Designation: E 631 – 93a (Reapproved 1998)ε1

Standard Terminology of Building Constructions[1]

This standard is issued under the fixed designation E 631; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

ε[1] NOTE—Definitions from other E6 standards were editorially incorporated into this standard in August 2000.

1. Scope

1.1 This standard consists of terms and definitions pertaining to the field of buildings, and in particular, terms related to the standards generated by ASTM Committee E-6 on Performance of Buildings.

1.2 The purpose of this Terminology is to provide meanings and explanations of technical terms in the buildings field, written for both the non-expert and the expert user.

1.3 This comprehensive Terminology standard contains all ASTM standardized definitions generated in ASTM Committee E-6. There are also subsidiary terminology standards. These special classes of terminology are grouped for convenient use (see Section 2). Some subsidiary terminology standards appear in this comprehensive standard.

1.4 Terms are listed in alphabetical sequence. Compound terms appear in the natural spoken order. To show the relationships in certain families of concepts, groups of narrower terms and their definitions are grouped under the definition of the broader term. Each such sub-entry is listed also (*in italics*) with a cross-reference to the special class.

1.5 Certain standard definitions herein are adopted from other sources. Each is an exact copy. The source is identified at the right margin following the definition, and is listed in Section 2.

2. Referenced Documents

2.1 *ASTM Standards:*

C 168 Terminology Relating to Thermal Insulating Materials[2]

C 755 Practice for Selection of Vapor Retarders for Thermal Insulation[2]

E 96 Test Method for Water Vapor Transmission of Materials[2]

E 833 Terminology of Building Economics[3]

3. Terminology

3.1 *Symbols:*

a—height of cantilevered shear wall, in metres (feet).

b—length of cantilevered shear wall, in metres (feet).

C—initial length of the diagonal $\sqrt{a^2 + b^2}$, in metres (feet).

δ—diagonal elongation, in millimetres (inches).

Δ—total horizontal displacement of the top of the wall measured with respect to the test apparatus, in millimetres (inches). This value includes effects due to panel rotation, translation, and shear.

E—modulus of elasticity of flange or web material, depending upon which material is held constant in a transformed section analysis, psi (or MPa)

G—shear modulus of the web material, psi (or MPa)

G′—shear stiffness of the diaphragm obtained from test (includes shear deformation factor for the connection system), lbf/in. (or N/mm)

G—shear stiffness obtained from test, in newtons per metre (pound-force per inch).

G′—global shear stiffness, includes rotation and translational displacements as well as diaphragm shear displacement.

$\mathbf{G'_{int}}$—internal shear stiffness, includes only the shear displacement of the wall in calculation.

I—moment of inertia of the transformed section of the diaphragm based on webs or flanges, $in.^4$ (or mm^4)

L—total span of a simply supported diaphragm, in. (or mm)

P—concentrated load, lbf (or N)

P—concentrated load applied at the top edge of the wall at the selected reference displacement, in newtons (pound-force).

$\mathbf{P_u}$—highest load level held long enough to record gage measurements, in newtons (pound-force).

$\mathbf{R_u}$—maximum diaphragm reaction, lbf (or N)

$\mathbf{S_u}$—ultimate shear strength of the diaphragm, lbf/ft (or N/m)

a—span length of cantilever diaphragm, in. (or mm)

b—depth of diaphragm, in. (or mm)

t—thickness of web material, in. (or mm)

w—uniform load, lbf/in. (or N/mm)

[1] This terminology is under the jurisdiction of ASTM Committee E-6 on Performance of Buildings and is the direct responsibility of Subcommittee E06.94 on Terminology and Editorial.

Current edition approved Aug. 15, 1993. Published October 1993. Originally published as E 631 – 78. Last previous edition E 631 – 93.

Those terms formerly contained in Definitions E 540 – 77 are now contained in this terminology.

[2] *Annual Book of ASTM Standards*, Vol 04.06.

[3] *Annual Book of ASTM Standards*, Vol 04.11.

Δ_b—bending deflection of diaphragm, in. (or mm)
Δ_k—empirical expression for that portion of the diaphragm deflection contributed by the shear deformation of the connection system, in. (or mm)
Δ_s—pure shear deformation of diaphragm, in. (or mm)
Δ_s'—apparent total shear deformation of the diaphragm based on test (see 8.1.2.2), in. (or mm). This factor includes both the pure shear deformation and that contributed by distortion of the connection system.
Δ_t—total deflection of diaphragm, in. (or mm)
$\Delta_{1,2,}$—deformation measured at Point 1, 2, - - - , in. (or mm)

3.2 *Terms and Their Definitions:*

absolute sealing—a level of sealing that requires all seams, slots, holes, and fasteners passing through the seal plane to be sealed. **E 1749**

abrasion resistance (coatings)—ability of a coating to resist being worn away and to maintain its original appearance, integrity, and structure when subjected to rubbing, scraping, or wear. **E 1605**

accelerated test—See **test, accelerated.** **E 1749**

accessible surface—interior or exterior surface (usually up to 5 ft (1.5 m) from floor or ground) that is accessible for young child to mouth or chew. See also **chewable surface.** **E 1605**

accreditation, *n*—official authorization, approval, or recognition accorded an individual or organization based upon specific qualification.

DISCUSSION—In specific use, it is necessary to include an identification of the type, scope, and limitations of the accreditation, and by whom granted.

accuracy, *n*—degree of conformity of a measured or calculated value to some recognized standard or specified value. **E 1605**

DISCUSSION—This concept involves the systematic error of an operation, which is usually measurable. Compare **precision.**

ACH_{50}, *n*—the ratio of the air leakage rate at 50 Pa (0.2 in. H_2O), corrected for a standard air density, to the volume of the test zone (1/h). **E 1827**

acid rain—rain having a pH of less than 5.65.

