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Glossary of AATCC Standard Terminology

Legend:

EP = Evaluation Procedure
 LP = Laboratory Procedure
 M = Monograph
 RA = Research Committee
 TM = Test Method

AATCC Blue Wool Lightfastness Standard, n.—one of a group of dyed wool fabrics distributed by AATCC for use in determining the amount of light exposure of specimens during lightfastness testing. *Source:* TM16.1, 16.2, 16.3, 111, 192.

AATCC fading unit (AFU), n.—a specific amount of exposure made under the conditions specified in various test methods where one AFU is one-twentieth (1/20) of the light-on exposure required to produce a color change equal to Step 4 on the Gray Scale for Color Change or 1.7 ± 0.3 CIELAB units of color difference on AATCC Blue Wool Lightfastness Standard L4. *Source:* TM16.1, 16.2, 16.3.

abrasion, n.—the wearing away of any part of a material by rubbing against another surface. *Source:* LP3, TM93, 119, 120.

absorbance, n.—the logarithm to the base 10 of the reciprocal of transmittance.

NOTE: Absorbance is proportional to the mass of absorbing material in the path length of a spectrophotometer cell (syn: *absorbance value*). *Source:* TM182.

absorbency, n.—the propensity of a material to take in and retain a liquid, usually water, in the pores and interstices of the material. *Source:* TM70, 79.

absorbent capacity, n.—the maximum amount of liquid a material can hold; dependent on the specific test method used. *Source:* TM200.

absorption, n.—a process in which one material (the absorbent) takes in or incorporates another material (the absorbate) within itself; such as the absorption of moisture by fibers. *Source:* RA99.

absorption rate (AR_T) (top surface) and (AR_B) (bottom surface), n.—the average speed of liquid moisture absorption for the top and bottom surfaces of the specimen during the initial change of water content during a test. *Source:* TM195.

accelerated ageing, n.—in *textile processing and testing*, use of controlled environmental conditions to promote rapid physical and/or chemical change in a textile material. *Source:* TM26.

accumulative one-way transport capability (R), n.—the difference between the area of the liquid moisture content curves of the top and bottom surfaces of a

specimen with respect to time. *Source:* TM195.

acid dye, n.—an anionic dye having substantivity for fibers which contain cationic groups usually in acidic or neutral aqueous dye baths. *Source:* TM159.

activated oxygen bleach, n.—a bleaching system comprising an oxygen bleach and a bleach activator. *Source:* TM190.

activity, n.—of an *antibacterial agent*, a measure of effectiveness of the agent. *Source:* TM90, 100, 147, 174.

activity, n.—of an *anti-dust mite agent*, a measure of the effectiveness of the agent. *Source:* TM194.

add-on, n.—in *textile processing*, the amount of any material, chemical finish, coating, sizing, etc. that is applied to a textile (see also *wet pick-up*).

NOTE: Add-on is usually determined as a percentage of either the dry or conditioned weight of the textile prior to processing. *Source:* RA99.

ageing, accelerated, n.—see *accelerated ageing*.

anionic dye, n.—a dye that dissociates in aqueous solution to give a negatively charged colored ion. *Source:* RA87.

antibacterial agent, n.—any chemical material which kills bacteria (bactericide) or interferes with the multiplication, growth or activity of bacteria (bacteriostat). *Source:* TM90, 100, 147, 174.

antifungal agent, n.—any chemical material which kills or inhibits the growth of fungi. *Source:* TM174.

anti-house dust mite agent, n.—any chemical which kills (acaricide) or repels house dust mites. *Source:* TM194.

antimicrobial agent, n.—in *textiles*, any chemical material which kills or inhibits the growth of microorganisms. *Source:* TM174.

appearance of creases, n.—see *crease retention*.

appearance of textile end products, n.—the overall visual impressionSM of a textile end product quantified by comparison of individual components with appropriate reference standards. *Source:* TM143.

aqueous repellency, n.—in *textiles*, the characteristic of a fiber, yarn or fabric whereby it resists wetting by aqueous liquids. *Source:* TM193.

area-of-view, n.—of *color measuring instrument*, the dimensions of the surface area that a color measuring instrument is capable of covering in a single color measurement. *Source:* EP6.

azoic composition, n.—a physical

mixture of an azoic coupling component and a stabilized azoic diazo component which produces, *in situ*, an insoluble azo colorant in both cellulosic and synthetic substrates. *Source:* RA87.

azoic diazo component, n.—a stabilized diazonium salt of a primary acrylamine or derivative thereof which is capable of reacting with an azoic coupling component. *Source:* RA87.

azoic dye, n.—an insoluble azo compound developed, *in situ*, on a substrate by chemically reacting an azoic diazo component (diazotized amine) with an azoic coupling component. *Source:* RA87.

Bacterial Amylase Unit (BAU), n.—a measure of starch degradation as shown by the quantity of an enzyme that will dextrinize one milligram of starch per minute under the specified experimental conditions. *Source:* TM103.

bacterial resistance, n.—in *textiles*, resistance to the development of visible bacterial growth and accompanying odors, resulting from bacterial degradation of fibers or soil on them, as distinguished from musty fungal odors. *Source:* TM174.

ballast, n.—in *procedures for processing or testing of textiles*, material that is used to bring the total weight or volume of the textiles to an amount specified in the procedure. *Source:* TM88B, 88C, 124, 143.

barré, n.—an unintentional, usually repetitive, pattern of continuous bars or stripes parallel to the courses of circular knit fabric. *Source:* M10.

basic dye, n.—a dye that dissociates in an aqueous medium to give a positively charged colored ion (cation) with affinity for fibers containing acidic groups. *Source:* TM141.

black panel thermometer, n.—a temperature measuring device, the sensing unit of which is coated with black designed to absorb most of the radiant energy encountered in lightfastness testing. *Source:* TM16.2, 16.3, 111, 192.

black standard thermometer, n.—a temperature measuring device, the sensing unit of which is coated with a black material designed to absorb most of the radiant energy encountered in lightfastness testing and is thermally insulated by means of a plastic plate. *Source:* TM16.2, 16.3.

bleach, n.—in *home laundering*, a product that will clean, whiten, brighten and aid in the removal of soils and stains from textile materials by oxidation that is inclusive of chlorine and non-chlorine products. *Source:* TM172, 188.

bleach activator, n.—a bleach agent precursor, which converts a less potent bleaching species into a more powerful one. *Source*: TM190.

bleaching, n.—elimination of unwanted coloring matter from a textile substrate by oxidative or reductive chemical treatment. *Source*: TM81, 98, 102, 144, 209.

blotting paper, n.—any absorbent cloth-like material that is white in color, and will readily absorb small droplets of liquid. *Source*: TM205.

bottom surface (B), n.—for testing purposes, the side of the specimen placed down against the lower electrical sensor which is the side of the fabric that would be the outer exposed surface of a garment when it is worn or product when it is used. *Source*: TM195.

breaking strength, n.—the maximum force applied to a specimen in a tensile test carried to rupture. *Source*: TM111, 169, 186, 192.

breathing resistance, n.—the differential pressure required to draw air through a measured surface area at a constant air flow rate. *Source*: EN 14683, an FDA-recognized consensus method for surgical masks. NOTE: The term “breathability” is also associated with this definition, but due to possible confusion with vapor permeability, it is not used in this document. Fabrics designed to specifically allow escape of perspiration in the form of vapor are not typically suitable for face coverings. *Source*: M14.

broad bandpass radiometer, n.—a relative term applied to radiometers that have a bandpass width of more than 20 nm at 50% of maximum transmittance and can be used to measure irradiance at wavelengths such as 300–400 nm or 300–800 nm. *Source*: TM16.1, 16.2, 16.3, 111.

burnt gas fumes, n.—atmospheric oxides of nitrogen as derived from the combustion of illuminating or heating gas. *Source*: TM23.

bursting strength, n.—the force or pressure required to rupture a textile by distending it with a force, applied at right angles to the plane of the fabric, under specified conditions. *Source*: TM111, 169, 186, 192.

calibration procedure, n.—a method for adjusting certain parameters in an instrument so that different instruments from the same or different manufacturers produce the same results in a test for a given property. *Source*: EP11.

carbonizing, n.—a chemical process for eliminating cellulosic matter from a mixture with animal fibers by degrading the cellulosic material to an easily friable condition. *Source*: RA99.

