association for contract textiles

Flammability
ACT Voluntary Performance Guidelines and Test Method Descriptions for Knit Fabrics – Indoor

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.

ACT Guidelines are based on a fabric's construction (woven, coated, knit), its intended application (upholstery, direct glue wallcovering/adhered panels, wrapped panels/upholstered walls, drapery), and where it will be used (indoor, outdoor). The application and usage parameters are set by the fabric supplier. All three parameters determine which set of ACT Voluntary Performance Guidelines applies.

This specific set of guidelines applies to knit fabrics for indoor use and all applications. "Knit Fabrics" are made by interlocking loops of one or more yarns.

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. See information and disclaimer on page 5.

Flammability — KNIT FABRICS, INDOOR USE

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.

ACT GUIDELINES

Upholstery
California Technical Bulletin 117-2013 Section 1 – Pass

Direct Glue Wallcoverings and Adhered Panels
ASTM E84 (Adhered Mounting Method) – Class A or Class 1

Wrapped Wall Panels and Upholstered Walls
ASTM E84 (Unadhered Mounting Method) – Class A or Class 1

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

Drapery
NFPA 701 Method 1 or 2 as appropriate – Pass

TEST METHODS

California Technical Bulletin 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.

Section 1: Cover Fabric Test
Upholstery cover materials submitted for this section are placed over standard polyurethane foam and tested in triplicate. A lighted cigarette is placed in the crevice formed by the vertical back and horizontal seat cushions. Smoldering resistance is measured by the following criteria:

1. Smoldering cannot exceed 45 minutes of test duration
2. Vertical char length cannot exceed 1.8 inches (45 mm)
3. Mock-up specimen cannot transition into open flame

All three mock-up specimens must meet all three criteria in order for the cover fabric to pass the Section 1 test.

Note: Fabrics that do not pass the Section 1: Cover Fabric Test can be used with a barrier that passes the Section 2: Barrier Materials Test to satisfy the requirements of California TB 117-2013.

*For complete technical details about Cal TB 117-2013:
https://bhgs.dca.ca.gov/about_us/tb117_2013.pdf

For a helpful FAQ document written by the State of California:
https://bhgs.dca.ca.gov/forms_pubs/tb117-2013_faq_0619.pdf

ASTM E84* Tunnel Test

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 "unadhered" where the only difference is in specimen preparation:

Adhered: The fabric is bonded to either a CA board substitute or gypsum board. This is the prescribed method for wall coverings whose actual use will be "adhered".

Unadhered: If the fabric is a panel fabric or upholstered walls, it is tested in a frame without being bonded to any other material.

In each instance (adhered and unadhered), the fabric is placed in the ceiling of the test tunnel and subjected at one end to a high intensity flame which spreads over the first 4.5 feet of the 24 foot test specimen.

The distance of flame front progression and total burning time are used to calculate a "flame spread index." Smoke monitors are used to calculate a "smoke developed" value. The flame spread index and smoke developed value are calculated from the results of the test fabric compared to the characteristics of cement board and red oak materials resulting in the indexes.

Typically, the code classes are as follows:

Class A: Flame Spread Index of 25 or less and Smoke Developed value of 450 or less
Class B: Flame Spread Index of 26 to 75 and Smoke Developed value of 450 or less
Class C: Flame Spread Index of 76 to 200 and Smoke Developed value of 450 or less

Caution: The ASTM E84 test is only valid if the textile or vinyl wall covering is used in a sprinklered occupancy. If not, the Room Corner Test (NFPA 265 for textiles; and NFPA 286 for vinyl) is mandated in many jurisdictions.

*For complete technical details about ASTM E84: http://www.astm.org

NFPA 701*

NFPA 701 is a test standard of the National Fire Protection Agency. It measures the flame-resistant properties of various textiles and plastics.

A product will pass or fail based on a review of the results obtained by either Test Method 1 or Test Method 2. Appropriate test method is determined by material weight, composition, and application (as directed by standard).

Criteria for Test Method 1

Flaming Drip:	Maximum average of 2.0 seconds
Weight Loss:	Maximum average loss of 40 percent

Criteria for Test Method 2 (Flat)

After Flame:	Maximum 2.0 seconds
Drip Burn:	Maximum 2.0 seconds
Char Length:	Maximum 435 mm

Criteria for Test Method 2 (Folded)

After Flame:	Maximum 2.0 seconds
Drip Burn:	Maximum 2.0 seconds
Char Length:	Maximum 1,050 mm

*For complete technical details about NFPA701: http://www.nfpa.org

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Whenever appropriate, specifiers and end users should seek the advice of professionals or other knowledgeable persons to ascertain whether a product will in fact comply with applicable Laws.

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It is the responsibility of the contract textile vendor and/or the manufacturer (not ACT) to determine in all instances whether or not a textile meets each of the Standards to which a particular Mark is referenced.

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