POLYESTER NAPKIN TEST RESULTS

CSCNetwork partnered with the University of Kentucky, UK School of Human Environmental Sciences to conduct a 100% polyester white napkin test. Dr. Elizabeth Easter established the Textile Testing Laboratory in the Merchandising, Apparel, and Textiles Department. The laboratory provides services for the Association for Linen Management (ALM) as well as the textile, apparel, and appliance industries.

The recent 100% polyester napkin test provides the results of evaluating unwashed polyester napkins from eleven suppliers. All specimen samples were received from CSCNetwork members. CSCNetwork did not allow Suppliers to submit test specimens.

The test objectives were to determine:
1. Which supplier/s provide the best import product that is consistent with existing Supplier specifications and to determine how each import product compares against domestic market standards.

2. Which import product best compares to the domestic market standards.

Approved Suppliers Tested:

American Dawn	Baltic Linen
Calderon Textiles	Milliken (Domestic)
Milliken (Import)	Pinnacle
Riegel	Standard Textiles
Venus Group	

Non-Approved Suppliers Tested:

Supplier A	Supplier B

The napkins were tested for quality, durability as well as adherence to specifications. The product tested enabled a comparison between imported products as well as domestic products. All tests performed followed ASTM or AATCC standards.

These tests included dimensional change (AATCC 96-2009), fabric weight (ASTM D 3776-96), breaking strength (ASTM D 5034-95), whiteness (AATCC Test Method 110-2005) and soil release (AATCC Test Method 130-2000). In addition to characterization of the products, the evaluations also included an assessment of performance.

Dimensional change is a generic term for changes in length or width of a fabric and/or product. The napkins were evaluated for dimensional change after 50 and 100 commercial wash/dry cycles. According to the ASTM Performance Specifications for Sheeting and Napery Fabrics the minimum level of change should be 5 percent for table linens. All napkins met or exceeded the minimum level of performance after 50 and 100 cycles.

Because the products were white in color, colorfastness was not evaluated but the level of whiteness was tested as new and after 50 and 100 cycles. Whiteness can be measured with and without the effect of optical brighteners, which are chemicals added to both fabrics and detergents to enhance the appearance of whites. A pure white would measure a whiteness reading of 100. The lower the values below 100 the less white the product. Note that under daylight light source the loss of whiteness was detected and reported as slightly grey or blue.

If the fabric contains optical brighteners and the whiteness is measured without inserting the UV filter the reading can exceed 100. The greater the value is over 100 the more apparent the effect of optical brighteners.

The initial whiteness value of the napkins ranged from 73 to 88 when evaluated with the filter inserted. After 100 cycles the whiteness decreased slightly with a range of 70 to 82.6. When evaluating the napkins with the effect of optical brighteners included, that is the filter was removed, the whiteness value increased due to the apparent effect of optical brighteners. All results fell within an acceptable range for the human eye.

The evaluation of soil release was performed initially on an unwashed napkin. Initial soil release was conducted to establish a baseline but should not be used as an interpretation of the performance due to residual sizing and/or or processing chemicals that may be on the napkins. On the unwashed napkins, the soil release results were mixed except for coffee which was released from all napkins. After 50 and 100 cycles the soil release of bacon grease and coffee was the same for all products. Release of mustard and ketchup varied with supplier with both showing greater soil release 50 cycles than 100 cycles.

In summary, napkins from all suppliers met or exceeded the specifications for dimensional change and breaking strength. Weight and whiteness retention were not included in the specifications provided but all napkins were comparable. Soil release did vary with supplier as well as soil type. CSC



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