care instructions, n.—in textiles, a series of directions describing which care practices should refurbish a product without adverse effects and warning of those

care practices expected to have a harmful effect. *Source*: TM188.

carpet, n.—all textile floor coverings not designated as rugs. *Source*: TM121, 122, 138, 165, 171.

carpet backing, n.—materials (fabrics, yarns or chemical compounds) in the carpet other than the face yarns. *Source*: TM205.

carpet composite, n.—the finished carpet product, including: face fibers, primary backing, adhesive coating, and secondary backing (if applicable). *Source*: TM205.

carpet pile brush, n.—a hand operated brush having long, semi-rigid bristles intended specifically for erecting the pile of small areas of carpet (see also *pile lifter*). *Source*: TM171.

cationic dye, n.—a dye that dissociates in an acidified, aqueous solution to give a positively charged colored ion. *Source*: RA87.

cellulase enzyme, n.—an enzyme that attacks cellulose. *Source*: TM191.

center wavelength, n.—the specified wavelength for a bandpass filter; the wavelength midway between the half power points, for example, 340 nm $\pm$ 2 nm. *Source*: TM111.

chelating agent, n.—in textile chemistry, a chemical capable of deactivating metal ions by formation of a water soluble complex. SYN: *sequestering agent*. *Source*: TM149, 161, 168, 185.

chemical finish, n.—chemical material other than colorants and residual processing chemicals added to textiles to impart desired functional or aesthetic properties to the textile product. *Source*: TM94.

chemical finishing, n.—the process of applying chemicals, other than colorants, to textiles to impart desired functional and/or aesthetic characteristics which may or may not be durable in normal use. *Source*: RA99.

chroma, n.—the proportion of spectrally pure color that expresses the degree of departure from the gray of the same lightness. *Source*: EP9.

chrome dye, n.—a mordant dye capable of forming a chelate complex with a chromium ion. *Source*: RA87.

CIE 1976 L*a*b* equation, n.—a commonly used equation which transforms CIE tristimulus values into a three-dimensional opponent color space. Generally abbreviated as CIELAB. *Source*: TM173.

CIE chromaticity coordinates, n.—the ratio of each of the tristimulus values of a psychophysical color to the sum of the tristimulus values (ASTM E284). *Source*: TM110.

CIE tristimulus values, n.—amounts of three non-real reference color stimuli required to give a color match with the color stimulus considered, and defined by the CIE for the CIE 1931 standard ob-

server and the CIE 1964 standard colorimetric observer and for a particular illumination condition. *Source*: TM110.

CIE Whiteness Index (CIE WI), n.—an index predicting the apparent degree of whiteness of a material based on tristimulus values determined according to one of the CIE standard methods, proposed by the Commission Internationale de l'Éclairage (CIE). *Source*: EP11.

clean-fiber content, n.—the amount of fiber after removal of nonfibrous content. *Source*: TM20A.

cleaning head, n.—a vacuum head modified with spray nozzles for cleaning solution application. Some types include a powered brush unit to facilitate wetting and soil release. *Source*: TM171.

cleanness, n.—in carpet soiling tests, the absence of change in appearance due to soil, specifically the degree to which the specimen approaches the original clean, unsoiled condition.

NOTE: Cleanness is independent of changes of physical structure which may be present because of exposure to traffic or action of cleaning procedures. *Source*: TM121.

CMC unit, n.—in color difference evaluation, a measure of acceptability expressed in terms of the boundary for the CMC acceptability ellipsoid of $\Delta E_{cmc} = 1.0$.

NOTE: CMC is an acronym for the Colour Measurement Committee (of the Society of Dyers and Colourists) which was largely responsible for the development of the CMC (*L:c*) equation. *Source*: TM173.

coated fabrics, n.—a flexible material composed of a textile fabric and an adherent polymeric or other material applied to one or both surfaces. *Source*: RA99.

color change, n.—as used in colorfastness testing, a change in color of any kind (whether a change in hue, chroma or lightness) *Source*: TM192.

color change, n.—as used in colorfastness testing, a change in color of any kind whether in lightness, hue or chroma or any combination of these, discernible by comparing the test specimen with a corresponding untested specimen. *Source*: EP1, 7, TM16.1, 16.2, 16.3, 111, 161, 196.

color measurement, n.—a numerical representation of the color stimulus of an object obtained by use of a color measuring instrument. A single measurement may represent an average of multiple readings of a specimen. *Source*: EP6.

color measuring instrument, n.—any device, such as a colorimeter or spectrophotometer, used to measure the relative amounts of energy reflected from (or transmitted through) a specimen in the visible region of the energy spectrum (comprising the wavelengths from 360 to 780 nm, and including as a minimum the

region from 400 to 700 nm). *Source:* EP6.

color strength, n.—a measure of the ability of a dye to impart color to other materials.

NOTE: Color strength is evaluated by light absorption in the visible region of the spectrum. *Source:* TM182.

colorant, n.—a material which is applied to a substrate for the express purpose of changing the transmittance or reflectance of visible light.

NOTE: Dyes, pigments, tints and optical brighteners are examples of colorants; soils are not colorants. *Source:* TM140.

colorant bleeding, n.—the loss of colorant from a textile substrate during contact with a liquid medium (such as water, drycleaning solvent or condensed vapors) with consequent coloring of the medium. *Source:* RA93.

colorant staining, n.—the unintended pickup of colorant by a substrate due to a transfer from another material. *Source:* EP2.

colorant staining, n.—the unintended pickup of colorant by a substrate due to (1) exposure to a colored or contaminated liquid medium, or (2) direct contact with dyed or pigmented material from which colorant transfers by sublimation or mechanical action (as in crocking). *Source:* EP8, 12, TM137.

colorfastness, n.—the resistance of a material to change in any of its color characteristics, to transfer of its colorant(s) to adjacent materials or both, as a result of the exposure of the material to any environment that might be encountered during the processing, testing, storage or use of the material. *Source:* EP1, 2, 8, 12, TM6, 8, 15, 16.1, 16.2, 16.3, 23, 61, 101, 104, 106, 107, 109, 116, 117, 125, 129, 131, 132, 133, 157, 162, 163, 164, 165, 169, 172, 188, 190, 196.

colorfastness to light, n.—the resistance of a material to a change in its color characteristics as a result of exposure of the material to sunlight or an artificial light source. *Source:* TM16.1, 16.2, 16.3.

colorist, n.—in *textile coloration*, a person experienced in developing color formulas, evaluating samples for color and producing colored samples to meet standards. *Source:* RA99.

commercial factor (cf), n.—in *color difference evaluation*, a tolerance (specified in terms of ΔE_{cmc} units) which adjusts all axes of the unit CMC volume equally to create a volume of acceptance for commercial use. *Source:* TM173.

commercial laundering, n.—a process by which textile products or specimens may be washed, rinsed, bleached, dried and pressed in commercial laundering equipment, typically at higher temperatures, higher pHs and longer times than used for home laundering. *Source:* TM96.

compatibility, n.—in *textile dyeing*, propensity of individual dye components in a combination shade to exhaust at similar rates resulting in a buildup of shade that is constant, or nearly constant, in hue throughout the dyeing process. *Source:* TM141.

condensed dye, n.—a dye which, during or after application, reacts covalently with itself or other compounds, other than the substrate, to form a molecule of greatly increased size. *Source:* RA87.

constituent elements of hand, n.—those components, qualities, attributes, dimensions, properties or impressions which make the sensation of touching one fabric different from that of touching another. *Source:* EP5.

control paper, n.—for *liquid moisture management testing*, a standard filter paper able to transmit a consistent volume of water vapor under controlled conditions. *Source:* TM204.

copper chelation value (CuCV), n.—the milligrams of copper sulfate pentahydrate chelated by one gram of a chelating agent or product containing a chelating agent. *Source:* TM185.

crease retention, n.—in *fabrics*, the visual impression of an inserted crease quantified by comparison with a set of reference standards. *Source:* TM88C, 143.

crocking, n.—a transfer of colorant from the surface of a colored yarn or fabric to another surface or to an adjacent area of the same fabric principally by rubbing. *Source:* TM8, 116, 165.

cross dyeing, n.—a process of dyeing textiles containing fibers having different dye affinities to achieve a multicolored effect (see also *union dyeing*). *Source:* RA99.