DISCUSSION—The pH of distilled water in equilibrium with carbon dioxide under laboratory conditions is 5.6.

active hours—See **hours of operation.** **E 1480**
active solar energy system—See **building subsystem.**[4]
adapt—See **building modification.**
add—See **building modification.**

adhesive—a substance capable of holding materials together by means of surface attachment. **E 1749**
cold setting adhesive—an adhesive which sets at temperatures below 20°C (68°F). **E 1749**
contact pressure adhesive—a resinous adhesive which is aggressively and permanently tacky at room temperature and adheres to a variety of surfaces upon contact with a minimum of pressure required. (Syn. **pressure-sensitive adhesives.**) **E 1749**
core splice adhesive—a film adhesive, capable of expansion of at least 175 % of its original thickness, used primarily to join or splice together two or more separate sections of core material in sandwich constructions. **E 1749**
foamed adhesive—an adhesive, the apparent density of which has been decreased substantially by the presence of numerous gaseous cells dispersed throughout its mass. **E 1749**
supported film adhesive—an adhesive material incorporating a carrier that remains in the bond when the adhesive is employed; carrier support material is usually composed of organic/inorganic fibers which may be in woven (knit) or nonwoven (mat) form. **E 1749**
unsupported film adhesive—an adhesive material in film form without a carrier support. **E 1749**

adhesive, contact—an adhesive that is apparently dry to the touch and that will adhere to itself instantaneously upon contact. **E 1749**

adjusted internal rate-of-return (AIRR)—the compound rate of interest that, when used to discount the terminal values of costs and benefits of a project over a given study period, will make the costs equal the benefits when cash flows are reinvested at a specified rate. (Syn. *financial management rate of return (FMRR)*) **E 833**
adjusted serviceability score—See **serviceability score.** **E 1480**

administrative removal—(*of workers*), temporary removal of workers from a job site prior to blood-lead levels reaching values requiring medical removal. **E 1605**

aged insulation value—thermal resistance (R-value) of a thermal insulation material as determined after standard conditioning to simulate service exposure.

air-change rate—air-leakage in volume units per hour divided by the building space volume with identical volume units (normally expressed as air changes per hour, ACH or ACPH). **E 779**

air exfiltration—air leakage out of the building driven by negative pressure. **E 1677**
negative pressure—air pressure on the outdoor side of a building envelope lower than on the indoor side. **E 1677**

air-handling unit—the distribution-system fan and portion of the distribution system that is integral to the furnace, air-conditioner, or heat-pump. **E 1554**

air infiltration—air leakage into the building drive by positive pressure. **E 1677**
positive pressure—air pressure on the outdoor side of a building envelope higher than on the indoor side. **E 1677**

air leakage, *n—in buildings,* the passage of uncontrolled air through **cracks** or openings in the building envelope or its **components,** such as ducts, because of air pressure or temperature difference.

air leakage—the movement/flow of air through the building envelope, which is driven by either or both positive (infiltration) and negative (exfiltration) pressure differences across the envelope. **E 1677**

DISCUSSION—These pressure differences are caused by wind, mechanical systems, and temperature differences (stack effect).

[4] Boldface terms are defined in this terminology.

air-leakage graph—the graph that shows the relationship of measured air flow rates to the corresponding measured pressure differences (usually plotted on a log-log scale). **E 779**

air leakage rate, Q_{env}, *n*—the total volume of air passing through the test zone envelope per unit of time (m^3/s, ft^3/min). **E 1827**

air-leakage rate—the volume of air movement per unit time across the building envelope. **E 779**

NOTE 1—This movement includes flow through joints, cracks, and porous surfaces, or combination thereof. The driving force for such an air leakage in service can be either mechanical pressurization and depressurization, natural wind pressures, or air temperatures differentials between the building interior and the outdoors, or combination thereof.

air leakage rate—the time rate of air flow across the air retarder. Expressed as cubic feet per minute per square foot of AR surface at a stated pressure differential across the AR expressed in inches of H_2O. (Cubic meters per second per square meter of AR surface at a pressure differential in Pascals.) **E 1677**

air leakage rate—the volume of air movement per unit time across the building envelope. This movement includes flow through joints, cracks, and porous surfaces or combinations thereof. The driving force for such air leakage in buildings can be either mechanical pressurization or evacuation, natural wind pressures, or air temperature differentials between the building interior and the outdoors, or combinations thereof. **E 1186**

air-leakage rate—the volume of air movement per unit time across the building envelope or the exterior envelope of the air distribution system. **E 1554**

DISCUSSION—This movement includes flow through joints, cracks, and porous surfaces, or combinations thereof. The driving forces for such air leakage in service can be mechanical pressurization and depressurization, natural wind pressures, and air temperature differentials between the building interior and the outdoors.

air leakage site—a location on the building envelope where air enters or exits the building causing air leakage to occur. **E 1186**

air retarder (AR)—a material or system in building construction that is designed and installed to reduce air leakage either into or through the opaque wall. **E 1677**

air sampling pump—a portable, battery-powered air pump that may be attached to a belt on a worker or to a stationary object. The pump is used to draw air through a filter holder that is placed within the personal breathing zone of a worker. Alternatively, the pump may be attached to a stationary object in order that it may be used for area sampling. **E 1553**

airtightness, *n*—the degree to which a test zone envelope resists the flow of air. **E 1827**

NOTE 2—ACH_{50}, air leakage rate, and effective leakage area are examples of measures of building airtightness.

