

Because SRT covers have been adopted by many hospitals as part of their strategy for reducing mattress failures at audit and making savings to their equipment budgets, **Invacare has testimony to prove SRT performance.** Some of the first hospitals to adopt Invacare's SRT mattress covers were in the Glasgow area namely Golden Jubilee National Hospital, Southern General and Stobill Hospital. Before the change to the SRT covers, mattress failure and associated infection control issues were a serious problem for the hospitals with over a quarter of their covers regularly failing when audited. Three years after the SRT trials began, the latest audit results from the Glasgow trials have been received.

* Ref: Don't judge a mattress by its cover, Poster, MHRA 2013 edition

Invacare is now able to evidence that even with years of patient use and having undergone intensive cleaning, mattresses with SRT fabric offer a significantly lower rate of failure than mattresses with standard polyurethane covers.



With previous failure rates being in the region of 35%, since the introduction of SRT covers the **failure rates have reduced substantially.** The positive results that have been achieved in the Glasgow hospitals equate to substantial cost savings. Where previously the Trust was regularly investing in replacement mattresses after audits – now with less damage comes a much lower budget for replacement items.

SRT – Exclusive to Invacare

SRT mattress covers are only available on the **Softform Premier** and **Softform Premier Active 2** hybrid mattress. These pressure relieving mattresses with **SRT covers are available exclusively from Invacare; the benefits of SRT cannot be replicated by other polyurethane coated mattress covers.**

To achieve these low failures at mattress audits and ensure the longevity in the performance of a mattress cover, **then SRT is the only option** for procurement departments to take in the decision making process for mattress selection.

Invacare's SRT Mattress covers offer:

- Excellent stretch and recovery properties, which aid pressure redistribution when used as a medical support surface
- Moisture vapour transmission (MVT) properties, which can help maintain patient comfort and skin microclimate
- Waterproof properties to stop fluid ingress which is essential for infection control
- Easy cleaning, can either be surface wiped or laundered to ensure cleanliness, even if drying time is reduced the mattress cover performance is not compromised
- Fire retardant Crib 5 or Crib 7
- SRT offers unbeatable chemical and abrasion resistance for an enduring performance in withstanding the vigorous demands of cleaning protocols in healthcare settings

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