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textiles

ACT Voluntary Performance Guidelines for Flammability and four aspects of fabric durability—Wet & Dry Crocking, Colorfastness to Light, Physical Properties, and Abrasion—make fabric specification easier.

To give architects, designers, and end-users a vast amount of performance information in a succinct visual way, ACT developed icons to indicate that a fabric meets or exceeds guideline requirements. Look for these Registered Certification Marks on ACT Member Company sampling to assure that the fabrics you specify perform up to contract standards and pass all applicable testing.

All ACT Voluntary Performance Guidelines cover woven and coated fabrics for indoor use. “Woven Fabrics” consist of two sets of yarns, warp and filling, formed by weaving, which is the process of interlacing these sets of yarns. “Coated Fabrics” typically include a fabric or similar substrate with one or more layers of a film-forming polymer such as vinyl or polyurethane on the wear surface of the fabric.

Test methods included in the Guidelines measure fabric performance under standard laboratory conditions and are intended to represent the most current test version. Note: Individual ACT Member product information may represent a different version of a test method depending on the date the product was introduced to market.

**Important:** These tests represent minimum requirements, which are subject to change without notice and may not reflect requirements or laws in all locations.

## Flammability



The measurement of a fabric’s performance when it is exposed to specific sources of ignition.

*Note: ACT guidelines specify different flammability tests dictated by the intended end use for the fabric.*

### **Upholstery**

California Technical Bulletin 117-2013 Section 1 – Pass

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### **Direct Glue Wallcoverings and Adhered Panels**

ASTM E84 (Adhered Mounting Method) – Class A or Class 1

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### **Wrapped Wall Panels and Upholstered Walls**

ASTM E84 (Unadhered Mounting Method) – Class A or Class 1

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### **Panel System Furniture**

Any one or combination of the following: UL recognized component under Office Panel Fabrics category, UL 1286 Listed, ASTM E84 (Adhered or Unadhered Mounting Method) – Class A or Class 1

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### **Drapery**

NFPA 701 Method 1 or 2 as appropriate – Pass



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## Wet & Dry Crocking



Transfer of dye from the surface of a dyed or printed fabric onto another surface by rubbing.

### Upholstery – Woven Fabrics

AATCC 8	Dry Crocking, Grade 4 minimum
	Wet Crocking, Grade 3 minimum

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### Upholstery – Coated Fabrics

AATCC 8	Dry Crocking, Grade 4 minimum
	Wet Crocking, Grade 4 minimum

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### Direct Glue Wallcoverings

AATCC 8	Dry Crocking, Grade 3 minimum
	Wet Crocking, Grade 3 minimum

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### Wrapped Panels and Upholstered Walls

AATCC 8	Dry Crocking, Grade 3 minimum
	Wet Crocking, Grade 3 minimum

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### Drapery

AATCC 8 (Solids)	Dry Crocking, Grade 3 minimum
	Wet Crocking, Grade 3 minimum
AATCC 116 (Prints)	Dry Crocking, Grade 3 minimum
	Wet Crocking, Grade 3 minimum



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## Colorfastness to Light



A material's degree of resistance to the fading effect of light.

### Upholstery – Woven Fabrics

AATCC 16 Option 1 or 3                      Grade 4 minimum at 40 hours\*

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### Upholstery – Coated Fabrics

AATCC 16 Option 1 or 3                      Grade 4 minimum at 200 hours\*

Or

ASTM D4329                                      No appreciable color change at 150 hours\*

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### Direct Glue Wallcoverings

AATCC 16 Option 1 or 3                      Grade 4 minimum at 40 hours\*

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### Wrapped Panels and Upholstered Walls

AATCC 16 Option 1 or 3                      Grade 4 minimum at 40 hours\*

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### Drapery

AATCC 16 Option 1 or 3                      Grade 4 minimum at 60 hours\*

*\*Note: There is no direct correlation between the numbers of testing hours and hours of service in the field.*

## Physical Properties



Key factors in assessing overall durability of a fabric vary depending on the fabric construction.

### Upholstery – Woven Fabrics

#### Pilling

ASTM D3511 (Brush Pill), Class 3 minimum

Or

ASTM D4970, (Martindale Tester), Class 3 minimum

*Pilling* is the formation of fuzzy balls of fiber on the surface of a fabric that remain attached to the fabric.