ALC—apparent lead concentration. **E 1605**

alclad sheet and plate—composite sheet (and plate) having on both surfaces a metallurgically bonded aluminum or aluminum alloy coating that is anodic to the core alloy to which it is bonded, thus electrolytically protecting the core alloy against corrosion. **E 1749**

alter—See **building modification.**

ambient light—See **lighting.** **E 1480**

analysis run—a period of measurement time on a given instrument during which data is calculated from a single calibration curve (or single set of curves). Recalibration of a given instrument produces a new analysis run. **E 1613**

anchor, *n*—a device used to connect securely a **building component** to adjoining construction, to a supporting member, or to the ground.

anchorage, *n*—a means of connecting securely, by using an **anchor**, a **building component** to adjoining construction, supporting member(s), or to the ground.

anchorage system—a group of interacting elements, components, and structures.

anchoring system—a group of interacting anchors and elements.

angle of placement of metal connector plate—angle of inclination of lengthwise axis of metal connector plate parallel to longitudinal axis of coiled metal strip, that is, main direction of metal connector plate to direction of test-load application to wood member of connection; with *zero-degree angle* defined as that of lengthwise plate axis being parallel to load direction; and *angle greater than zero* defined as that of lengthwise plate axis being rotated clockwise away from the loading axis when facing the plated connection. **E 1807**

angle ply—any filamentary lamina orientated in a direction other than that specified as 0° (that is, the reference axis) within a composite assembly. **E 1749**

anisotropic—not isotropic; having mechanical or physical properties, or both, that vary with direction relative to natural reference axes in a material. **E 1749**

anodic stripping voltammetry—an electroanalytical technique in which the concentration of analyte metal species dissolved in solution is determined in the following manner. The analyte is first deposited (preconcentrated) electrochemically by reducing the dissolved ion in solution to immobilized metal species at a mercury electrode surface. The metal is deposited in the form of an amalgam (with Hg) at an applied potential (voltage) which is negative of the standard oxidation potential for the metal/ion redox couple. After deposition, the preconcentrated metal species is then "stripped" from the mercury electrode by applying a positive potential sweep, which causes anodic oxidation of the analyte metal species to dissolved ion. The current associated with this reoxidation is measured. The peak current is proportional to the original concentration of dissolved analyte species over a wide range of concentrations. **E 1775**

annual value—a uniform annual amount equivalent to the project costs or benefits taking into account the time value of money throughout the study period (Syn. *annual worth, equivalent uniform annual value*). **E 833**

annual worth—See **annual value.** **E 833**

annually recurring costs—those costs that are incurred in a regular pattern each year throughout the study period. **E 833**

apartment—See **dwelling unit.**

apartment building—See **building.**

apparent lead concentration (ALC)—the average of at least three XRF analyzer readings on a coated surface. **E 1605**

architectural program—See **facility program.** **E 1480**

architectural strip seal—a preformed membrane or tubular extrusion, manufactured from a fully cured elastomeric alloy, having flanges or other means of mechanically or chemically securing it. **E 1783**

area—See **space categories.** **E 1480**

area samples—air samples that are collected at various stationary sites, but not for a person; area samples are therefore to be distinguished from personal air samples. **E 1553**

artifact, *n*—an object (as a tool, ornament, or element of a structure) showing human workmanship or modification.

DISCUSSION—Examples of building element artifacts are stained glass windows and fine art finishes.

A-stage—an early stage in the reaction of certain thermosetting resins in which the material is fusible and still soluble in certain liquids. (Syn. *resol.*) (Compare with **B-stage** and **C-stage**.) **E 1749**

as-built, *adj*—pertaining to the as-constructed, **as-fabricated**, as-manufactured, or as-furnished state of a finished product relating to size, shape, materials, and finish regardless of drawings or specifications.

as-built drawing—See **drawing.** **E 1480**

as-fabricated, *adj—(1) of a milled metal product,* pertaining to the surface appearance and texture or temper produced by the original forming process. *(2) of a formed metal product,* pertaining to the surface appearance of the product to removal of disfigurations caused by the forming process.

aspect, *n—of serviceability,* a broad component of serviceability, comprising several related topics of serviceability. **E 1334**

DISCUSSION—The serviceability of a building or building-related facility can be rated on each topic for which a scale has been prepared, but not for an aspect.

aspect ratio—a ratio of long side to short side of glass plate. **E 998**

assignable area—See **space categories.** **E 1480**

atomic absorption—absorption of radiant energy by ground-state atoms. **E 1605**

DISCUSSION—Substances when dispersed as an atomic vapor will absorb characteristic radiations identical to those that the same substances can emit. This property is the basis for analysis by atomic absorption spectroscopy.

attic—See **building space.**

autoclave—a closed vessel for producing an environment of fluid pressure, with or without heat, to an enclosed object undergoing a chemical reaction or other operation. **E 1749**

autoclave molding—a process where the lay-up or other assembly is covered by a vacuum bag and placed in an autoclave capable of providing heat and pressure for curing the part. **E 1749**

DISCUSSION—The vacuum bag is normally vented to the outside of the autoclave.