ΔE_{cmc} , n.—in *color difference evaluation*, a single number defining the total color difference in CMC units of a trial from a standard. *Source:* EP14.

ΔE_{00} , n.—in *color difference evaluation*, a single number defining the mean total color difference in CIEDE2000 units of a specimen from a reference and vice versa. *Source:* TM173, EP14.

depth, n.—departure of a colored object from white and frequently associated with either concentration or efficiency of a colorant. *Source:* RA36.

detergent, n.—a cleaning agent containing one or more surfactants as the active ingredient(s). *Source:* RA88.

differential wear—see *frosting*.

diffuse transmission, n.—process by which incident light, while being transmitted through an object, is redirected or scattered over a range of angles. *Source:* TM148, 203.

dimensional change, n.—a generic term for variation in length or width of a garment or fabric specimen subjected to specified conditions. *Source:* TM96, 158.

dimensional change, n.—a generic term for changes in length or width of a fabric specimen subjected to specified conditions. The change is usually expressed as a percentage of the initial dimension of the specimen. *Source:* TM135, 150, 187.

direct dye, n.—an anionic dye having substantivity for cellulosic fibers, normally applied from an aqueous dyebath containing an electrolyte. *Source:* RA87.

disperse dye, n.—an essentially water insoluble dye having affinity, when properly dispersed, for polyester, polyamide and some other manufactured polymeric fibers. *Source:* TM146, 154, 176.

dispersibility, n.—the degree to which particles can be broken down to some minimum size such that they will pass through the interstices of a standard filter paper. *Source:* TM146.

dispersion, n.—in *textile wet processing*, a suspension of very fine particles in a liquid phase. *Source:* TM176.

drycleaning, n.—the cleaning of fabrics with organic solvents such as petroleum solvent, perchloroethylene or fluorocarbon.

NOTE: The process also includes adding detergent and moisture to the solvent, up to 75% relative humidity, and hot tumble drying to 71°C (160°F). *Source:* TM86, 132, 142, 158.

drying rate, n.—the change in volume per unit time a liquid evaporates from a textile.

NOTE: Drying rate is dependent upon textile construction, fiber content, apparel construction, finishes, the atmospheres in which the test is performed, and the volume challenge of the liquid. *Source:* TM199, 200, 201.

drying time, n.—the time it takes for a specified amount of liquid to evaporate from a textile under controlled testing conditions. *Source:* TM199, 200, 201.

dummy load, n.—see *ballast*.

durable press, adj.—having the ability to retain substantially the initial shape, flat seams, pressed-in creases and unwrinkled appearance during use and after laundering or drycleaning. *Source:* TM88B, 88C, 124, 143.

dust, n.—fine particles of solid material dispersed in a gas. *Source:* TM184.

dusting, n.—the tendency of particles of sufficiently low mass to become airborne when a powder material is handled or agitated. *Source:* TM170.

dye, n.—a colorant applied to or formed in a substrate, via the molecularly dispersed state, which exhibits some degree of permanence.

NOTE: Definitions for individual classes of dyes may be found under their particular class name; i.e., reactive dye. *Source:* TM140, 163, 170.

dyeing, n.—in *textile manufacturing*, application of a dye to a substrate nor-

mally with the intention of obtaining an even distribution throughout the substrate. *Source:* RA99.

electrical resistance, n.—a specific textile's ability to reduce electric current flowing through it at a given voltage. Resistance, *R*, is expressed in units of ohms (Ω). *Source:* EP13, TM210.

electrical resistance, n.—the physical property of a material which is a measure of the ability of electrons to flow through it when a voltage is applied across two points on the material (resistance [in ohms] equal voltage [in volts] divided by current flow [in amperes]). *Source:* TM84.

electrical resistivity, n.—material property of a substance whose numerical value is equal to the ratio of the voltage gradient to the current density. *Source:* TM76.

electronically-integrated textile (e-textile), n.—a fabric or textile product with permanently-integrated electrical circuits or parts of electrical circuits. *Source:* EP13, TM210.

electrostatic clinging, n.—adherence of one substance to another caused by an electrical charge on one or both surfaces. *Source:* TM115.

electrostatic propensity, n.—of carpets, the ability to produce and accumulate an electrostatic charge. *Source:* TM134.

endpoint, n.—the point of termination of a drying test that is either to the original dry weight of a specimen or some other agreed value such as dry weight + 4.0% moisture content. *Source:* TM199.

end time, n.—the time at which the temperature goes through an inflection between the steepest slope and the flat sections of the temperature versus time plot. *Source:* TM200, 201.

erythema, n.—abnormal redness of the skin (sunburn) due to capillary congestion (as in inflammation). *Source:* TM183.

extractable matter, n.—nonfibrous material in or on a textile substrate, not including water, which is removable by water, enzyme or a specified solvent or solvents as directed in a specified procedure. *Source:* TM97.

fabric, n.—in textiles, a planar structure made from yarns or fibers (ASTM D123). *Source:* TM197, 198.

face, n.—in textiles, the side of a fabric that is intended to be the outer visible surface in an end product. *Source:* TM22.

face covering, n.—an item of clothing designed to reduce distribution of the wearer's respiratory droplets (e.g., from breathing, coughing and/or sneezing). (Compare *medical face mask*.) *Source:* M14.

fiber, n.—in textiles, a generic term for any one of the various types of matter that form the basic elements of a textile and which are generally characterized by

flexibility, fineness and high ratio of length to thickness. *Source:* TM20A.

fiber fragment, n.—a short piece (typically $< 5 \times 10^{-3}$ m long) of textile fiber, broken away (or separated) from a textile construction. NOTE: Fiber fragments are of concern as environmental pollutants; they are often referred to as "microfibers" due to their small size. *Source:* TM212.

fibrillation—see *frosting*.

finish, n.—other than in preparation and coloration, the result of application of mechanical energy, thermal energy, or chemical materials, separately, or together, to a textile product to impart durable or nondurable functional or aesthetic properties not otherwise obtainable. *Source:* RA99.

finishing, n.—the process of applying mechanical energy, thermal energy or chemical materials to a textile product (see also *finish*). *Source:* RA99.

fit, for face coverings, n.—the ability to cover the user's nose and mouth while making consistent and snug contact with user's face at the perimeter. *Source:* M14.

flock, n.—in textiles, very short fibers intended for application to a substrate as a partial or complete surface covering or filler. *Source:* RA99.

fluidity, n.—of a cellulose solution, a measure of the ease of flow or motion of a solution, and therefore an indicator of the molecular weight of the cellulose. *Source:* TM82.

fluorescence, n.—a phenomenon in which radiant flux of certain wavelengths is absorbed and re-emitted at other visible, usually longer, wavelengths. *Source:* EP6.

fluorescent brightener, n.—see *fluorescent whitening agent*.

fluorescent UV lamp, n.—a lamp in which radiation at 254 nm from a low-pressure mercury arc is transformed to longer wavelength UV by a phosphor. *Source:* TM186.

fluorescent whitening agent (FWA), n.—colorant that absorbs near ultraviolet (UV) radiation and re-emits visible longer wavelength radiation. This enhances the whiteness appearance of yellowish materials to which it has been applied. (ASTM E284). *Source:* EP11, TM110.

fluorine content, n.—in textile floor coverings, the ratio of the weight of total elemental fluorine to the total weight of carpet fibers. *Source:* TM189.

foam, n.—a dispersion of a gas in a liquid or solid. *Source:* TM167.

formaldehyde release, n.—that formaldehyde exuded from textiles under the accelerated storage conditions of this test including that which is free (unbound or occluded) from unreacted chemicals or from finish degradation as a result of this test. *Source:* TM112.

free formaldehyde, n.—formaldehyde that is not bonded to a finish or a fabric. In this form, formaldehyde can be readily

extracted from the fabric by immersion in water. *Source:* TM206.

frosting, n.—in textiles, a change of fabric color caused by localized abrasive wear. (Syn: *differential wear*, *fibrillation*.)

