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Xeros Linen Recovery

A Trial Review by LTC

Independent Review



Xeros has developed an innovative polymer bead based cleaning technology. Early work focused on saving up to 80% water and reducing chemical usage by in excess of 50%, and still achieving superior cleaning results compared to traditional washer extractor based systems.

Recent installations indicated that Xeros has the ability to remove staining across a wide range of stain types which, in the past, were considered very difficult to remove.

Xeros invited LTC to conduct an independent review of several detailed studies of the impact of the Xeros system in the reclaim process for a number of commercial laundries. The summary of this review is referred to as “Snowdrift Laundry”.

Was there an opportunity to prolong linen life and save money?



The objective was to reduce the linen replenishment bill by maximising the recovery of stained linen and thus extending linen life, reducing rag rates and associated costs.

The “Snowdrift Laundry “Opportunity:

- Snowdrift currently rag 250,000 pieces of linen per annum
- Equivalent to ±100 tonnes (@0.4kg per piece)
- 70% of rag costs due to staining cost the business over £500,000 per annum

The Claims:

- Deliver a superior rag recovery rate
- Reduce replenishment costs

The Approach



The reclaim process was developed to target the widest possible range of stain types:

1. Targets primarily rust, protein and lighter floor marks
2. Targets secondly oil/grease/wax based stains, “black marks” and cosmetics
3. Finally any bleachable stains such as food stains, brown marks etc.

Data was reviewed for the Xeros chemistry *in conjunction* with the Xeros beads compared to traditional chemistry in a traditional washer extractor.

What Stains were reclaimed



Staining post Xeros processing

There were some stains remaining on reclaim work after Xeros processing:

- **'Irremovable' stains:** Heavy floor/concrete marks, chlorhexidine, ink and paint
- **Black Marks** were removed by Xeros depending on the severity and source

In Summary

The Xeros machine recovered a higher percentage of pieces processed including "black marks" which have been a significant issue in many laundries

Tests showed that Xeros delivered improved stain removal with improved uniformity of clean



Stain Removal

Lower temperature stain removal (TP1)



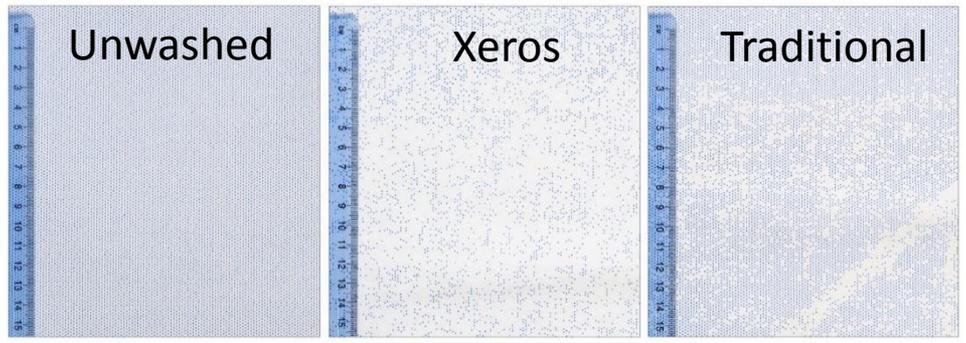
LTC TP1 test piece

Brightness

Measureable difference in linen appearances (TP2)

Uniform of clean

Beads appear fundamental in ensuring the 'whole' wash is targeted to maximise stain removal (EMPA M/A test piece)