average breaking stress (ABS)—the average maximum principal tensile stress (MPTS) at failure, representative of the glass under test. The ABS is dependent on a number of factors including geometry, time history of load, surface condition, etc. Glasses with residual surface stresses, such as heat-strengthened or fully tempered, must have their residual stresses added to the state of stress at the specified load. As defined for use in the standard, the ABS is for annealed glass. **E 998**

average grade—See **grade.**

back bedding—See **windows and doors.**

back putty—See **windows and doors.**

bag molding—a method of molding or bonding involving the application of fluid pressure, usually by means of air, steam, water, or vacuum, to a flexible cover which, sometimes in conjunction with a rigid die, completely encloses the material to be bonded. (Compare with **vacuum bag molding.**) **E 1749**

balance—See **windows and doors.**

balanced laminate—a composite laminate in which all laminae occur in pairs symmetric about the midplane (but not necessarily adjacent to each other). See **symmetrical laminate.** **E 1749**

baluster—See **railing systems.**

baluster, *n*—(baluster bar). Synonym for **picket.** **E 1481**

baluster (picket), *n*—one of a series of closely-spaced upright members that support the handrail in a railing system. **E 1605**

balustrade—See **railing systems**.

balustrade, *n*—a railing system consisting of a row of pickets capped by a rail or handrail. **E 1481**

bar, *n*—a round, square, rectangular, or other polygonal solid member having a length greater than its width or thickness; and usually of rolled, drawn, or extruded metal (if of steel, having dimensions of 0.204 in. (5.2 mm) or more in thickness, and 8.0 in. (20.3 mm) or less in width).

bar-size section—a hot-rolled steel angle, channel, tee, or zee having a maximum cross-section dimension of less than (76 mm) (3.0 in.)

base building, *n* (immeuble de base)—a general-purpose office building intended, but not yet adapted, to suit the operational requirements of a specific tenant.

DISCUSSION—Facility management is concerned primarily with the use of office buildings as facilities. When other than office buildings are meant, the term would be modified to, for example, warehouse base building. **E 1480**

base date—See **base time.** **E 833**

base substrate—a material upon which films, treatments, adhesives, sealants, membranes, and coatings are applied. The base substrate can also be considered to be the actual material of construction that the surface is attached to. This does not refer to the layers of paint under the outermost or surface layer. **E 1796**

base time—the date to which all future and past benefits and costs are converted when a present value method is used (usually the beginning of the study period) (Syn. *base date*). **E 833**

baseboard, *n*—a molding covering the juncture of a wall and the adjoining floor. **E 1605**

basement—See **building space.**

basement—See **space categories.** **E 1480**

batch—a group of field or quality control (QC) samples that are processed together using the same reagents and equipment. **E 1726**

batch—a group of samples (n > 2) that are obtained in a similar environment (for example, a set of area or personal samples) and are processed together using the same reagents and equipment. **E 1553**

batch—the quantity of material that has been formulated in a single continuous operation and subjected to chemical processing or physical mixing to produce a homogeneous material. **E 1749**

bathroom—See **building space.**

bead—See **windows and doors.**

beadboard, *n*—molded **expanded polystyrene thermal insulation board;** also called **MEPS.**

beam, *n*—a structural member intended primarily to resist transverse forces, and subject to bending by these forces.

beam shear—a term describing the stresses developed in planes parallel to facing planes of flat sandwich constructions when subjected to flatwise flexure in such a manner that the applied moments produce curvature of the plane of a sheet of the sandwich construction (see Test Method C 393). **E 1749**

bearing wall—See **wall.**

benefit-cost analysis—a method of evaluating projects or investments by comparing the present value or annual value of expected benefits to the present value or annual value of expected cost. **E 833**

benefit-to-cost ratio (BCR)—benefits divided by costs, where both are discounted to a present value or equivalent uniform annual value (Syn. *benefit-cost ratio*). **E 833**

bias, *n*—systematic error that contributes to the difference between a population mean of the measurements or test results and an accepted reference or true value. **E 456**

biological monitoring—analysis of a person's blood or urine, or both, to determine the level of lead contamination in the body. **E 1605**

bite—See **windows and doors.**

blank sample—unexposed specimen of the *medium* used in testing, such as a wipe or a filter, which is analyzed with other samples to determine whether samples are either *(1)* contaminated before collection (for example, in the field, or at the testing site), or are *(2)* contaminated after collection (for example, during transportation to the laboratory or in the laboratory), or both. Also called a *media blank*, or a *dummy specimen*. **E 1605**

bleeder cloth—a nonstructural layer of material used in the manufacture of composite assemblies to allow the escape of excess gas and resin during cure.

DISCUSSION—The bleeder cloth absorbs much of the excess resin and is removed after the curing process and is not part of the final composite. **E 1749**

block—*in a honeycomb core material*, a single production unit of honeycomb before slicing. **E 1749**

block flow—the distance an adhesive, sealant, or coating will sag on a vertical surface in a given period of time. Also referred to as *slump*. **E 1749**

blood-lead level (blood level)—concentration of lead in the blood, 1 µmole/L = 20.72 µg/mL.

DISCUSSION—Blood lead levels are associated with the risk and severity of toxic effects. **E 1605**

blood-lead testing—testing by laboratories to determine the blood-lead level. **E 1605**

blow hole—a unintended hole or void in a metal casting resulting from entrained gases.

*blower door***,** *n*—a fan pressurization device incorporating a controllable fan and instruments for airflow measurement and building pressure difference measurement that mounts securely in a door or other opening. **E 1827**

bottom rail—See **railing systems.**

bottom rail—the lowest member of a railing system, supporting pickets or panels, if any. **E 1481**

bracket, *n*—projecting element or hardware attached to the surface of a member to support other members.

breakeven analysis—a technique for determining that value of a variable which results in benefits (savings) just equal to costs. **E 833**

breakout—fiber separation or break on surface plies at drilled, machined, etc., edges. **E 1749**

breather—a loosely woven cloth (such as glass fabric) which serves as a continuous vacuum path over a part but does not come in contact with the resin. **E 1749**

breather finish—coating system allowing the passage of water vapor.

