A PERIODIC PUBLICATION HIGHLIGHTING THE MERITS OF VINYL INTERIOR PRODUCTS

# FOCUS on Performance

05

July 2011

## PERFORMANCE

Not all chemical coatings are created equal. That's why the development of standards is important. Standards are used by the industry to promote product performance, facilitate quality control and assure customer satisfaction. These standards are revised and updated as product requirements change and newer polymers and composites find increasing acceptance.

CFFA standards address product performance via testing that replicates anticipated conditions of normal usage. The tests measure both the strength of the coated fabric and also its ability to withstand commercial use. Beyond the standard, it is important to read and understand the data sheets for individual products to be sure they are suitable for intended use.

There is no one standard that encompasses all chemical fabrics and films. Due to the large quantity of films and fabrics and the diverse end use for each, individual performance standards have been developed. There are currently four recommended minimum performance standards:

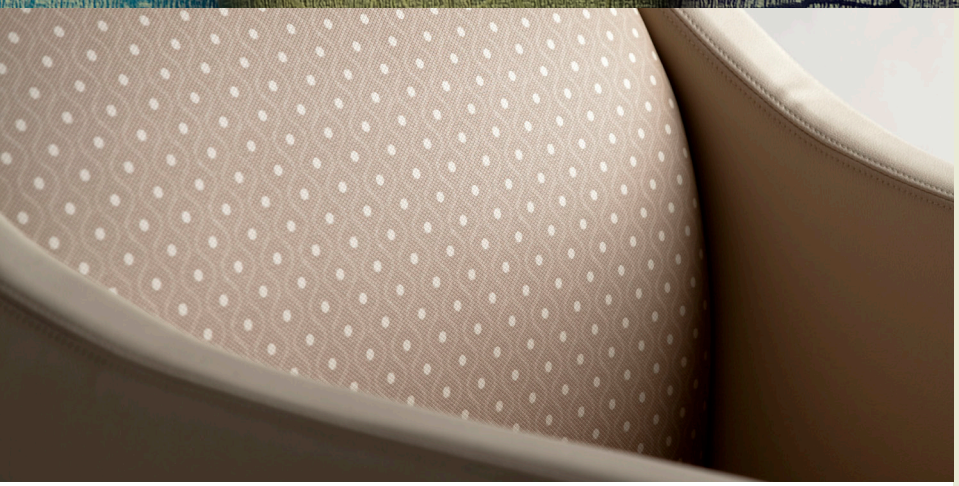
- **CFFA-U-201D** Recommended Minimum Performance Standards for Vinyl-Coated and Other Chemical-Coated Upholstery Fabrics – Indoor
- **CFFA-VINYL-201C** Recommended Minimum Performance Standards for Vinyl-Coated and Other Chemical-Coated Upholstery Fabrics – Marine
- **CFFA-PU-101A** Recommended Minimum Performance Standards for Polyurethane Upholstery Fabrics – Marine
- **CFFA-P-101D** Recommended Minimum Performance Standards for Vinyl Swimming Pool Liners – In-Ground

There are currently approximately forty test methods cited by the CFFA in its publication Standard Test Methods that address various areas related to the fabric/film's service life. Some of the properties measured within these tests assess the fabric's strength. The properties measured include:

- **Seam Strength:** Does the fabric resist seam tearing? The sample is pressed onto a needle board and pulled on a universal tester for this test.

## THE STANDARDS

**CFFA-U-201D RECOMMENDED MINIMUM PERFORMANCE STANDARDS FOR VINYL-COATED AND OTHER CHEMICAL-COATED UPHOLSTERY FABRICS – INDOOR,** a 2010 update from the original 1998 standard, sets the recommended minimum performance standards for vinyl-coated and other chemical-coated upholstery fabrics produced with woven, non-woven or knit substrates used as contract upholstery materials. The standard, developed by a technical committee of chemists and engineers, assesses basic attributes related to performance. Test methods evaluate the coated upholstery fabric's strength and ability to withstand elements associated with commercial use.



## PERFORMANCE (CONTINUED)

- **Tear Strength:** How much force is required to tear the fabric? A universal tester is used to measure this property.
- **Tensile Strength:** How much force is required to break the fabric? A machine consisting of a straining mechanism, holding clamps and load recording mechanism can be used for this test.
- **Cold Crack:** Is the fabric strong enough to withstand cracking when folded at low temperatures? A low temperature apparatus is used for this test.
- **Adhesion:** How much force is required to separate the chemical coating from the base substrate? A universal tester, such as an Instron unit, is used to peel the layers apart and measure this property.
- **Flex:** When the fabric is flexed and twisted, does the fabric maintain its surface appearance or is there cracking of the polymer? A Flex-O-Test (formerly Newark Flex Tester) is used to measure this property.

To measure the film or fabric's ability to withstand elements associated with commercial use, test methods also assess the following properties:

- **Abrasion:** Can the chemical coating withstand surface wear when rubbed against another surface? The Wyzenbeek method is used for this test.
- **Light Stability:** Does the fabric endure sunlight without fading? A QUV unit or Weatherometer is used to assess this property.
- **Volatility:** Are the plasticizers preserved to ensure the fabric does not lose weight when subjected to elevated temperature? For this test, activated carbon, along with a forced air laboratory oven or a bath, analytic balance and micrometer, are used.
- **Blocking:** How will the chemical coating react when faced with elevated temperatures? Does it stick, face to face under heat and pressure? A forced air laboratory oven is used for this test.
- **Crocking:** When rubbed against another surface, does the chemical coating transfer its color to a white fabric? A Crockmeter is used for this test.

## THE STANDARDS (CONTINUED)

**CFFA-VINYL-201C RECOMMENDED MINIMUM PERFORMANCE STANDARDS FOR VINYL-COATED AND OTHER CHEMICAL-COATED UPHOLSTERY FABRICS – MARINE** sets the recommended performance standards for vinyl and other chemical coated upholstery fabrics produced with non-woven knit or substrates used as marine upholstery materials. This standard includes, but is not limited to, chemical coatings widely used for upholstery. The standard does not cover chemical coated fabrics used in indoor applications.

**CFFA-PU-101A RECOMMENDED MINIMUM PERFORMANCE STANDARDS FOR POLYURETHANE UPHOLSTERY FABRICS – MARINE** sets recommended performance standards for polyurethane coated fabrics produced with non-woven knit substrates used in marine upholstery material. The standard does not apply to indoor applications. The polyurethane upholstery materials are manufactured from natural and/or synthetic fibers, and coated on one side to create a durable, protective surface. The standard assesses specific properties to ensure a durable, protective surface that provides an aesthetic appearance and texture under non-abusive consumer usage.

**CFFA-P-101D RECOMMENDED MINIMUM PERFORMANCE STANDARDS FOR VINYL SWIMMING POOL LINERS – IN-GROUND** sets the recommended minimum performance standards for vinyl and other polymeric films, plain and printed, used for in-ground swimming pool liners. The standard measures properties to ensure a durable, protective vinyl or polymeric surface that provides an aesthetic appearance and texture under non-abusive consumer usage.

Copies of all four standards and the Standard Test Methods pamphlet are available on the CFFA website at www.chemicalfabricsandfilm.com/research.html.

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