TEST STANDARDS FOR THE UV BOX ACCELERATED WEATHERING TESTER

COATINGS

AAMA 624

Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Fiber Reinforced Thermoset Profiles

This specification describes test procedures and performance requirements for high performance, organic, coatings applied to fiber reinforced thermoset profiles for windows, doors and similar products.

ASTM D3451

Standard Guide for Testing Coating Powders and Powder Coatings

This guide covers the selection and use of procedures for testing coating powders and powder coatings. The test methods included are listed in Table 1. Where more than one test method is listed for the same characteristic, no attempt is made to indicate superiority of one method over another. Selection of the methods to be followed must be governed by experience and the requirements in each individual case, together with agreement between the purchaser and the seller.

ASTM D4587

Standard Practice for Fluorescent UV-Condensation Exposures of Paint and Related Coatings

This practice covers the selection of test conditions for accelerated exposure testing of coatings and related products in fluorescent UV and condensation devices conducted according to Practices G151 and G154.

ASTM D6577

Standard Guide for Testing Industrial Protective Coatings

This guide covers the selection and use of test methods and procedures for testing industrial protective coatings.

EN 13523-10 (DIN)

Coil Coated Metals - Test Methods Part 10: Resistance to Fluorescent UV Radiation and Water Condensation

EN 13523-10

Coil coated metals - Test methods - Part 10: Resistance to fluorescent UV radiation and water condensation.

ISO 11507

Paints and varnishes -- Exposure of coatings to artificial weathering -- Exposure to fluorescent UV lamps and water.

TEXTILES

AATCC TM186

Weather Resistance: UV Light and Moisture Exposure
This test method provides a procedure for the exposure of textile materials of all kinds, including coated fabrics and products made thereof, in a laboratory artificial weathering exposure apparatus employing fluorescent UV lamps as a light source and using condensing humidity and/ or water spray for wetting.

EN 12224

Geotextiles and geotextile-related products. Determination of the resistance to weathering

SOLVENT

ASTM C1257

Standard Test Method for Accelerated Weathering of Solvent-Release-Type Sealants
This test method includes two laboratory accelerated exposure procedures for predicting the effects of ultraviolet or ultraviolet/visible radiation, heat, and moisture on color, chalking, cracking, and adhesion of solvent-release sealants.

SEALANTS

ASTM C1442

Practice for Conducting Tests on Sealants Using Artificial Weathering Apparatus
This practice covers three types of laboratory weathering exposure procedures for evaluating the effect of actinic radiation, heat, and moisture on sealants.

ASTM C1501

Standard Test Method for Color Stability of Building Construction Sealants as Determined by Laboratory Accelerated Weathering Procedures
This test method describes laboratory accelerated weathering procedures using either fluorescent ultraviolet or xenon arc test devices for determining the color stability of building construction sealants.

ASTM C1519

Standard Test Method for Evaluating Durability of Building Construction Sealants by Laboratory Accelerated Weathering Procedures
This test method covers the method for the determination of the durability of a sealant based on its ability to function in cyclic movement maintaining adhesion and cohesion after repeated exposure to laboratory accelerated weathering procedures.

ASTM C732

Standard Test Method for Aging Effects of Artificial Weathering on Latex Sealants
This test method covers a laboratory procedure for the determination of aging effects of artificial weathering on latex sealants.

ASTM C734

Standard Test Method for Low-Temperature Flexibility of Latex Sealants After Artificial Weathering
This test method covers a laboratory procedure for the determination of low-temperature flexibility of latex sealants after 500 h artificial weathering.

ASTM C793

Standard Test Method for Effects of Laboratory Accelerated Weathering on Elastomeric Joint Sealants
This test method covers a laboratory procedure for determining the effects of accelerated weathering on cured-in-place elastomeric joint sealants (single- and multi-component) for use in building construction.