DISCUSSION—A breather finish has **water-vapor permeance** greater than that acceptable for a **water-vapor retarder.**

bridging—spanning a feature without full contact, such as tape or fabric spanning a radius, step, core edge, etc., or vacuum bagging material spanning tool or part surfaces. **E 1749**

brief (of a facility)—See **facility program**. **E 1480**

brittleness—the tendency of a material to break at a very low strain, elongation, or deflection, and to exhibit a clean fracture surface with no indications of plastic deformation. **E 1749**

broadgoods—non-preimpregnated or uncured preimpregnated materials wider than 12 in. (300 mm). **E 1749**

DISCUSSION—These include unidirectional tape (precollimated) and woven cloths or fabrics of various constructions.

brush coat—*in sealants*, a thin layer of Class A curing type sealant used alone or in conjunction with a Type B sealant. **E 1749**

B-stage—an intermediate stage, in the reaction of certain thermosetting resins in which the material softens when heated and swells in contact with certain liquids, but may not entirely fuse or dissolve. The resin in an uncured thermosetting adhesive is usually in this stage. Sometimes referred to as *resitol*. **E 1749**

builder's model, *n*—a reference standard of quality for specific building **components,** denoting by example, the level of quality adopted by a builder.

DISCUSSION—The examples, or samples of construction materials, permit examination of quality level.

building, *n—(1)* a shelter comprising a partially or totally enclosed space, erected by means of a planned process of forming and combining materials. *(2)* the act or process of constructing.

apartment building—a **building** containing more than two **dwelling units** not intended for individual unit ownership.

condominium, n—an **apartment building,** group of townhouses, or single dwellings in which each **dwelling unit** is individually owned and each owner holds an interest in common areas. Also commonly used to denote an individual unit.

house, n—a **building** intended in its entirety as a **dwelling**.

split-level house—one divided vertically so that the floor level of rooms in one part is approximately midway between the levels of two successive stories in an adjoining part.

industrialized building—a **manufactured building** (preferred term).

manufactured building—a structure wholly or substantially made in a manufacturing plant for installation or assembly at the building site.

manufactured home—a **manufactured building** intended to be used as a **dwelling.**

DISCUSSION—The U.S. Department of Housing and Urban Development (HUD) defines this term as "A structure, transportable in one or more sections, which, in the traveling mode, is eight body feet or more in length, or, when erected on site, is three hundred twenty or more square feet; and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air conditioning, and electrical systems contained therein." (42USC5402). The 1980 Housing and Community Development Act changed the term, mobile home, to manufactured home.

packaged building—Use **manufactured building** or **precut building.**

precut building—a **manufactured building** produced largely of elements cut to size in a factory and transported for assembly at the erection site.

prefabricated building—Use **manufactured building.**

building code—See **code.**

building component, *n*—a building element using industrial products that are manufactured as independent units capable of being joined with other elements.

building construction, *n—(1)* the act or process of making or forming a **building** by assembling or combining elements, **components,** or systems. *(2)* the structure or part thereof so formed.

closed construction—a method by which a **building, system,** assembly, or **component** is manufactured, in such a manner that portions cannot be readily inspected at the installation site without disassembly or destruction.

industrialized building process—the process of constructing manufactured **buildings.**

open construction—a method by which a **building, component,** assembly or system is manufactured in such a manner that all portions can be readily inspected on site without disassembly or destruction.

panelized construction—a building method using **panels** as major elements.

building core and service area—See **space categories. E 1480**

building decision—a decision regarding the design, financing, engineering, construction, management, or operation of a building. **E 833**

building economics—the application of economic analysis to the design, financing, engineering, construction, management, operation, or ownership of buildings. **E 833**

building enclosure—Use **building envelope.**

building envelope—the outer elements of a **building,** both above and below ground, that divide the external from the internal environments.

building envelope, *n* (enveloppe d'un immeuble)—perimeter elements of a **building**, both above and below ground, that divide the external from the internal environment.

DISCUSSION—Commonly included are exterior walls, windows, doors, roofs, and subfloors. **E 1480**

building envelope—the boundary or barrier separating the interior volume of a building from the outside environment. **E 1554**

building environmental survey—*for lead* systematic inspection of a building and associated on-site paint, dust, soil, and water for the presence of lead compounds. **E 1605**

building fabric—*(1)* elements, components, parts, materials, or systems of a building separately or in combination; *(2)* loadbearing part of a structure without windows, doors, interior or exterior finishes.

building gross area—See **space categories. E 1480**

building modification—change or activity affecting the materials, structure, operations, or appearance of a building or its systems.

adapt, v—in building, to make suitable for a particular purpose by means of change or modification.

add, v—in building, to extend by means of new construction, or by enclosing an existing structure.

alter, v—in building, to make different, or to rearrange the layout.

improve, v—to enhance the quality or value of land or property.

maintain, v—to keep in working order, or to preserve from decline or failure.

modernize, v—in building, to adapt to current needs, tastes, or usage by **remodeling** or **repair.**

rebuild, v—to return to **building** to its previous state or condition.

reconstruct, v—to reproduce in the exact form and detail a **building,** structure, or **artifact** as it appeared at a specific period in time.

reconstruction, n—the act or process of reproducing by new construction the exact form and detail of a vanished **building,** other structure, or **artifact** as it appeared at a specific period in time.

remodel, v—to replace or **improve** a **building** or its parts.

repair, v—to replace or correct damaged or faulty **components** or **subsystems** of a **building** to **maintain** operating capability.

retrofit, v—in building, to add new materials or equipment not provided at the time of original construction.

