# Specification Training Guide

**At Ultrafabrics, we are committed to ensuring that our materials not only deliver maximum comfort and style but also stand up to the test of time, meeting the challenges of the modern world.**
**Our materials are used in the most demanding environments from offices to hospitals, hotels to yachts, cars to airplanes, and even spaceships! Therefore, we go the extra mile in testing to ensure that we are providing the high-performance and durability you expect.**
**Below you will find descriptions of the tests we commonly perform. Check the specifications on each product page to see how the collection meets your requirements, helping you to specify the most suitable fabric for your project.**

## Index (ability for user to jump to a section)



| Test Method | Definition |
|---|---|
| **Performance** | |
| **These tests are designed to put fabric through its paces, testing resistance to abrasion, heat, tearing, and moisture. Referring to these tests will give you an indication of the long-term durability of a fabric, and how it will stand up to daily wear and tear.** | |
| **Abrasion**<br>**ASTM D 4157 (Wyzenbeek)**<br><br>ACT Guidelines for High Traffic / Public Spaces – 50,000 double rubs<br>Ultrafabrics collections reach 150,000 – 500,000 double rubs | Refers to a fabric abrasion test method that uses the Wyzenbeek machine to test fabric using cotton duck as the abradant. Samples of the test fabric are pulled tight in a frame and held stationary while the abradant is rubbed over the test fabric. Each back-and-forth motion is referred to as a "double rub." Fabric is normally tested in both the warp and fill directions. The number of double rubs achieved depends on an assessment of both noticeable wear and the number of yarn breaks. |
| **Abrasion**<br>**ISO 12947-2 (Martindale)**<br>**(EU)**<br><br>Ultrafabrics collections reach 100,000 – 200,000 rubs | Refers to a fabric abrasion test method that employs the Martindale machine to test fabric using worsted wool as the abradant. This is an oscillating test in which pressure is specified, fabric samples are mounted flat and rubbed in a figure-eight motion, and the results are measured in the number of cycles achieved before noticeable wear is apparent. Number of cycles determines abrasion rating. |
| **Hydrolysis**<br>**ISO 1419 Method C (Accelerated Aging)**<br>**(Passive Test)**<br><br>ACT Guidelines for High Traffic / Public Spaces – 5 weeks<br>Ultrafabrics collections reach 16 weeks*<br>Uf Select collections reach 10 weeks<br><br>* Exception is Fusion & Fusion Shimmer - reaching 14 weeks | This is the most well-known test in the upholstery marketplace and while its actual name is the "Tropical Test" it is often referred to as the "Jungle Test." In this test, the PU material is put into the test chamber and visually examined against a control sample at the end of each one-week period for a pre-determined number of weeks, or until the product breaks down and fails. Failure against the control sample would be in the form of surface cracking, delaminating of the PU film layer from the backing substrate, or extreme changes in color and gloss level. |

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|---|---|
| **Hydrolysis**<br>**ASTM D 3690 Sect 6.11**<br>**(Active Test)**<br><br>ACT Guidelines for High Traffic / Public Spaces – 5 weeks<br>Ultrafabrics collections reach 16 weeks*<br>Uf Select collections reach 10 weeks<br><br>* Exception is Fusion & Fusion Shimmer - reaching 14 weeks | Like the ISO 1419 C method, this standard also conducts a visual examination after each week the fabric is left in the chamber. The test chamber exposes the fabric to extreme heat and humidity. However, this standard also includes Wyznebeek, Adhesion and Flex testing before the material enters the hydrolysis chamber and again after the material leaves the chamber, once the desired number of weeks are met. This is a much more comprehensive test than the ISO 1419 Method C test. |
| **Adhesion of Coating ASTM D751**<br><br>ACT Guidelines for High Traffic / Public Spaces – 3 lbs/in minimum | A measure of the force required to separate a chemical coating from the base substrate. |
| **Tear Strength ASTM D 2261**<br><br>ACT Guidelines for High Traffic / Public Spaces – 4 x 4 lbs | Is the measurement of stress exerted to rip the fabric under tension. |
| **Tensile Strength BS EN ISO 1421 (EU)** | The European version of Tear Strength, which is the measurement of stress exerted to rip the fabric under tension. |
| **Breaking Strength ASTM D751 (Grab Test)**<br><br>ACT Guidelines for High Traffic / Public Spaces - 50 x 50 lbs. minimum | The measurement of force exerted to pull a fabric apart under tension. |
| **Seam Strength ASTM D751**<br><br>ACT Guidelines for High Traffic / Public Spaces - 25 x 25 lbs. minimum | the measurement of a fabric's resistance to tearing at needle punctures in a seam. |
| **Cold Crack FTM 5874 / CFFA 6A** | A measure of the ability of a chemical coated fabric to withstand cracking when folded at low temperature. |
| **Flex Resistance ASTM D2097 25,000 cycles**<br><br>ACT Guidelines for High Traffic / Public Spaces - 25,000 cycles | Visual evaluation for no appreciable surface crazing, cracking, whitening or delamination. Flex Resistance is the measurement of a fabric's ability to withstand repeated flexing. |

## Added Benefits

**Ultrafabrics custom-engineer additional benefits into several our styles, using the most innovative Technolgies available to provide solutions to your problems.**

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| **Acoustics**<br>**Sound Absorption ASTM C423** | Is a standard test method for classifying the sound absorption of a material and its coefficients are measured by means of a reverberation room. It ranges from 0.00 to 1.00 and describes the average acoustic absorption of a material. |

