

COMPARISON OF WASHABLE WOVEN,
X-STATIC® & DISPOSABLE PRIVACY
CURTAINS

White Paper



There are many stakeholders that impact the standard of care in medical facilities and clinics: Medical staff, Environmental Services and Maintenance staff, Infectious Disease Control teams, Facility Design services and the financial operations of the respective institutions. Over the last few years, all of these stakeholders have been brought into the discussion around woven privacy curtains vs. disposables. The purpose of this White Paper is to explore the merits and economics of woven curtains, including those with X-Static antimicrobial protection, relative to those of disposables.

There are four privacy curtain options that these stakeholders are considering:

- Disposables with and without antimicrobials.
- Woven or Woven with X-Static antimicrobial protection technology.

Before we begin, what is the X-Static Technology and why is it unique? X-Static is the most effective and safest soft surface antimicrobial solution available today. X-Static has been extensively tested and validated in the most demanding applications and environments. X-Static fibers are manufactured with a permanently bonded layer of 99.9% pure metallic silver. X-Static is not nano-technology or a complex chemistry that can be washed out. It is just pure silver that has powerful antimicrobial properties that creates an ionic shield that permanently inhibits the growth of bacteria and fungi and protects the curtain and extends the life of the product. With any significant decision on privacy curtains, there are always many considerations. This White Paper will explore several factors that are worth consideration:



Long-Term Performance

Woven, washable privacy curtains will last longer. When properly laundered in connection with the instructions (usually regular commercial laundering), fabric curtains will provide years of service. Woven curtains with the X-Static technology require minimal laundering as the surface is constantly “self-cleaning” against bacteria and fungi.

One of the issues healthcare systems have been facing with woven privacy curtains is the misallocation or loss of curtains as systems have gotten larger and many have outsourced laundering to common external facilities. While regular woven curtains should be laundered periodically, X-Static curtains can be spot cleaned for stains and laundered less frequently than regular wovens. Disposables must be changed more frequently, and the more change-outs, the more the lifetime usage cost increases.

Antimicrobial Technology

Both washable and disposable curtains can use antimicrobial treatment. However, surface treatments provide no assurances of efficacy or actual presence and recent movements to reduce chemistries, including nanotechnologies, limit the options available to healthcare institutions. X-Static is NOT a surface treatment or a chemistry and is irreversibly bound to a fiber which is woven into the privacy curtain. Seeing is believing. The permanent performance does not diminish with washing or passage of time and pure silver is NOT harmful to patients, or staff.



Décor and Aesthetics

Woven designs provide a warmer, more soothing, experience for the patient. Woven fabrics have a better feel (the “Hand”) and are generally visible on both sides of the curtain, by design. Many disposables offer generic, printed designs on only one side of the curtain. Disposables are usually film-coated paper without the vibrance of color or Hand.

Maintenance (Change-out)

Both types of curtains can employ snaps and or removable panels to enable more efficient change-out. The process of swapping panels for either regularly scheduled maintenance or to replace a soiled panel reduces the need for woven or disposable inventory. Panels also reduce the time and cost of change-outs by medical and maintenance staff. The advantage of wovens with the X-Static Technology is impactful here as no cleaning is really necessary unless the curtains are visibly dirty.¹

Sustainability and Environmental Impact

There are many factors to assess when considering our environment, but wovens have a clear advantage over disposables. Laundering does consume energy and water. Detergents and other cleaning chemistries are used to clean, but waste water can be treated, chemistries removed and water returned to the ground. Further, wovens can be recycled or upcycled to avoid landfills. Disposables are bio-waste and should be red-bagged, which unfortunately limits the recyclability of the disposables. Some systems do not treat disposables like bio-waste or recycle, and in those cases, disposables wind up in landfills, which given the number of curtains per healthcare system all over the world, and a normal and reasonable change-out schedule, will lead to massive landfill usage from disposables.



¹ Any spore-based microbial (e.g. C.Diff.) requires immediate removal/laundrying (woven or disposable).

Initial and Recuring Operating Costs

While the upfront cost of disposables is less expensive than wovens, that is NOT the complete story! Healthcare institutions focused on reducing costs should consider the LIFETIME cost of usage, or the cost per curtain over the useful life, as well as the breakeven period (where usage costs are the same). Below are our assumptions for an illustrative analysis: ¹



Woven w/ X-Static Assumptions		Disposable Assumptions	
Total number of curtain units:	1,000	Total number of curtains:	1,000
Per curtain unit cost:	\$300.00	Per curtain cost:	\$25.00
Frequency of laundering:	6 months	Frequency of disposable change out:	3 months
Per-curtain laundering cost:	\$12.50	Change-out cost per curtain:	\$10.00
Change-out cost per curtain:	\$20.00		
Useful life of fabric:	10 years		
Loss factor: ²	2%/yr		

1. Results may vary from state to state.
 2. We have assumed a loss factor, although with different institutions this may not be relevant.

Here are the calculations:

	Woven w/ X-Static	Disposables
Initial curtain cost	\$300,000	NA
Annual laundering (incl. change-out cost)	\$25,020	NA
Assumed cost of lost curtains/year	\$6,000	NA
Cost of disposables/year	NA	\$100,000
Cost to change disposables/year	NA	\$40,000
Annual change-out costs	\$31,020	\$140,000
Estimated year one costs	\$331,020	\$140,000
Est. cost each subsequent year	\$31,020	\$140,000
Total cost based on curtain life	\$610,200	\$1,400,000
Annual cost per curtain	\$61	\$140
Breakeven/Pay back	~2.5 years	

The cost of ownership is ~50% cheaper with the woven X-Static curtains over disposables on an annual basis. Further, the breakeven point (where costs are the same) is only ~2.5 years.

Appropriateness

In certain areas, where privacy curtains are changed multiple times per day due to soiling, disposables may be more practical. However, in places where curtains are only periodically changed, having the protection of an antimicrobial agent that is constantly working without complex chemistries, is a beneficial part of an effective infection prevention program.



Observations / Conclusion

- Assumptions can change the outcome of the analysis, but the lifetime savings of wovens with X-Static improves as the number of change-outs of disposables increases.
- Wovens without X-Static will be cheaper to deploy, but do not offer comparable efficacy or lifetime defense against microbials. Many healthcare institutions are trying to avoid additional chemistries, which makes regular wovens more susceptible to microbial impacts.
- Every healthcare system will have its own protocols for laundering and change-out, but what we include in this analysis are the minimum amount of change-outs to ensure patient safety.



X-Static wovens, coupled with an effective Infectious disease protocol, can help reduce the hospital acquired infections and improve the patient experience and standard of care.

For more information, contact your local Arc-Com Account Executive or see our website arc-com.com/x-static.