building occupant—See **occupant.** **E 1480**

building performance, *n*—the behavior in service of a construction as a whole, or of the **building components.**

durability, n—the capability of a **building,** assembly, **component,** product, or construction to maintain **serviceability** over at least a specified time.

serviceability, n—the capability of a **building,** assembly, **component,** product, or construction to perform the function(s) for which it is designed and used.

building permit, *n*—an authorization granted by the agency having jurisdiction to an applicant to proceed with construction on a specific project.

building preservation, *n*—measures taken to conserve, protect, rehabilitate, restore, or stabilize a building. See **preservation.**

building pressure difference, *P, n*—the pressure difference across the test zone envelope (Pa, in. H_2O). **E 1827**

building pressure difference—the pressure difference across the building envelope, expressed in pascals (inches of water, pounds-force per square foot, or inches of mercury). **E 1554**

building projection, *n* (saillie d'un immeuble)—pilaster, convector, baseboard heating unit, radiator, or other building element located in the interior of a building wall that prevents the use of that space for furniture, equipment, circulation, or other functions. **E 1480**

building service area—Preferred term is **building core and service area**. See **space categories**. **E 1480**

building space:

attic, n—an accessible enclosed space immediately below the roof and wholly or partly within the roof framing.

basement—a space partly below **average grade** having less than one half of its clear height (measured from floor level to ceiling level) below **average grade.**

bathroom—a room containing a bathtub or shower, or both, and usually a lavatory (wash basin) and toilet (water closet).

cellar—a space wholly or partly below **average grade** having more than one half of its clear height (measured from floor level to ceiling level) below **average grade.**

environmental chamber, n—an enclosed space, used for testing designed and constructed to provide control of interior atmosphere to specified conditions.

habitable space—**occupiable space** normally used for living, including such activities as sleeping, eating, and cooking.

DISCUSSION—Bath, lavatory, and toilet rooms are excluded.

half bath—a room containing a lavatory (wash basin) and a toilet (water closet).

kitchen—a space containing facilities primarily for the preparation of food.

occupiable space—space normally used by people.

DISCUSSION—Corridors, stairways, and spaces used for storage, equipment, heating, cooling, and general maintenance are excluded.

office, n—a place, such as a room, suite, or building, in which business, clerical, or professional activities are conducted.

open-plan workstation—office workspace for one person, not enclosed by full-height walls.

primary circulation area—portion of building area dedicated to public corridor, lobby, or atrium; or required for access to stairs, elevators, restroom facilities, or building exits.

secondary circulation area—portion of building area not defined as **primary circulation area,** but required for access to some subdivision of space, whether or not bounded by **walls.**

DISCUSSION—An example may be a circulation area within a tenant or occupant space.

story, n—a space excluding **attics, basements,** and **cellars,** between successive floor levels or between **floor** and roof.

first story—the lowermost **story** of a **building** entirely above the **average grade** (also used as a synonym for **ground floor**).

top story—the uppermost **story** of a building.

building subsystem—a complete, integrated set of parts that functions as a unit within the finished **building.** See also **cladding system, hard-coat system, railing systems.**

solar energy system—a **building subsystem** to convert solar energy into thermal energy for space heating or cooling, water heating, or process energy.

active solar energy system—a **building subsystem** in which solar energy is collected and transferred predominantly by mechanical power not derived from solar radiation.

passive solar energy system—a **building subsystem** in which solar energy is collected and transferred predominantly by natural means, namely, conduction, convection, radiation, or evaporation.

building system—*(1)* group of structural or non-structural components or assemblies, or both, of a building interacting to serve a common purpose; *(2)* method for fabricating or erecting an entire structure. See also **anchorage system, anchoring system, hard-coat system, structural system, exterior installation, finish system.**

closed system—a building system having interchangeability of only its own **subsystems,** subassemblies, and **components.**

industrialized building system—the integration of **subsystems** and **components** into an overall process, utilizing factors of production, transportation, and on-site assembly techniques.

open system—a building system, designed to have interchangeability of its **subsystems,** subassemblies, **components,** or building elements with like **subsystems,** subassemblies, **components,** or elements of other systems.

prefabricated panel system—building-panel system fabricated away from its ultimate position on a building.

DISCUSSION—One example is a system consisting of an **EIFS**, internal integral structural framing, connections, internal sealant, when required, and installation accessories.

building system, *n* (système d'immeuble)—collection of equipment, facilities, and software designated to perform a specific function. **E 833**

building system—an aggregation or assemblage of items joined in regular interaction or interdependence in buildings or building construction. **E 833**

burn rate—the rate at which a material burns after removal of the ignition heat source. **E 1749**

butt joint—See **joint.**

butted wood member—wood member with its squared end or side placed adjoining the squared end or side of another wood member; with both abutting members of same thickness and in a single plane. **E 1807**

button sample—*in sealants*, an identified small amount of sealant extruded from a mixed sealant cartridge. **E 1749**

calibration curve—graphical or mathematical representation of a relation between a measured parameter and a property of the standard for the substance under consideration. **E 1605**

calibration standards—standard solutions used to calibrate instruments. **E 1613**

DISCUSSION—Calibration standards must be matrix matched to the acid content present in sample digestates and must be measured prior to measuring any sample digestates.

cantilever, *n*—an overhanging portion or a member or slab projecting beyond support(s) sufficiently to induce bending and shear stresses in projecting part(s) when subjected to transverse loading including uniform, concentrated, or other load types.