#### Breaking Strength

ASTM D5034 (Grab Test), 50 lbs. minimum in warp and weft

*Breaking strength* is the measurement of stress exerted to pull a fabric apart under tension.

#### Seam Slippage

ASTM D4034, 25 lbs. minimum in warp and weft

*Seam Slippage* is the movement of yarns in a fabric that occurs when it is pulled apart at a seam.

### Upholstery – Coated Fabrics

#### Adhesion of Coating

ASTM D751 Sections 45-48, 3 lbf/in minimum

*Adhesion of coating* is the measurement of the force required to separate the coatings from the substrate.

#### Tear Strength

ASTM D2261 (Tongue Tear) – Knits & Woven Substrates, 4 x 4 lbs

ASTM D5733 (Trap Tear) – Nonwoven Substrates & Nonwoven Composites, 15 x 15 lbs

*Tear Strength* is the measurement of stress exerted to rip the fabric under tension.

#### Hydrolysis Resistance – Applicable to Polyurethanes Only

ISO 1419 (Tropical Test Method C), 5 weeks

Visual Evaluation for no cracking, peeling or delamination

*Hydrolysis resistance* is the evaluation of a polyurethane fabric's ability to withstand exposure to extended periods of heat and humidity.

*Note: There is no direct correlation of testing weeks to years of service in the field.*

#### Stretch & Set

*ACT has chosen not to establish a minimum requirement for this performance characteristic since the ability of a fabric to return to its initial state is strongly impacted by factors that are attributed to furniture construction and fabrication such as the density of foam. The SAE J855 test can be used to evaluate the stretch and set of a coated fabric; however, ACT suggests that you consult with both your fabric supplier and furniture manufacturer to determine if there are any potential issues.*

### Wrapped Panels and Upholstered Walls

#### Breaking Strength

ASTM D5034 (Grab Test), 35 lbs. minimum in warp and weft

#### Drapery

##### Seam Slippage

ASTM D434 for fabrics over 6 oz./sq. yard, 25 lbs. minimum in warp and weft

## Abrasion

The surface wear of a fabric caused by friction.



Low Traffic /  
Private Spaces –  
Woven Upholstery Fabrics

### Low Traffic / Private Spaces – Woven Upholstery Fabrics

ASTM D4157 (ACT approved #10 Cotton Duck)  
15,000 double rubs Wyzenbeek method

ASTM D4966 (12 KPa pressure)  
20,000 cycles Martindale method



High Traffic /  
Public Spaces –  
Woven Upholstery Fabrics

### High Traffic / Public Spaces – Woven Upholstery Fabrics

ASTM D4157 (ACT approved #10 Cotton Duck)  
30,000 double rubs Wyzenbeek method

ASTM D4966 (12 KPa pressure)  
40,000 cycles Martindale method

High Traffic /  
Public Spaces –  
Coated Upholstery Fabrics

### High Traffic / Public Spaces – Coated Upholstery Fabrics

ASTM D4157 (ACT approved #10 Cotton Duck or Wire Screen)  
50,000 double rubs Wyzenbeek method

### Print Retention – Applicable for Printed Coated Upholstery Fabrics

ASTM D3389 (modified to evaluate visual determination of print loss), Rating of 3 or higher\*  
H-18 Wheel, 250 grams, 250 cycles Taber Tester method

\*Using the ACT photographic scale of approved replicas

#### Disclaimer:

*Wyzenbeek test results are not necessarily a reliable indicator of fabric lifespan. Comparative laboratory testing results on the same textiles frequently differ and testing methods do not necessarily correlate well with the variables encountered in actual use by the end-user. Licensees using the ACT performance certification marks and publishing test results in excess of 100,000 double rubs are required, at a minimum, to provide in their sampling, marketing materials and Website, the following statement:*

Multiple factors affect fabric durability and appearance retention, including end-user application and proper maintenance. Wyzenbeek results above 100,000 double rubs have not been shown to be a reliable indicator of increased fabric lifespan.

#### Notes:

*ACT studies indicate that results of multiple abrasion tests performed on some woven fabric structures may vary significantly – as much as 60 percent or more.*

*There is no correlation between Wyzenbeek and Martindale results.*

*For more information please refer to abrasion white papers on the ACT website:  
<http://www.contracttextiles.org/index.php?page=research>*



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