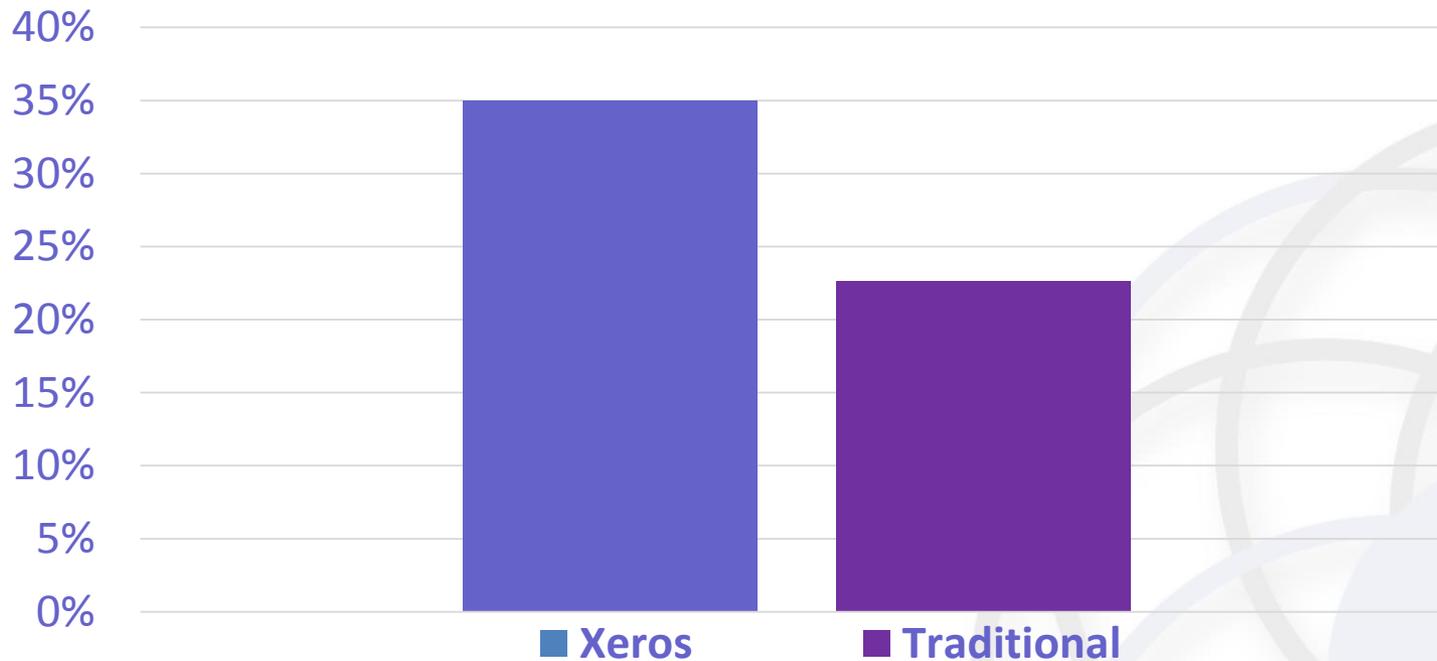


EMPA mechanical action test piece

Xeros recovery rates compared to traditional processes



Reclaimed



Xeros 35.1% Traditional Process 22.6%

But at what cost to the linen?



Recovered linen lifetime

Any reclaim process will cause a reduction in useful lifespan of fabric compared to traditional washing, due to higher temperature and chemistry use.

Sample	Cuprammonium fluidity (rp)
Original	4.1
Xeros	7.85
Traditional	8.55

(Test for chemical damage after one cycle in accordance with BS2610:1978)

The Cuprammonium fluidity shows little difference compared to traditional treatment processing.

Items reclaimed by the Xeros process will last as long or longer than equivalent items processed through traditional treatment processes due to lower chemical damage.

Savings



Based on the trial data:

With a 35% recovery rate, the Xeros process delivered over £140,000 net benefit per annum through more stock in circulation, based on average prices of pieces recovered.

This figure was factored down by 50% to reflect that some linens may have been new & others towards the end of life, giving a **total net benefit of £71,000.**

Net benefit means net of all costs including:

- Labour
- Utilities
- Xeros fees

The Xeros process delivered £35,700 per machine installed.

In this example 2 machines were required to process the volume of recovery stock being generated.

Xeros is the most effective recovery process ever reviewed by LTC



- Xeros delivered an average of £35,700 per machine installed.
- Xeros achieved over 55% improved recovery rates when compared to Traditional Processes.
- Linen Life was extended by an average of 7 rental placements based on the Cuprammonium testing in direct comparison with using traditional Processes.
- With a Xeros machine dedicated to duvet cover reclaim, savings of over £50,000 per annum are realistically achievable.
- The expected salary impact due to the National Living wage ($\pm 10.8\%$) in the early part of 2016 could be offset for over 20 headcount through installing one Xeros machine.



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For more detailed facts and figures from these trials
contact Xeros

www.xeroscleaning.com

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