RUBBER

ASTM D1148

Standard Test Method for Rubber Deterioration-Discoloration from Ultraviolet (UV) and Heat Exposure of Light-Colored Surfaces

This test method covers techniques to evaluate the surface discoloration of white or light-colored vulcanized rubber that may occur when subjected to UV or UV/visible exposure from specified sources under controlled conditions of relative humidity, or moisture, and temperature.

ASTM D750

Standard Test Method for Rubber Deterioration Using Artificial Weathering Apparatus

This test method covers specific variations in the test conditions and procedures that shall be applicable when Practice G151 plus either Practice G152, G153, G154, or G155 are employed for exposure of vulcanized rubber compounds.

ASTM D925

Standard Test Methods for Rubber Property—Staining of Surfaces (Contact, Migration, and Diffusion)

These test methods cover techniques to evaluate three types of staining that rubber may cause when in contact with, or in proximity to, another surface that may be light colored.

BITUMINUS MATERIAL

ASTM D1670

Standard Test Method for Failure End Point in Accelerated and Outdoor Weathering of Bituminous Materials

This test method covers the use of a spark generating apparatus for determination of failure due to cracking of bituminous materials undergoing accelerated or outdoor weathering on electrically conductive backings.

PRINTED MATERIAL

ASTM D3424

Standard Practice for Evaluating the Relative Lightfastness and Weatherability of Printed Matter

This standard describes procedures for the determination of the relative lightfastness and weatherability of printed matter under the following conditions, which involve exposure to natural daylight or accelerated procedures in the laboratory.

PLASTICS

ASTM D4101

Standard Specification for Polypropylene Injection and Extrusion Materials

This specification covers polypropylene materials suitable for injection molding and extrusion. Polymers consist of homopolymer, copolymers, and elastomer compounded with or without the addition of impact modifiers (ethylene-propylene rubber, polyisobutylene rubber, and butyl rubber), colorants, stabilizers, lubricants, or reinforcements.

ASTM D4329

Standard Practice for Fluorescent UV Exposure of Plastics

This practice covers specific procedures and test conditions that are applicable for fluorescent UV exposure of plastics conducted in accordance with Practices G151 and G154.

ASTM D4674

Standard Practice for Accelerated Testing for Color Stability of Plastics Exposed to Indoor Office Environments

This practice covers the basic principles and operating procedures for using fluorescent light to determine color stability of plastics when materials are exposed in typical office environments where fluorescent overhead lighting and window-filtered daylight are used for illumination and where temperature and humidity conditions are in accordance with American Society of Heating, Refrigerating, and Air-conditioning Engineers (ASHRAE) recommendations for workers' comfort.

ASTM D5208

Standard Practice for Fluorescent Ultraviolet (UV) Exposure of Photodegradable Plastics

This practice covers the specific procedures applicable for fluorescent Ultraviolet (UV) exposure of photodegradable plastics conducted in accordance with Practices G151 and G154.

ASTM D882

Standard Test Method for Tensile Properties of Thin Plastic Sheeting

This test method covers the determination of tensile properties of plastics in the form of thin sheeting and films (less than 1.0 mm (0.04 in.) in thickness).

ASTM F1164

Standard Test Method for Evaluation of Transparent Plastics Exposed to Accelerated Weathering Combined with Biaxial Stress

This test method covers the resistance of transparent plastics exposed to environmental conditioning (accelerated weathering) under a biaxial stress state induced by a pressure cell/test fixture.

ISO 29664

Plastics - Artificial weathering including acidic deposition

ISO 4892-1 (EN) (DIN)

Plastics – Methods of Exposure to Laboratory Light Sources – Part 1: General guidance

ISO 4892-3 (EN) (DIN)

Plastics - Methods of Exposure to Laboratory Light Sources - Part 3: Fluorescent UV Lamps

ROOFING

ASTM D4434

Standard Specification for Poly(Vinyl Chloride) Sheet Roofing
This specification covers flexible sheet made from poly(vinyl chloride) resin as the primary polymer intended for use in single-ply roofing membranes exposed to the weather.