NOTE: Frosting may be the result of differential wear, as in multicomponent blends in which the fibers do not match in shade, or of the abrasion of single-fiber constructions in which there is a variation in or incomplete penetration of dye. *Source:* TM119, 120.

fulling, n.—a textile finishing process in which cloth is subjected to moisture, heat, friction and pressure. *Source:* RA99.

fungicide, n.—a compound used to kill fungi. *Source:* TM30.

fungistatic, adj.—Inhibiting the growth of fungi or fungal spores without destroying them. *Source:* TM30.

garment, n.—a shaped article of textile fabric, or other flexible sheet material, intended to cover portions of the human body. *Source:* TM150.

geometry, n.—of a color measuring instrument, one of the following terms (diffuse/0, 0/diffuse, 0/45 or 45/0) which describe the angle or manner in which a color measuring instrument:

(1) illuminates the specimen (diffuse, 0°, 45°)

(2) views the resulting reflected light (0 [0°-10°], diffuse, 45°, 0°).

Diffuse/0 and 0/diffuse geometry instruments contain a sphere used to diffuse the light illuminating [or reflected from] the specimen, while 0/45 and 45/0 geometry instruments generally use mirrors or fiber optics to direct the illumination [or viewing] at a 45° to/from the specimen.

NOTE: Instruments of different geometries may produce different colorimetric results on most textile materials. *Source:* EP6.

grade, n.—the number assigned to a test specimen resulting from comparison to a scale. *Source:* EP1, 2, TM88B, 88C, 124, 141, 143, 161.

grade, n.—in textile testing, the symbol for any step of a multistep standard reference scale for a quality characteristic.

NOTE: The grade is assigned to test specimens exhibiting a degree of the quality comparable to that step of the standard. *Source:* EP8, TM118, 193.

Gray Scale, n.—a scale consisting of pairs of standard gray chips representing progressive differences in color or contrast corresponding to numerical color-fastness grades. *Source:* EP1, 2, TM161.

NOTE: Gray Scale grades are expressed as half-steps in decimal form (e.g., 1 or 1.5). Dashed form is also acceptable (e.g., 1 or 1-2).

gray scale for staining, n.—a scale consisting of pairs of standard gray chips representing progressive differences in

color or contrast corresponding to numerical colorfastness grades. *Source:* EP12.

gray scale grade, n.—for color change, (*GSc*), the numerical value that is assigned to the change in color of a test specimen as compared to an original or untreated specimen. *Source:* EP7.

growth, n.—a dimensional change resulting in an increase in the length or width of a specimen. *Source:* TM96, 135, 150, 187.

half-power bandpass, n.—the interval between wavelengths at which transmittance is 50% of peak transmittance in a bandpass filter.

NOTE: The interval should not exceed 20 nm for a narrow bandpass filter. *Source:* TM111.

hand, n.—the tactile sensations or impressions that occur when fabrics are touched, squeezed, rubbed or otherwise manipulated. *Source:* EP5, TM202.

healthcare personnel (HCP), n.—all persons, paid and unpaid, working in healthcare settings whose activities place them at risk for transmission of respiratory infections from patients; *Source:* CDC. *Source:* M14.

healthcare setting, n.—a place where healthcare is delivered. (Compare *public setting*.); *Source:* FDA. *Source:* M14.

horizontal wicking, n.—in textiles, the movement of liquid across the horizontal plane of a textile from a site where a specific volume has been applied. *Source:* TM198.

horizontal wicking rate, n.—the change in the area of the liquid with respect to time as the liquid travels through a textile. *Source:* TM198.

hot pressing, n.—a process for smoothing and possibly shaping textile products by applying mechanical pressure with heat, either dry or in the presence of moisture. *Source:* TM133.

hot water extraction, n.—a method of cleaning carpet by injecting a heated cleaning solution into the pile and quickly removing the solution and soil by vacuum (see also *steam cleaning*).

NOTE: Hot water extraction is often erroneously called “steam cleaning.” Hot water is used at a temperature of $60 \pm 3^\circ\text{C}$ ($140 \pm 5^\circ\text{F}$). These temperatures are far below the temperature of steam of 100°C (212°F). *Source:* TM171.

hue, n.—the attribute of visual perception according to which a color field is judged similar to one conventionally named yellow, red, blue, or green or a combination of an adjacent pair of these colors, considered to be arranged in a closed ring. *Source:* EP9.

hydrolyzed formaldehyde, n.—although originally part of larger chemical structure, such as a crosslinking reactant, the compound is cleaved from the larger molecule and dissolved into the aqueous media. *Source:* TM206.

hydrostatic pressure, n.—the force distributed over an area exerted by water. *Source:* TM127, 208.

infrared radiation, n.—radiant energy for which the wavelengths of the monochromatic components are greater than those for visible radiation and less than about 1 mm.

NOTE: The limits of the spectral range of infrared radiation are not well defined and may vary according to the user. Committee E-2.1.2 of the CIE distinguishes in the spectral range between 780 nm and 1 mm:

IR-A	780-1400 nm
IR-B	1.4-3.0 μm
IR-C	3 μm to 1 mm

Source: TM16.1, 16.2, 16.3.

ingrain dye, n.—a colorant which is formed, *in situ*, in the substrate by the development and coupling of one or more intermediate compounds.

NOTE: The term was originally used for colorants obtained from oxidation bases and by azoic techniques, but is now reserved for other types of colorant formed *in situ*. *Source:* RA87.

irradiance, n.—radiant power per unit area as a function of wavelength expressed as watts per square meter, W/m^2 . *Source:* TM16.1, 16.2, 16.3, 111, 169, 186.

irradiation, n.—the time integral of irradiance expressed in joules per square meter (J/m^2). *Source:* TM111, 169, 192.

“L” designation, n.—the sequence number given each AATCC Blue Wool Lightfastness Standard according to the number of AATCC Fading Units required to produce a color change equal to Step 4 on the Gray Scale for Color Change. *Source:* TM16.1, 16.2, 16.3, 177.

laboratory sample, n.—a portion of material taken to represent the lot sample, or the original material, and used in the laboratory as a source of test specimens. *Source:* TM111, 192.

langley, n.—a unit of total solar radiation equivalent to one gram calorie per square centimeter of irradiated surface.

NOTE: The internationally recommended units are: Joule (J) for quantity of radiant energy, watt (W) for quantity of radiant power, and meter squared (m^2) for area. The following factors are to be used: 1 langley = $1 \text{ cal}/\text{cm}^2$; $1 \text{ cal}/\text{cm}^2 = 4.184 \text{ J}/\text{cm}^2$ or $41840 \text{ J}/\text{m}^2$. *Source:* TM16.1, 16.2, 16.3.

laundering, n.—of textile materials, a process intended to remove soils and/or stains by treatment (washing) with an aqueous detergent solution and normally including subsequent rinsing, extracting and drying. *Source:* LP1, 2, TM61, 88B, 88C, 96, 124, 135, 142, 143, 150, 172, 179, 187, 188, 190, 207.

laundering creases, n.—sharp folds or lines running in any direction in a washed

or dried specimen.

NOTE: Laundering creases are an unintended result of restricted movement of specimens in the washer or the dryer. *Source:* TM88B, 88C, 124, 143.

leuco dye, n.—a soluble reduced form of a dye from which the original dye may be regenerated by oxidation (see also *vat dye* and *sulfur dye*). *Source:* RA87.

leuco sulfur dye, n.—a sulfur dye composition consisting of the leuco compound in the presence of a small excess of a reducing agent. *Source:* RA87.

leveling, n.—in textile dyeing and finishing, the process leading to more uniform distribution of a chemical or dye within a substrate or between substrates. (compare *transfer*, *migration*.) *Source:* RA99.

light, n.—electromagnetic radiation weighted by the luminosity function of the human eye. *Source:* TM148.

light blocking, n.—the ability of a textile to prevent the transmission of light. *Source:* TM148, 203.

lightfastness, n.—the property of a material, usually an assigned number, depicting a ranked change in its color characteristics as a result of exposure of the material to sunlight or an artificial light source. *Source:* TM16.1, 16.2, 16.3, 125.

lightness, n.—the attribute of visual perception by which a non-self-luminous body is judged to reflect more or less light. *Source:* EP9.

liquid non-chlorine bleach, n.—a product that contains hydrogen peroxide as its active ingredient. *Source:* TM172.

liquid spillage resistance, n.—for carpet, the ability to prevent the penetration of liquids through the carpet composite. *Source:* TM205.

mass coloration, n.—a method of coloring manufactured fibers by incorporation of the colorant in the spinning composition before extrusion into filaments. *Source:* RA87.

maximum wetted radius (MWR_r) and (MWR_b) (mm), n.—the greatest ring radius measured on the top and bottom surfaces. *Source:* TM195.

mechanical finishing, n.—the process of applying mechanical energy to textiles to impart functional and/or aesthetic characteristics. *Source:* RA99.

medical device, n.—any item intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease. *Source:* FDA. *Source:* M14.

medical face mask, n.—an item of protective clothing designed to protect portions of the wearer’s face, including the mucous membrane areas of the wearer’s nose and mouth, from contact with blood and other body fluids during medical procedures. (Compare *face covering*.) *Source:* ASTM F2100. *Source:* M14.

mercerization, n.—a process for irreversibly altering the physical characteristics and appearance of natural cellulosic fibers by swelling in strong alkali. *Source:* TM43, 89.

metal-complex dye, n.—a dye having a coordinated metal atom in its molecule.