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| **Breathable Air Permeability ASTM D 737** | Is the standard test method of air permeability of textile fabrics. Construction factors and finishing techniques have an effect upon air permeability by causing a change in the airflow paths through a fabric. |
| **Anti-mildew ASTM G21** | A determination of the ability of a chemical coated fabric to resist fungal growth. |
| **Antipinking ASTM E1428** | An evaluation of the performance of coated fabrics against staining by a pink staining organism. |
| **Antimicrobial ASTM E2180** | Standard test method for determining the activity of incorporated antimicrobial agents in coated fabrics. |
| **Antibacterial AATCC 147** | Is a qualitative antimicrobial test used to detect bacterial activity on coated fabrics. |

## Flammability

**These tests are crucial for testing how a fabric will perform in the event of a fire. A fabric with a higher rating will burn slower.**

**Standards and requirements vary across industries and around the globe, so it's important to check the requirements for the project you are working on. Here you will find the FR standards that we commonly test to.**

**Please contact us to find out about the fabric you're specifying or if you have questions about the requirements for your project and region.**

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| CA TB 117-2013 | California Technical Bulletin 117-2013 Section 1 is a test method of the California Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation. The test uses small cushions, which are miniatures of the seat and back, to measure the smolder resistance of the materials used in upholstered furniture. |
| FMVSS 302 | These test methods were created to establish a maximum burn rate for interior materials. The goal is to reduce the severity and frequency of burn injuries during vehicle fires by increasing the occupant evacuation time, especially fires caused from discarded cigarettes and matches. It's also known as the cigarette test. CMVSS refers to the Canadian version. |
| CMVSS 302 | |
| NFPA 260 | A test that determines cigarette ignition resistance of components for upholstered furniture. |
| UFAC | This test method is intended as the means of establishing the performance level of upholstery cover fabrics in contact with polyurethane foam with respect to cigarette ignition resistance. |

| Test Method | Definition |
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| **ASTM E84 (Adhered)** | The ASTM E84 test is a test method of the American Society for Testing and Materials (ASTM). Commonly called the Tunnel Test, this test can be performed under two different methods "adhered" or "non-adhered" where the only difference is in specimen preparation:<br><br>Adhered: The fabric is bonded or glued (adhered method) to a substrate. This is the prescribed method for wall coverings whose actual use will be "adhered".<br><br>Non-adhered: The fabric is "clamped" to a substrate. This is typical for wrapped panel fabric or upholstered walls. |
| **ASTM E84 (Unadhered)** | |
| **Crib 5 (BS 5852, Source 5) (EU)** | Refers to material or furniture that's been tested to pass UK Fire Regulations. The test is designed to determine the possible risk of ignition and to ensure that a material or furnishing won't easily catch fire. It is conducted by building a small crib-like structure from wooden planks that have been glued together. These structures have to be five tiers high to be used in the test – hence the name, Crib 5. |
| **Cig & Match (BS 5852, Source 0 & 1) (EU)** | Refers to fire retardancy tests for residential upholstery in the UK. The test involves fabric being exposed to different "ignition sources" essentially simulating possible real life causes of domestic fires. The "ignition sources" are ways that the fabric could be burnt. An example is a cigarette or match. |
| **BS EN 1021 Part 1 & 2 (EU)** | The European version of the UK method above. |
| **IMO FTPC Part 8** | The Marine version of the Cig & Match test mentioned above. Only difference is the gas used to ignite the flame for testing. |
| Please note that many of our fabrics when treated and/or used with other compatible furniture components, have been shown to perform to standards for: | ASTM E84 (Unadhered)<br>BS 5852 Source 0, 1 & 5 (Cig, Match, Crib 5)<br>IMO FTPC Part 8<br>BS EN 1021 Parts 1 & 2 |

## Colorfastness

**At Ultrafabrics, we believe in the power of color to impact spaces and our moods. We test for colorfastness, ensuring they won't fade, change in gloss or deteriorate on the surface.**

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| **Light AATCC 16.3 200hrs**<br>ACT Guidelines for High Traffic / Public Spaces – minimum grade 4 | Accelerated light aging evaluates a coated fabric's ability to resist fading, gloss change and surface deterioration |
| **ISO 105 B02 (EU)** | The European version of colorfastness to light. All products meet a grade 6. |

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| **Outdoor Light (UV) ASTM G154 1000hrs** | Tests evaluates the resistance of a coated fabric to simulated sunlight and moisture exposure. When rays of sunlight—particularly UV rays—bombard a surface, they degrade smaller pigment particles, changing the surface color and creating a chalky effect.<br>OR<br>Simulates damaging effects of long term outdoor exposure of materials and coatings to ultraviolet radiation, moisture and heat. |
| **Outdoor Light SAE J2527 (Florida Test)** | Is a performance based standard for accelerated weathering that uses a Xenon Arc as a light source to simulate outdoor exposure to direct sunlight on an accelerated basis. This is measured in kilojoules. |
| **Crocking AATCC 8** | A measure of resistance to transfer of color from a chemical coating to another surface (usually a fabric) by rubbing action. |
| **Chlorinated Water AATCC 162** | This test method is used for evaluating the resistance to chlorinated pool water of dyed, printed or otherwise colored textile yarns and coated fabrics. |
| **Sea (Salt) Water AATCC 106** | This test method is designed to measure the resistance to sea water of dyed, printed, or otherwise colored textile yarns and coated fabrics. |
| **Perspiration AATCC 15** | This test method is used to determine the fastness of colored textiles to the effects of acid perspiration. It is applicable to dyed, printed or otherwise colored textile fibers, yarns and fabrics of all kinds and to the testing of dyestuffs as applied to textiles. |

**This information is provided as an informative reference guide, please contact your sales manager or our customer service team should you require more specific information.**

**We have referenced recommendations from The Association for Contract Textiles. ACT is an American not-for-profit professional trade association, addressing a variety of issues related to contract fabrics.**

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