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[ACT WHITE PAPER SERIES]

2020 ACT Industry Survey on Durability

Introduction

ACT Technical Work Groups are tasked with continually reviewing and improving the ACT Voluntary Performance Guidelines. As a part of this, the Abrasion Subgroup continues to evaluate the impact of marketing exceedingly high abrasion-resistance numbers in our industry. Understanding that these numbers are frequently misunderstood to represent the expected lifespan of contract upholstery, the group determined it was time to revisit the original ACT Industry Survey on Durability (October 2009) and create a new durability survey to compare and assess data trends regarding real-world upholstery performance.

The 2009 survey was an initial benchmark and established the groundwork for much of the efforts of the ACT Technical Work Groups for the next ten years. The creation of the 2020 survey allowed the work group to revisit the 2009 findings and delve deeper. The new survey covered a three-year period (pre-pandemic) from 2017 to 2019.

To obtain data regarding the durability and performance of woven, coated, and knit fabrics, survey questions were constructed using the ACT Voluntary Performance Guidelines as a framework. Questions were also added to address performance issues not covered in the ACT guidelines.

Those surveyed included ACT Principal Members, Associate Manufacturer Members and Industry Partner Members. Responses varied and were wide ranging. The following summary represents the majority view.

Participants

33	Principal Members
11	Associate Members
21	Industry Partners
65	Total participants out for 90 members invited = 72%

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Survey

1. Top Three Markets:

- All ACT Members: 65 responded.
  1. Hospitality
  2. Corporate
  3. Healthcare

- Principal Members: 33 responded.
  1. Hospitality
  2. Corporate
  3. Healthcare

- Associate Members: 11 responded.
  1. Healthcare/Hospitality
  2. Corporate
  3. Institutional

- Industry Partner Members: 21 responded.
  1. Corporate
  2. Hospitality
  3. Healthcare/Institutional

2. Sales by Product Type:

- All ACT Members
  1. Woven: 55%
  2. Coated: 38%
  3. Knit: 7%

- Principal Members
  1. Woven: 63%
  2. Coated: 33%
  3. Knit: 4%

- Associate Members
  1. Coated: 57%
  2. Woven: 42%
  3. Knit: 1%

- Industry Partners
  1. Woven: 56%
  2. Coated: 30%
  3. Knit: 14%

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3. **When asked to report on claims as a percentage of total sales, 60 member companies responded. Claims averaged less than 0.5% per year, including any cost of refabrication.**

4. **In consideration of specific field failures directly related to product claims, the survey asked respondents to identify performance issues by product type. Responses listed by frequency.**

   - Woven: 52 companies responded.
     1. Seam Slippage
     2. Cleaning
     3. Pilling
     4. Inappropriate Specification
     5. Puddling

   - Knits: 11 companies responded, showing us that this is a smaller product segment. Of the 11 that responded, two did not have enough information to respond. For the remaining nine:
     1. Puddling
     2. Cleaning/Seam Failure (tied)
     3. Pilling/Abrasion (tied)

     No other issues were statistically significant.

   - Coated Fabrics: 46 companies responded.
     1. Cleaning
     2. Puddling
     3. Hydrolysis
     4. Inappropriate Specification
     5. Cracking

5. **What tests other than abrasion testing does your company consider to be most important when evaluating a product's potential durability/performance? Responses by frequency of mention.**

   - Wovens: 51 companies responded.
     1. Seam Slippage
     2. Cleaning
     3. Pilling
     4. Colorfastness to Light
     5. Crocking

   - Knits: 14 companies responded.
     1. Cleaning
     2. Colorfastness to light/puddling/seam failure (tied)
     3. Snagging

   - Coated Fabrics: 48 companies responded.
     1. Cleaning
     2. Hydrolysis
     3. Puddling
     4. Cracking
     5. Reverse Crocking

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6. Specifically regarding indoor products, how many claims has your company had for fading (at the window or due to interior lighting sources) in the past three years?

- Wovens: 50 companies responded.
- Knits: 16 companies responded.
- Coated Fabrics: 47 companies responded.

There are very few claims for fading, and statistically this number is very small. The only statistic of note is for woven upholstery, and the rate of claims is an average of 0.6 per year. Appropriate specification is critical to avoid this field issue. UV light and infrared heat may both significantly impact the integrity of a textile.

7. How many claims for snagging has your company had in the past three years?

- Wovens: 49 companies responded.
  1.93 claims per year for upholstery, not statistically significant for all other product categories (drapery, wallcovering, panel, and bedding)

- Knits: 17 companies responded.
  Not statistically significant

8. Frequency of claims due to improper cleaning and maintenance by end-use application during the past three years.

- Wovens: 46 companies responded.
  1. Upholstery: 43
  2. Drapery: 18
  3. Bedding: 12
  4. Wallcovering: 11
  5. Panel: 9
  6. Cubical: 8

- Knits: 11 companies responded.
  1. Upholstery: 7
  2. Drapery: 1
  3. No claims: 3

- Coated: 41 companies responded.
  1. Upholstery: 39
  2. Panel/Wallcovering: 5 (tied)

9. Additional comments regarding field failures: 28 companies responded.

- Failures related to improper cleaning: 10
- Failures related to inappropriate specification or application: 8
- Failures related to product defects: 6
- Other types of failures: 4

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Summary/Conclusion

A key takeaway comes from responses to Question #3. Results show that claims represent a very small percentage of the millions of dollars in annual textile sales by ACT member companies.

Responses to Question #4 show that woven, coated and knit products share two common field failures resulting in claims. Improper cleaning and inappropriate specification both lead to product failure and are beyond the control of fabric companies. Responses to Question #8 and comments in Question #9 further highlight the significance of both these issues. And yet, as responses to Question #5 show, ACT member companies invest time and money evaluating the performance characteristics and cleanability of products before introducing them into the marketplace.

Seam slippage in woven fabrics was an issue is 2009 and continues to be a cause of claims. After the 2009 survey, the ACT Technical Work Group reviewed the guideline and confirmed the validity of the test method. ACT member companies continue to use this test method and follow the ACT Seam Slippage Guideline (ASTM 4034). Ongoing seam slippage field failures are likely attributed to improper seam construction.

Puddling in woven, knit, and coated fabrics is a cause of claims related to specific end-use applications. Based on the data collected in the survey, it is not possible to draw appropriate conclusions without further study. Contributing factors could be furniture construction, fabrication, foam, environment, lack of sufficient backing, and the stretch and recovery properties of the textile.

Pilling in woven and knit fabrics is recognized by ACT member companies as a cause of claims, and the survey highlights this issue. The ACT Technical Work Group is in the process of a full review of the pilling test methods (Brush Pill ASTM 3511 & Martindale ASTM 4970) and will recommend changes to the protocol in conjunction with ASTM.

The 2020 ACT Industry Survey on Durability was the first time that we queried our members about knit fabrics. Since survey results indicate that this is currently a small product category, the work group has determined that there is not enough data to draw any conclusions at this time.

No claims due to surface abrasion for woven or coated upholstery fabrics were reported in the 2009 or the 2020 survey. Therefore, surface abrasion testing continues to be less relevant than other indicators of real-world performance. Fabric durability, especially in upholstery, is dependent on a host of broad and complex end-use conditions. Simplifying durability to a number achieved by surface abrasion testing continues to do a disservice to the interior design industry. Double-rubs, no matter how high, are not a guarantee of a product's lifespan.

Survey results underscore the importance of a specification process that includes a balanced focus on all textile attributes—as well as final product application, fabrication, and cleaning/maintenance protocols.