



Overcoming Shrinkage

CORRECTIVE ACTION	EFFECT
FIBER/YARN PROCESSING	
Use good to high quality cotton fiber.	Improves yarn and fabric strength in case resin finishing is desired for shrinkage control.
FABRICATION: KNITTING	
Monitor and maintain stitch length.	Results in uniform and constant shrinkage levels from lot-to-lot.
Knit a tightness factor as high as possible.	Reduces length shrinkage. Increases reference weight. Reduces reference width. Reduces fabric skewness. Yields less yards of fabric per pound of fabric. Yields less yards of fabric per pound of yarn.
Knit a heavier yarn at a given stitch length.	Increases weight. Reduces skewness. Reduces shrinkage.
Maintain consistent spreader and take-down tensions roll-to-roll and machine-to-machine.	Provides a consistent product for dyeing and finishing.
Adjust knitting conditions when high tension processing techniques such as napping, shearing, brushing, and sanding.	Adjust knitting conditions when high tension processing techniques such as napping, shearing, brushing, and sanding.
Develop separate knitting specs for products processed in jets versus continuous bleaching machines.	Allows for producing the same finished quality from processes that have very different levels of processing tensions.
Select best machine diameter for a given stitch length, yarn count, and gauge .	Allows for the best width for cut-and-sew while giving low and balanced shrinkage.
PREPARATION/DYEING	
Reduce, maintain, and monitor processing tensions on fabrics.	Prevents variable performance on same knitting set-up. Prevents permanent changes in the fully relaxed dimensions.
Dye in low tension batch processes such as soft-flow jets.	Partially relaxes fabric during processing. Reduces fabric shrinkage.
Use low tension fabric extractors, finishing applicators, and slitting (when required).	Minimizes the amount of stretch from linear tensions prior to drying.
Implement conveyor relaxation and relaxed drum dryers for drying.	These machine reduce shrinkage in knit products, especially the length.

Maintain proper levels of 'overfeeding' on all dryers.	Insures maximum shrinking during drying.
Maintain proper levels of 'overspreading' on all tubular dryers.	Insures specified finished width for cut-and-sew.
Implement low tension entrance systems for tenter frame systems for drying and curing.	Minimized the amount of stretch from linear tensions.
Implement compaction for tubular and open width fabrics.	Reduces shrinkage. Sets the fabric width for cut-and-sew. Packages the compacted fabric in a low tension format for cut-and-sew. Produces a smooth, ironed-like surface.
Apply sufficient mechanical action during drying.	Maximizes shrinking during drying. Produces a smooth fabric surface.
Inspect on the drying and compaction machines to supplement inspection after knitting and dyeing.	Eliminates inspection after drying and compaction. Inspection of knits after finishing normally stretches the fabric and increases shrinkage
Inspect during spreading on the cutting table whenever possible.	Supplements normal inspection.

TESTING AND EVALUATION

AATCC Test Method 135	'Dimensional changes of Fabrics After Home Laundering.'
AATCC Test Method 150	'Dimensional Changes of Garments After Home Laundering.'
Use SDL Atlas QuickView™ Digital Imaging System.	In many applications produces more reliable and accurate shrinkage data.
Put in place a processing 'Audit System to Measure and Monitor Knitting Machinery Parameters.'	
<ul style="list-style-type: none"> • Stitch length • Yarn count • Yarn tension • Yarn path • Take-down and Spreader Tensions • Machine conditions 	<ul style="list-style-type: none"> • More consistent performance. • More predictable performance. • Minimization of defective yardage. • Reduction in costs.