ASTM D4799

Standard Practice for Accelerated Weathering Test Conditions and Procedures for Bituminous Materials (Fluorescent UV, Water Spray, and Condensation Method)
This practice describes test conditions and procedures for fluorescent UV and condensation exposures conducted according to Practices G151 and G154 for bituminous roofing and waterproofing materials that have a minimum softening point of approximately 95°C (200°F) as determined by Test Method D36.

ASTM D4811

Standard Specification for Nonvulcanized (Uncured) Rubber Sheet Used as Roof Flashing

This specification covers nonvulcanized (uncured) rubber sheet made of EPDM (ethylene-propylene-diene terpolymer) or CR (polychloroprene) intended for use as watertight roof flashing exposed to the weather.

EN 1297

Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Method of artificial ageing by long term exposure to the combination of UV radiation, elevated temperature and water

PAINTED METAL

ASTM D5894

Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet)
This practice covers basic principles and operating practice for cyclic corrosion/UV exposure of paints on metal; using alternating periods of exposure in two different cabinets: a cycling salt fog/dry cabinet, and a fluorescent UV/condensation cabinet.

EN 927-6

Paints and varnishes. Coating materials and coating systems for exterior wood. Exposure of wood coatings to artificial UV radistion and condensation.

ADHESIVE

ASTM D904

Standard Practice for Exposure of Adhesive Specimens to Artificial Light

This practice covers the basic principles and operating procedures for ultraviolet (UV) light aging (with or without water) of adhesive bonded joints having at least one glass or transparent adhered, using fluorescent UV (see Method A) or xenon-arc light sources (see Method B).

PHOTOVOLTAIC

ASTM E3006

ASTM E3006, Standard Practice for Ultraviolet Conditioning of Photovoltaic Modules or Mini-Modules Using a Fluorescent Ultraviolet (UV) Lamp Apparatus
This practice covers specific procedures and test conditions for performing ultraviolet conditioning exposures on photovoltaic modules or mini-modules using fluorescent ultraviolet lamps.

IEC 61215

Crystalline Silicon Terrestrial Photovaltalic (PV) Modules - Design Qualification and Type Approval

IEC 61345

UV Test for Photovaltalic (PV) Modules

INK

ASTM F1945

Standard Practice for Determining the Lightfastness of Ink Jet Prints Exposed to Indoor Fluorescent Lighting
This practice covers an accelerated procedure intended to determine the lightfastness of ink jet prints in office environments where overhead fluorescent light is used for illumination.

NONMETALLIC MATERIALS

ASTM G151

Practice for Exposing Nonmetallic Materials in Accelerated Test Devices That Use Laboratory Light Sources
This practice provides general procedures to be used when exposing nonmetallic materials in accelerated test devices that use laboratory light sources.

GENERAL TESTING

ASTM G154

Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials

This practice covers the basic principles and operating procedures for using fluorescent UV light, and water apparatus intended to reproduce the weathering effects that occur when materials are exposed to sunlight (either direct or through window glass) and moisture as rain or dew in actual usage.

AUTOMOTIVE

GM 9125P

Procedures for Laboratory Accelerated Exposure of Automotive Materials
These procedures are used to determine the resistance to degradation of automotive materials when subjected to artificial light sources. It describes exposures to sunshine carbon arc, xenon arc, fluorescent ultraviolet light and condensation apparatus, and a twin carbon arc.

SAE J2020

Accelerated Exposure of Automotive Exterior Materials Using a Fluorescent UV and Condensation Apparatus

PAINTS

ISO 11507 (EN) (DIN)

Paints and Varnishes - Exposure of coatings to artificial weathering- Exposure to fluorescent UV lamps and water

This International Standard specifies exposure conditions for paint coatings exposed to artificial weathering in apparatus including fluorescent UV lamps and condensation or water spray.

ISO 11997-2

Specifies a test method of determining resistance of coatings to a defined cycle of wet (salt fog)/dry/humidity/UV light conditions using a specified solution.

FIBC

EN 1898

Specifications for flexible intermediate bulk containers (FIBCS) for non-dangerous goods from SAI Global.