cap—See **railing systems.**

cap rail—See **railing systems.**

cap, *n*—a fitting or plug used to close the end of a pipe, tubular post, newel, or rail. **E 1481**

cap rail—a secondary railing element, often a handrail, fastened to the top rail of a railing system. (Syn. *rail cap.*) **E 1481**

capillary migration—*of water*, movement of water induced by the force of molecular attraction (surface tension) between the water and the material it contacts. Compare **rising damp.**

capital cost, *n* (coût en capital (frais d'immobilisations))—costs of acquiring, substantially improving, expanding, changing the functional use of, or replacing, a **building** or **building system.** **E 833**

carbonation, *n—building* (*s*), a process of chemical weathering whereby minerals that contain sodium oxide, calcium oxide, potassium oxide, or other basic oxides are changed to carbonates by the action of carbonic acid derived from atmospheric carbon dioxide and water.

carrier—See **scrim.** **E 1749**

cash flow—the stream of monetary (dollar) values—costs and benefits—resulting from a project investment. **E 833**

catalyst—a substance that increases the rate of a chemical reaction; used extensively in polymerization reactions. **E 1749**

caul—a sheet of material employed singly or in pairs in hot or cold pressing of assemblies being bonded.

DISCUSSION—A caul is used to protect either the faces of the assembly or the press platens, or both, against marring and staining; to prevent sticking; to facilitate press loading; to impart a desired texture or finish; and to provide uniform pressure distribution.

A caul may be made of any suitable material such as aluminum, stainless steel, hardboard, fiberboard, or plastic; the length and width dimensions being generally the same as those of the plates of the press where it is used. **E 1749**

caulk, *v*—to fill joints, **cracks,** or crevices in order to prevent the passage of air or water.

CBR—an abbreviation for *chemical, biological, radiological*.

CFR—Code of Federal Regulations. **E 1605**

cellar—See **space categories.** **E 1480**

cellar—See **building space.**

cellular polystyrene, *n*—polymerized styrene resin processed to form a rigid foam having a predominately closed-cell structure making it suitable as thermal insulation.

DISCUSSION—The manufacturing process can be an expansion of foamable beads under heat and pressure within a mold, or in-situ foaming of molten resin in an extrusion mode. See also **rigid cellular polystyrene thermal insulation board.**

cement, *n*—a general term for a binding element. See specific terms such as Portland cement, Keene's cement, and adhesive cement.

certainty equivalent technique—a technique used to adjust economic measures of project worth to reflect risk exposure and risk attitude.

DISCUSSION—Estimated project returns are multiplied by a certainty equivalent factor (CEF) to determine the *certainty equivalent* amount a decision maker finds equally acceptable to the estimated project returns. **E 833**

certification, *n*—a written declaration that a particular product or service complies with stated criteria.

DISCUSSION—In specific use, it is necessary to include the scope and limitations of the certification; usually it is provided by the manufacturer, producer, or vendor.

chalking, *n*—formation on a pigmented coating of a friable powder evolved from the film itself at or just beneath the surface. **E 1605**

characteristics—see **hazardous waste characteristics.** **E 1605**

checking (coatings), *n*—phenomenon manifested in paint films by slight breaks in the film that do not penetrate to the underlying surface.

DISCUSSION—The break should be called a crack if the underlying surface is visible. Where precision is necessary in evaluating a paint film, checking may be described as visible (as seen by the naked eye) or as microscopic (as observed under a magnification of ten diameters). **E 1605**

chemical resistance—the ability to resist chemical attack. **E 1749 F 412**

DISCUSSION—The attack is dependent on the method of test, and its severity is measured by determining the changes in physical properties. Time, temperature, stress, and reagents may all be factors that affect chemical resistance.

chewable surface—surface easily accessible to children (usually up to five feet from the floor or ground), and likely to be chewed-on, such as window sills, balusters, and handrails. See **accessible surface.** **E 1605**

chipping resistance (coatings)—ability of a coating or layers of coatings to resist removal, usually in small pieces, resulting from impact by hard objects or from wear during service. **E 1605 (D 16)**

CIAP—an abbreviation for *corrosion inhibiting adhesive primer.* **E 1749**

circulation space—See **space categories**. **E 1480**

cladding system, *n*—material assembly applied to a building as a non-load-bearing wall, or attached to a wall surface as a protective and ornamental covering.

classes of buildings, *adj* (catégories d'immeubles)—buildings categorized by selected attributes concerning **facility serviceability** and performance. **E 148**

CLC—corrected lead concentration. **E 1605**

cleanup, *n*—wet-sweeping, HEPA-vacuuming, and washing down of surfaces within the work area at the end of each day. Compare **final cleanup**. **E 1605**

climbing drum peel test—See **test, climbing drum peel.** **E 1749**

clip, *n*—a small fastening device, usually of metal, designed to hold an element or **component** in place.

close out—enclosure of honeycomb or other core material within a structure that may contain hard edges or attachment points, or both. **E 1749**

closed construction—See **building construction.**

closed system—See **building system.**

coating, *n*—liquid, liquefiable, or mastic composition that is converted to a solid protective, or decorative, or functional adherent film after application as a thin layer. **E 1605**

coating, *n*—a liquid, liquefiable, or mastic composition that, after application as a thin layer, is converted to a solid protective, or decorative, or functional adherent film.

DISCUSSION—Such coatings are one form of protective or decorative finish for building purposes. Other forms include gold leaf and metals deposited by electroplating or hot dipping.

cocuring—the act of curing a composite laminate and simultaneously bonding it to some other hard detail during the same cure cycle (for example, curing a skin laminate and bonding it to honeycomb core simultaneously). **E 1749**

code, *n* (in the Law)—a collection of laws (regulations, ordinances, or statutory requirements) adopted by governmental (legislative) authority.

building code, n—a **code** applicable to **buildings,** adopted and administered with the primary intent of protecting public health, safety, and welfare.

model code, n—a proposed **code** that is established within the procedural framework of a group of knowledgeable people, and is designed for adoption by governmental authority.