NOTE: Unless the term *metal-complex dye* is used in direct association with a particular application class of dye, e.g., *metal-complex disperse dye* or *metal-complex reactive dye*, its use is inexact and inadvisable. *Source:* RA87.

metal sensitivity, n.—the propensity of a dye to produce an abnormal color on a textile material when in the presence of certain metal ions. *Source:* TM161.

metallizable dye, n.—a dye capable of forming a dye-metal complex either in substance (see *metal-complex dye*) or on the substrate. *Source:* RA87.

metamerism, n.—visual phenomenon according to which spectrally different materials have, for a given observer in a given illumination, matching color appearance. The fields may no longer match when viewed in a different light or by a different observer. *Source:* EP9.

microfiber, n.—a fiber with linear density less than 1 denier or 1 dtex.

NOTE: Polyester microfibers typically have diameter of $< 10^{-5}$ m; this is a frequently referenced dimension, but not the formal definition of a microfiber.

NOTE: The term “microfiber” has been widely adopted as synonymous with “fiber fragment.” To avoid any ambiguity, AATCC uses “microfiber” ONLY as a category of linear density. *Source:* TM212.

migration, n.—the nonuniform movement and distribution of dyes, pigments, finishes or other materials from one part of a material to another. *Source:* TM157.

migration, n.—in *textile processing, testing, storage and use*, movement of a chemical, dye or pigment between fibers within a substrate or between substrates due to capillary forces (see also *transfer*). *Source:* TM140.

mildew resistance, n.—in *textiles*, resistance to development of unsightly fungal growths and accompanying unpleasant, musty odors on textile materials exposed to conditions favoring such growths. *Source:* TM30, 174.

moisture content, n.—that part of the total mass of a material that is absorbed or adsorbed water, compared to the total mass. *Source:* TM20A.

moisture management, n.—for *liquid moisture management testing*, the engineered or inherent transport of aqueous liquids such as perspiration or water (relates to comfort) and includes both liquid and vapor forms of water. *Source:* TM195, 204.

moisture retention, adj.—for *this test method*, the percent moisture retention of

the specimen after being submerged in deionized water for 1 min, and hanging vertically for 5 min in a controlled environment. *Source:* TM199.

mordant, n.—a substance, usually a metallic compound, applied to a substrate to form with a dye a complex which is retained by the substrate more firmly than the dye itself. *Source:* RA87.

mordant dye, n.—a dye that is fixed with a mordant. *Source:* RA87.

nap, n.—the raised fibrous surface of a fabric obtained by a mechanical brushing or other raising process. (compare *flock, pile*.) *Source:* RA99.

narrow bandpass radiometer, n.—a relative term applied to radiometers that have a bandpass width of 20 nm or less at 50% of maximum transmittance and can be used to measure irradiance at wavelengths such as 340 or 420, ± 0.5 nm. *Source:* TM16.1, 16.2, 16.3, 111.

non-chlorine bleach, n.—a product that does not release the hypochlorite ion in solution; i.e., sodium perborate, sodium percarbonate or hydrogen peroxide. *Source:* TM172.

non-diffuse transmission, n.—process by which incident light is transmitted through an object in a rectilinear, straight-through manner, without diffusion. *Source:* TM148.

nonfibrous content, n.—products such as fiber finishes, yarn lubricants, slasher sizing, fabric softeners, starches, china-clay, soaps, waxes, oils and resins which are applied to fiber, yarn, fabric or apparel. *Source:* TM20A.

oil repellency, n.—in *textiles*, the characteristic of a fiber, yarn or fabric whereby it resists wetting by oily liquids. *Source:* TM118.

onium dye, n.—a cationic dye that is solubilized by a labile ammonium, sulfonium, phosphonium or oxonium substituent which splits off during fixation to leave an insoluble colorant in the fiber. *Source:* RA87.

optical brightener, n.—see *fluorescent whitening agent*.

odor, n.—the sensation that results when olfactory receptors in the nose are stimulated by particular chemicals in gaseous form. *Source:* TM211.

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overall (liquid) moisture management capability (OMMC), n.—an index of the overall capability of a fabric to transport liquid moisture as calculated by combining three measured attributes of performance: the liquid moisture absorption rate on the bottom surface (AR_B), the one way liquid transport capability (R), and the maximum liquid moisture spreading speed on the bottom surface (SS_B). *Source:* TM195.

oxygen bleach, n.—a bleach agent which can liberate hydrogen peroxide by hydrolysis upon dissolving in water. *Source:* TM190.

parametric factors (l and c), n.—in CMC (l:c) color difference equation, weighting factors used to adjust the component difference ratios, lightness and chroma respectively, based on the effect of the surface characteristics of the stimuli, such as texture. The values $l = 2$ and $c = 1$ are usually used for commercial pass/fail tolerance predictions of textile samples, although l may be varied depending on the texture of the material. The value of c is always set to one. *Source:* EP14.

parametric factors (kL, kC, and kH), n.—in CIEDE2000 color difference equation, weighting factors used to adjust the component difference ratios, lightness, chroma and hue respectively, based on the effect of the surface characteristics of the stimuli, such as texture. *Source:* EP14.

particle filtration efficiency, n.—the efficiency of the filter material in capturing aerosolized particles, expressed as the percentage of a known number of particles that does not pass the medical face covering material at a given flow rate. *Source:* ASTM F2299, the FDA recognized consensus standard for surgical masks. *Source:* M14.

percent UV blocking, n.—100 minus the UV transmission. *Source:* TM183.

perfect reflecting diffuser, n.—ideal reflecting surface that neither absorbs nor transmits light, but reflects diffusely, with the radiance of the reflecting surface being the same for all reflecting angles, regardless of the angular distribution of the incident light. (ASTM E284).

NOTE: The perfect reflecting diffuser is the basis of calibration of reflectance measuring instruments. The equations for whiteness and tint are formulated so that the CIE concept of the perfect reflecting diffuser has a whiteness index of 100.0 and a tint value of 0.0. *Source:* TM110.

permanent press, n.—see *durable press*.

personal protective equipment (PPE), **medical**, n.—clothing, helmets, gloves, face shields, goggles, face coverings and/or respirators or other equipment designed to protect the wearer from injury or the spread of infection or illness. *Source:* FDA. *Source:* M14.

perspiration, n.—a saline fluid secreted by the sweat glands. *Source:* TM15, 125.

pH, n.—the negative logarithm of the effective hydrogen ion concentration or hydrogen ion activity in gram equivalents per liter used in expressing both acidity and alkalinity on a scale whose values run from 0 to 14 with 7 representing neutrality, numbers less than 7 representing increasing acidity, and numbers greater than 7 representing increasing alkalinity. *Source:* TM81, 144, 209.

photochromism, n.—a qualitative designation for a reversible change in

color of any kind (whether a change in hue or chroma) which is immediately noticeable upon termination of light exposures when the exposed area of a specimen is compared to the unexposed area.

