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Textile Properties of Blue T-Shirts: Does Price Indicate Quality?

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The purpose of this project was to compare three similar t-shirts of different brands and fiber contents for performance and construction to determine how their performance differed. The general construction and fabric performance was tested. The general construction included yarn structure, weave structure, method of coloration, fabric weight, and thread count.
Dimensional stability was tested by measuring a 10-inch length and width on the front and back of each specimen. The specimens were laundered and measured after one wash, three washes, and ten washes and compared to the original measurement to evaluate any shrinkage.
Appearance retention was recorded for each specimen after one, three, and ten washes and rated according to AATTC Reference Standards. Colorfastness to perspiration, laundering, crocking, chlorine- and non-chlorine bleach were tested on each of the specimens according to AATTC test methods. They were rated against the AATTC Gray Scale for staining. A rating of five represents the least amount of staining, while a rating of one represents the worst amount of staining.
When we tested for dimensional stability, the Hanes sample shrunk the least and maintained its color the best out of the three samples. While the other samples showed a light amount of frosting on the seams, the Hanes sample showed no frosting after laundering. The industry standard for resistance to staining is greater than or equal to a 3. The Hanes sample exceeded this standard on all stains except for mustard.
Although all the garments are similarly priced and would have the same end use, we concluded that the Hanes brand was the best garment overall for customers. The Hanes brand had the best dimensional stability and experienced the least amount of color loss when laundered. This garment also retained its appearance best out of all the samples and featured no color loss along seams or hems.