NOTE: The reversion of the color change or instability of the hue or chroma upon standing in the dark distinguishes photochromism from fading. *Source:* TM16.1, 16.2, 16.3.

photometer, n.—an instrument used for measuring light. *Source:* TM148.

pigment, n.—a colorant in particulate form which is insoluble in a substrate, but which can be dispersed in the substrate to modify its color. *Source:* TM140, 176.

pilate, n.—see *pile lifting*. *Source:* TM171.

pile, n.—in *textile fabrics*, yarn loops or tufts protruding from the plane of a fabric, incorporated into the fabric by any means, and which later might be cut, sheared or brushed. *Source:* RA99.

pile lifter, n.—a vacuum cleaning device with motorized rotating brushes designed to erect and agitate carpet pile to facilitate soil removal (see also *carpet pile brush*). *Source:* TM171.

pile lifting, n.—the act of erecting the pile tufts of a carpet with a *carpet pile brush*, *pile lifter* or *pile rake* to allow imbedded soil to be more easily removed and erecting the pile after cleaning to restore a uniform overall appearance. (also called *pilate*.) *Source:* TM171.

pile rake, n.—a hand tool with smooth circular plastic tines used for pile lifting. *Source:* TM171.

pleating, n.—the process of making one or more desirable folds in a cloth by doubling the material over on itself. *Source:* TM131.

pool water, n.—water to which various chemicals are added to maintain purity and clarity, normally used for swimming. *Source:* TM162.

powdered non-chlorine bleach, n.—a product that contains either sodium perborate or sodium percarbonate as its active ingredient. *Source:* TM172.

premetallized acid dye, n.—an acid dye manufactured by reacting an equivalent of a suitable metal ion with one equivalent of a dye (1:1 premetallized acid dye), or with two equivalents of the same or different dyes (1:2 premetallized acid dyes), capable of chelating the metal. *Source:* TM159.

preparation, n.—in *textile manufacturing*, those processing operations performed on greige fabric, colored fabric, textile yarns or fibers to ready them for dyeing, printing or finishing.

NOTE: For example, typical greige cotton fabric preparation includes singeing, desizing, scouring, bleaching and (optionally) mercerizing. *Source:* RA99.

prespotting, n.—in *cleaning*, a pretreatment to remove or enhance removal

of soil or stains in a local area (see also *spotting*). *Source:* RA99.

primary backing, n.—for *tufted carpet*, the substrate into which yarns are inserted. *Source:* TM205.

printing, n.—in *textile manufacturing*, a process for applying colorants or other materials to the surface of a substrate, usually to produce a design. *Source:* RA99.

professional wetcleaning, n.—a process for cleaning sensitive textiles (e.g., wool, silk, rayon, linen) in water by professionals using special technology, detergents and additives to minimize the potential for adverse effects. It is followed by appropriate drying and restorative finishing procedures. *Source:* RA43.

public setting, n.—a venue in which people may be in close proximity to others outside their immediate family or household. (Compare *healthcare setting*.) *Source:* M14.

pyranometer, n.—a radiometer used to measure the global solar irradiance or, if inclined, hemispherical solar irradiance. *Source:* TM16.1, 16.2, 16.3, 111.

radiant energy, n.—energy traveling through space in the form of photons or electromagnetic waves of various lengths. *Source:* TM111, 169, 186.

radiant exposure, n.—time integral of irradiance. *Source:* TM111.

radiant flux density, n.—rate of flow of radiant energy past the specimen. *Source:* TM111, 169.

radiant power, n.—energy per unit time emitted, transferred or received as radiation. *Source:* TM16.1, 16.2, 16.3, 111, 169.

radiometer, n.—an instrument used to measure radiant energy. *Source:* TM16.1, 16.2, 16.3, 111.

rating, v.—in *textile testing*, the process for determining or assigning a grade to a material by comparing it to a standard reference scale. *Source:* EP8.

reactive dye, n.—a dye that, under suitable conditions, is capable of reacting chemically with a substrate to form a covalent dye-substrate linkage. *Source:* RA87.

reference fabric, n.—one or more blue wool Copyright © 2021 American Association of Textile Chemists and Colorists lightfastness standards selected for exposure as a check on a test apparatus and operating conditions. *Source:* TM111, 192.

reference fabric, n.—a fabric selected to represent a baseline for comparison of tactile properties of hand. *Source:* TM202.

reference plastic, n.—a clear polystyrene plastic standard selected for exposure as a check on a test apparatus and operating conditions. *Source:* TM192.

reference standard, n.—a material that defines the specific color to be matched, and may also be used to define other appearance properties, such as fin-

ish, texture and construction. *Source:* EP9.

reflectance, n.—the ratio of the reflected radiant or luminous energy (light) to the incident energy in the given conditions. *Source:* EP6.

reflectance factor, n.—the ratio of the light reflected from the specimen to the light reflected from the perfect reflecting diffuser under the same geometric and spectral conditions of measurement. *Source:* EP6.

regular transmission, n.—process by which incident light is transmitted through an object in a rectilinear, straight-through manner, without diffusion. *Source:* TM203.

relative color strength, n.—in *spectrophotometric testing of dyes*, the percentage of the color strength of a sample relative to that of a reference dye assigned a color strength of 100%. *Source:* TM182.

relative hand value (RHV), n.—an index of properties, relative to a reference fabric, as determined by either an instrumental system or a subjective hand evaluation that can be used to predict tactile sensations a human perceives when handling a fabric. *Source:* TM202.

restoration force, n.—the energy brought to bear on a fabric to accomplish a dimensional restoration. *Source:* TM160.

retained chlorine, n.—in *textiles bleached with chlorine-type bleaches*, available chlorine that remains in the material after washing and drying. *Source:* TM92, 114.

rewetting agent, n.—in *textile preparation, dyeing and finishing*, a surfactant which, after application and drying onto textiles, promotes rapid wetting on subsequent exposure to an aqueous solution. *Source:* TM27.

rhe, n.—the unit of fluidity; the reciprocal of the unit of viscosity (the poise). *Source:* TM82.

rot resistance, n.—in *textiles*, resistance to deterioration of a textile material as a result of fungal growth in or on it.

NOTE: Such deterioration is normally assessed by measuring loss in tensile strength. *Source:* TM30, 174.

rug, n.—a textile floor covering of limited area which is complete in itself and is intended for use as a partial covering of a floor or another floor covering. *Source:* TM137, 165, 171.

rug back, n.—(1) that part of a rug normally in contact with the floor; (2) the underside of a rug as opposed to the use surface. *Source:* TM137.

scouring, n.—in *textile processing*, treatment of textile materials in aqueous or other solutions to remove nature fats, waxes, proteins and other constituents as well as dirt, oil and other impurities. *Source:* RA99.

seam smoothness, n.—in *fabrics*, the

visual impression of planarity of a seamed specimen quantified by comparison with a set of reference standards. *Source:* TM88B, 143.

seam twist, n.—a rotation, usually lateral, between different panels of a garment connected by a seam.

NOTE: Seam twist may also be referred to as twist, torque, or spirality. *Source:* TM207.

secondary backing, n.—a substrate fabric attached to the back of a carpet with an adhesive binder. *Source:* TM205.

semi-axes (ℓS_L , cS_C , S_H), n.—in *color difference evaluation*, individual dimensions of the CMC volume which are used to calculate a ΔE_{CMC} value. *Source:* EP14.

sequestering agent, n.—see *chelating agent*.

service life, for textiles, n.—the maximum number of laundering cycles that can be performed before an item can no longer perform its intended end use. *Source:* M14.

shading, n.—in *colored textile fabrics*, gradual changes in hue, chroma and/or lightness lengthwise or widthwise.

NOTE: When unintended, shading is considered a defect; may be intentional for styling purposes. *Source:* RA99.

shrinkage, n.—a dimensional change resulting in a decrease in the length or width of a specimen. *Source:* TM96, 135, 150, 187.

skew, n.—a fabric condition resulting when filling yarns or knitted courses are angularly displaced from a line perpendicular to the edge or side of the fabric (see ASTM D123). *Source:* TM179.

smoothness appearance, n.—in *fabrics*, the visual impression of planarity of a specimen quantified by comparison with a set of reference standards. *Source:* TM124, 128, 143.

sodium hypochlorite bleach, n.—4-6% solution of sodium hypochlorite (NaOCl), pH 9.8-12.8, commonly called “chlorine bleach.” *Source:* TM188, 196.

soil, n.—dirt, oil or other substances not normally intended to be present on a substrate such as a textile material. *Source:* TM121, 122, 130.

soiling, n.—in *textiles*, a process by which a textile substrate becomes more or less uniformly covered with/or impregnated with soil. *Source:* TM121, 122.

soil release, n.—the degree to which a soiled substrate approaches its original, unsoiled appearance as a result of a care procedure. *Source:* TM130.

soil resist agent, n.—a material applied to, or incorporated in, carpet face fiber which retards and/or limits the build-up of soil. *Source:* TM189.

solubilized sulfur dye, n.—a thiosulfuric acid derivative of a sulfur dye which during dyeing is converted to the substantive alkali-soluble thiol form. *Source:* RA87.

solubilized vat dye, n.—a water-soluble salt of the sulfuric ester of a leuco vat dye.

NOTE: After application to the fiber the parent vat dye is regenerated by hydrolysis and oxidation. *Source:* RA87.

solvent dye, n.—a dye which is soluble in organic solvents, but not in water, and is widely used in lacquers, inks, waxes, plastics, soaps, cosmetics, fuels and colored smokes. *Source:* RA87.

specimen, n.—a specific portion of a material or laboratory sample upon which a test is performed or which is selected for that purpose. *Source:* TM111, 192.

speck, n.—a small particle, such as an agglomerate in a liquid dispersion, or a very small spot of dark color on a dyed substrate. *Source:* TM176.

speckiness, n.—in *textile dyeing and printing*, the quality or state of containing specks. *Source:* TM176.

spectral energy distribution, n.—the variation of energy due to the source over the wavelength span of the emitted radiation. *Source:* TM111, 169, 186, 192.

spectral transmittance, n.—the percent of incident radiant energy passing through a given material and not absorbed in the process, as a function of wavelength. *Source:* TM111, 169.

spectrophotometer, n.—an instrument used for measuring the transmittance and/or reflectance of specimens as a function of wavelength. *Source:* TM203.

specular reflection, n.—the reflection without diffusion, in accordance with the laws of optical reflection, as in a mirror. *Source:* EP6.

spill, adj.—The unintended falling of liquid onto a carpet face. *Source:* TM205.

spin finish, n.—a material applied to manufactured fibers by the producer to facilitate subsequent processing.

NOTE: Spin finishes may lubricate yarns, alter hand and bulk, control slippage in wet finishing, maintain package density, etc. *Source:* RA99.

spotting, n.—in *cleaning*, application of solvent or solution to a material prior to or after commercial scouring, laundering, or drycleaning to remove or enhance removal of soil or stains in a local area (see also *prespotting*). *Source:* TM157.

spreading speed, (SS), n.—the accumulated rate of surface wetting from the center of the specimen where the test solution is dropped to the maximum wetted radius. *Source:* TM195.

stability, n.—of *dye dispersions*, the resistance to chemical decomposition, physical disintegration, agglomeration or any combination of these. *Source:* RA87.

stain, n.—a local deposit of soil or discoloration on a substrate that exhibits some degree of resistance to removal, as by laundering or drycleaning. *Source:* TM130.

stain, n.—for *pile floor covering*, a discoloration due to a color adding material, such as food or liquid, that exhibits

resistance to removal by standard cleaning methods. *Source:* TM175.

stainblocker, n.—a chemical substance which, when applied to a textile substrate, imparts partial or total resistance to staining. *Source:* TM175.

standard atmosphere for storing textiles, n.—laboratory conditions maintained as required in ASTM D1776. *Source:* TM111, 186.

standard atmosphere for testing textiles, n.—air maintained at $21 \pm 2^\circ\text{C}$ ($70 \pm 4^\circ\text{F}$) and $65 \pm 5\%$ relative humidity. *Source:* TM111, 169, 186, 192.

standard depth scale, n.—in *color measurement*, a series of dyed samples of different hue and chroma that have been accepted to have the same depth. *Source:* RA36.

standardization, n.—of *color measuring instrument*, the act of measuring one or more standard materials with a color measuring instrument for the purpose of calculating a set of correction factors to be applied to all subsequent measurements. *Source:* EP6.

start time, n.—the time at which the water challenge is added to the specimen. *Source:* TM200, 201.

steam cleaning, n.—see the correct term, *hot water extraction*. *Source:* TM171.

steaming, n.—in *textile dyeing or printing*, treatment with moist steam to promote penetration and/or fixation of the dye.

NOTE: The steam may be neutral, acid, or air-free depending on the dye class. *Source:* RA99.

stone-washed, adj.—in *garment processing*, a descriptive term denoting alteration of the appearance of a new garment to give it a worn or laundered appearance. SYN: *washdown*. *Source:* RA99.

substrate, n.—in *textiles*, a fiber, fiber assembly, yarn, fabric or film to which another material is applied. *Source:* RA99.

sulfur dye, n.—a dye, containing sulfur both as an integral part of the chromophore and in attached polysulfide chains, normally applied in the alkali-soluble reduced (leuco) form from a sodium sulfide solution and subsequently oxidized to the insoluble form in the fiber. *Source:* TM26.

surface active agent, n.—see *surfactant*. *Source:* RA99.

surfactant, n.—a soluble or dispersible material which reduces the surface tension of a liquid, usually water. *Source:* RA99.

tearing strength, n.—the average force required to continue a tear previously started in a fabric. *Source:* TM111, 169, 192.

test side, n.—the side, either the face or back of a specimen, which is uppermost when placed on the moisture balance analyzer support platform; the side

onto which the test volume of water is applied. *Source:* TM199.

textile floor covering, n.—an article having a use-surface composed of textile material and generally used for covering floors. *Source:* TM121, 122, 138, 165, 171.

textile product, n.—an article of fabric, or other flexible material, made to protect or decorate the body (garments), for use in the home (bedding, drapery, towels, table linens), or other uses (i.e. handkerchiefs, etc.). *Source:* TM79.

thermal finishing, n.—the process of applying heat to textiles to impart desired functional and/or aesthetic characteristics.

NOTE: Thermal finishing includes heat setting, hot embossing, etc. but excludes drying. *Source:* RA99.

thermal fixation, n.—the use of dry heat to achieve a degree of permanence when applying colorants to textile materials. *Source:* TM154.

tint, n.—a colorant, applied to a substrate for purposes of identification, which is easily removed from the substrate by subsequent wet treatment. *Source:* RA99.

tint, n.—in *whiteness measurement*, the hue of a white material as influenced by the wavelength of peak emission or reflectance (CIE 15.2).

NOTE: Tint, if other than zero, is an indication of a reddish or greenish hue having shifted away from a bluish hue with dominant wavelength of 466 nm. *Source:* TM110.

tolerance range specimens, n.—selected specimens which deviate from the reference standard in hue, lightness, chroma, or in combinations of the three, and impose a range of observable color differences around the reference standard for evaluation purposes. *Source:* EP9.

top surface (T), n.—for *testing purposes*, the side of a specimen that, when the specimen is placed on the lower electrical sensor, is facing the upper sensor. This is the side of the fabric that would come in contact with the skin when a garment is worn or when a product is used. *Source:* TM195.

total alkali, n.—in *textile wet processing*, residual alkaline materials in a wet processed textile expressed as percent sodium hydroxide on dry weight of textile. *Source:* TM144, 209.

total irradiance, n.—radiant power integrated over all wavelengths at a point in time expressed in watts per square meter (W/m^2). *Source:* TM16.1, 16.2, 16.3, 169.

total transmission, n.—the amount of light transmitted comprising diffuse plus non-diffuse transmission. *Source:* TM148, 203.

total water content (U) (%), n.—the sum of the percent water content of the top and bottom surfaces.

NOTE: Total water content measurements may be more accurately termed,

“total surface water content,” particularly in the case of fabric with cellulosic content. Total water content implies that all water in the specimen is being measured which may be the case with some manufactured fabrics. However, when testing cellulosic fibers, moisture trapped in the interior of the fiber (for example, in the lumen of cotton fibers) will not be included with a specimen’s detected surface liquid moisture. *Source:* TM195.

transfer, n.—in *textile processing, testing, storage and use*, movement of a chemical, dye or pigment between fibers within a substrate or between substrates (see also *migration, leveling*). *Source:* TM159, 163.

transmission, n.—process by which incident light is transmitted through an object. *Source:* TM148, 203.

transmittance, n.—of light, that fraction of the incident light of a given wavelength which is not reflected or absorbed, but passes through a substance.

transmittance, n.—the ratio of transmitted light to incident light under specified geometric and spectral conditions.

NOTE: Regular transmittance (of transparent materials) is the ratio of undiffused transmitted light to incident light. *Source:* EP6.

transmittance factor, n.—the ratio of the light measured after being transmitted through a transparent or translucent specimen to that measured in the absence of the specimen. In case of liquid samples, the test measurement is usually that of the colored solution in a cuvette and the reference measurement is that of the identical cuvette filled with the solvent used for dissolution (usually distilled water). *Source:* EP6.

ultraviolet protection factor (UPF), n.—the ratio of the average effective ultraviolet radiation (UV-R) irradiance transmitted and calculated through air to the average effective UV-R irradiance transmitted and calculated through fabric. *Source:* TM183.

ultraviolet radiation, n.—radiant energy for which the wavelengths of the monochromatic components are smaller than those for visible radiation and more than about 100 nm.

NOTE: The limits of the spectral range of ultraviolet radiation are not well defined and may vary according to the user. Committee E-2.1.2 of the CIE distinguishes in the spectral range between 400 and 100 nm:

UV-A	315-400 nm
UV-B	280-315 nm
UV-C	100-280 nm

Source: TM16.1, 16.2, 16.3, 111.

ultraviolet radiation, n.—radiant energy for which the wavelengths of the monochromatic components are smaller than those for visible radiation and more

than about 100 nm.

NOTE: The limits of the spectral range of ultraviolet radiation are not well defined and may vary according to the user. Committee E-2.1.2 of the CIE distinguishes in the spectral range between 400 and 100 nm:

UV-A	315-400 nm
UV-B	280-315 nm
UV-R	280-400 nm

Source: TM183, 186.

union dyeing, n.—a process of dyeing textiles containing fibers having different dye affinities to achieve the appearance of a uniform, homogenous color (see also *cross dyeing*). *Source:* RA99.

unevenness, n.—in *textile dyeing and finishing*, nonuniform distribution of a dye or chemical in or on a substrate. (compare *leveling* and *shading*.) *Source:* RA99.

use-surface, n.—of *textile floor covering*, the part of a textile floor covering directly exposed to foot traffic. *Source:* TM121, 122, 138, 165, 171.

vat dye, n.—a water-insoluble dye, usually containing keto groups, which is normally applied to the fiber from an alkaline aqueous solution of the reduced enol (leuco) form which is subsequently oxidized in the fiber to the insoluble form. *Source:* TM176.

verification standard, n.—in *color measurement*, any stable material which is used for the purpose of confirming (or verifying) the validity of an instrument standardization. Color measurements, which are made immediately following standardization, are compared to original measurements of the standard to detect improper standardization. *Source:* EP6.

vertical wicking, n.—in *a textile held vertically*, the upward movement of liquid from a cut edge. *Source:* TM197.

vertical wicking rate, n.—the speed at which liquid travels along or through a textile. *Source:* TM197.

visible radiation, n.—any radiant energy capable of causing a visual sensation.

NOTE: The limits of the spectral range of visible radiation are not well defined and may vary according to the user. The lower limit is generally taken between 380 and 400 nm and the upper limit between 760 and 780 nm (1 nanometer, 1 nm = 10^{-9} m). *Source:* TM16.1, 16.2, 16.3, 111.

volume of acceptability, n.—in *color difference evaluation*, the volume of the ellipsoid obtained when each semi-axis (ℓ_{S_L} , c_{S_C} , S_H) is multiplied by cf—creating an agreed volume describing the limits of commercial acceptability for the color difference about a standard. *Source:* TM173.

wand, n.—a tool used to deliver cleaning solution to carpets and apply vacuum to remove the solution.

NOTE: A *wand* usually consists of an extension handle and a *cleaning head*. Various types are light weight wand, drag wand (heavy duty) and power wand which has a motorized rotating or vibrating part to aid soil release. *Source*: TM171.

washdown, n.—*in processing new fabrics or garments*, a change in appearance to give a worn or laundered look resulting from washing, scouring, chemical, mechanical, or other treatment, including any combination of such treatments (see also *stone-washed*). *Source*: RA99.

washing, n.—*in textile processing*, vigorous treatment with water, usually heated, to remove impurities, chemicals, or dyes in preparation, dyeing, or finishing. *Source*: RA99.

washing, n.—*in testing textile floor coverings*, a specific wet cleaning process involving the use of detergent and scrub brush to remove soil and/or extraneous matter residing in the pile fibers. *Source*: TM138.

water repellency, n.—*in textiles*, the characteristic of a fiber, yarn or fabric to resist wetting (see also *water resistance*). *Source*: TM22, 70, 127, 208.

water resistance, n.—*of fabric*, the characteristic to resist wetting and penetration by water (see also *water repellency*). *Source*: TM35, 42, 127, 208.

water vapor transmission rate, n.—the steady water vapor flow in unit time through unit area of a body, normal to specific parallel surfaces, under specific conditions of temperature and humidity at each surface (ASTM C168). *Source*: TM204.

weather, n.—climatic conditions at a given geographical location including such factors as sunlight, rain, humidity and temperature. *Source*: TM111, 169, 186, 192.

weather resistance, n.—ability of a material to resist degradation of its properties when exposed to climatic conditions. *Source*: TM111, 169, 186, 192.

weight loss, n.—the difference between the saturated weight of a specimen and the weight after drying. *Source*: TM199.

wet pick-up, n.—*in textile processing*, the amount of liquid, and material carried

by the liquid, applied to a textile (see also *add-on*). *Source*: TM199.

wet processing, n.—*in textile manufacturing*, a collective term for processes included in preparation, dyeing, printing and finishing in which the textile material is treated with a liquid, normally water, or with chemicals in solution or dispersion in a liquid. *Source*: TM81, 144, 209.

wetting, n.—the time required for a drop of water to lose its light reflection characteristic, i.e., when it changes to a dull, wet spot due to the absorbent propensity of a textile material. *Source*: TM79.

wetting agent, n.—a chemical compound which when added to water lowers both the surface tension of the liquid and its interfacial tension against the solid material. *Source*: TM17, 27, 43.

wetting time (WT_T) (top surface) and (WT_B) (bottom surface), n.—the time in seconds when the top and bottom surfaces of the specimen begin to be wetted after the test is started. *Source*: TM195.

whiteness, n.—the attribute by which an object color is judged to approach a preferred white (ASTM E284).

NOTE: Whiteness as measured by this test method is an indication of how white the textile appears to an average viewer. *Source*: TM110.

wicking, n.—*in textiles*, the movement of a liquid, by capillary action, along or through a material. *Source*: TM197, 198.

wicking distance, n.—the linear measurement that the liquid travels along or through a textile from a starting point to a stopping point. *Source*: TM197, 198.

wicking time, n.—the measurable period during which liquid travels along or through a textile. *Source*: TM197, 198.

wool, n.—*used in the generic sense*, fiber from the fleece of the sheep or lamb, hair from the Angora or Cashmere goat, rabbit hair, and the so-called specialty hair fibers from camel, alpaca, llama and vicuna. *Source*: TM96.

wool oil, n.—a lubricant applied to wool or hair fibers to facilitate subsequent processing. *Source*: RA99.

wrinkle recovery, n.—that property of a fabric which enables it to recover from

folding deformations. *Source*: TM66, 128.

yarn lubricant, n.—a material applied to yarn to reduce friction and static generation and thus facilitate subsequent processing. *Source*: RA99.

zone of inhibition, n.—clear area of no growth of a microorganism, cultured onto the surface of agar growth medium, in proximity to the borders of a specimen placed in direct contact with this agar surface.

NOTE: A zone of inhibition occurs as result of the diffusion of an antimicrobial agent from the specimen. *Source*: TM90, 147, 174.

History

Revised in 2021, 2019; numbered and revised 2018; Compiled by AATCC Committee RA99.

Appendix A References

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A.3 ASTM E284, Standard Definitions of Terms Relating to Appearance of Materials; ASTM International, 100 Barr Harbor Dr., W. Conshohocken PA 19428; tel: +1.610.832. 9500; fax: +1.610.832.9555; web site: www.astm.org.

A.4 *Colour Terms and Definitions*, 2nd ed., 1988; Society of Dyers and Colourists, P.O. Box 244, Perkin House, 82 Grattan Rd., Bradford, West Yorkshire BD1 2JB, ENGLAND.

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A.7 *Dictionary of Fiber and Textile Technology*, 1990; Hoechst Celanese Corp., P.O. Box 32414, Charlotte NC 28231.

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