Code of Federal Regulations (CFR)—basic component of the *Federal Register* publication system. The CFR is a codification of the regulations of the various Federal agencies. **E 1605**

coefficient of variation—the ratio (decimal fraction) of the standard deviation of the maximum principal tensile stress (MPTS) at failure to the ABS. **E 998**

coefficient of variation, *v*—ratio of the standard deviation of the failure load to the mean failure load. **E 997**

coherent unit system—system in which relations between units contain as numerical factor only the number "one" or "unity," because all derived units have a unity relationship to the constituent base and supplementary units.

collar, n—Synonym for **escutcheon.** **E 631**

collar—See **railing systems.**

cold joint—See **joint.**

cold setting adhesive—See **adhesive, cold setting.** **E 1749**

collimate—to render fibers parallel. **E 1749**

colorimetry—an analytical technique that is similar to spectrophotometry except that ultraviolet-visible light of a single, narrow wavelength range is passed through a sample cell containing dissolved analyte, and the absorption measured. **E 1775**

column, *n*—a building member, usually structural and vertical, subjected to longitudinal (axial) compression and also to lateral forces such as bending.

combination of features, n—See **feature**—*of a facility.* **E 1480**

combination of features, *n*—*of a facility,* two or more features which, when present together in a facility, affect a level of serviceability of that facility. **E 1334**

common area—room or area that is accessible to all tenants in a building or development (for example, hallway, vestibule, laundry area). **E 1605**

compacting—See **debulking.** **E 1749**

component—See **building component.**

components pattern—process of identifying specific building components containing LBP at a hazardous level within a building or group of buildings. **E 1605**

composite, filamentary—a major form of advanced composites in which the fiber constituent consists of continuous filaments. **E 1749**

DISCUSSION—Filamentary composites are defined here as composite materials composed of laminae in which the continuous filaments are nonwoven, parallel, uniaxial arrays. Individuals uniaxial laminae are combined into specifically oriented multiaxial laminates for application to specific envelopes of strength and stiffness requirements.

composite material—a material consisting of any combination of high-strength, high-modulus fibers, whiskers, or particles in a homogenous matrix. **E 1749**

compressive strength—See **strength, compressive.** **E 1749**

concentration, *n*—quantity of substance in a unit quantity of sample.

DISCUSSION—Lead in environmental media is expressed in SI units of mass concentration, for example, µg (micrograms) lead/g material, or in terms of loading, for example, µg lead/cm^2 of area (micrograms per square centimetre). Although the non-SI unit of *micrograms per square foot* is found in regulatory clearance testing of lead dust, its use is deprecated. (To convert from µg lead/ft^2 to µg lead/cm^2, divide by 929.11.) **E 1605**

condominium—See **building.**

conduit—a solid or flexible tube, pipe, or channel through which insulated electrical wires are run or through which water or some other fluid flows. **E 1749**

connection—device or method used to fasten together two or more components of a structural system using mechanical means, welding, adhesives, or a combination of them.

DISCUSSION—connection usually implies a junction of structural members to make a safe, load-carrying system, for example, a truss. Traditionally the term **joint** has been used in place of the term **connection.**

connection, *n*—structural junction of two or more wood members, components, or assemblies, designed to be connected with mechanical fasteners, adhesives, welds, or a

combination thereof, to transmit structural forces safely. Colloquially, the term *joint* is used in place of the term *connection.* **E 1807**

connector, *n*—within the restrictions of this terminology, abbreviation for **metal connector plate.** **E 1807**

connector hole—opening in metal connector plate, resulting from punching integral tooth from, or nail hole in, connector plate during its fabrication. Also called *slot* when opening is not round. **E 1807**

consensus, *n*—substantial agreement achieved through a **consensus process,** but not necessarily unanimity.

consensus process, *n*—a formal procedure for reaching **concensus** that includes the elements of due process.

DISCUSSION—An example of due process requirements in a consensus procedure is found in 1.4 of the "Regulations Governing ASTM Technical Committees" (September 1982).

conservation—See **preservation.**

constant dollars—dollars of uniform purchasing power exclusive to general inflation or deflation.

DISCUSSION—Constant dollars are tied to a reference year. **E 833**

construction contingency—the funds added to estimated and known costs in case of cost overruns during construction. **E 833**

construction documents—materials that convey the physical, aesthetic, technical, performance, and administrative requirements necessary to initiate a contract for construction of the proposed project. **E 833**

construction joint—See **joints.**

contact adhesive—See **adhesive, contact.** **E 1749**

contact pressure—an imprecise term denoting the minimum amount of pressure necessary to ensure an essentially void-free area between two mating surfaces. **E 1749**

container, *n*—a usually portable device in which material is stored, transported, treated, disposed of, or otherwise handled. **E 1605**

contingency plan—document setting out an organized, planned, and coordinated course of action to be followed in case of an emergency, such as a fire or explosion, or a release of hazardous waste or hazardous waste constituents from a treatment, storage, or disposal facility that could threaten human health or the environment. **E 1605**

continuing calibration blank *(CCB)*—a standard solution that has no analyte and is used to verify blank response and freedom from carryover. **E 1613**

DISCUSSION—The CCB must be analyzed after the CCV and after the ICS. The measured value is to be less than five times the instrumental detection limit.

continuing calibration verification *(CCV)*—a standard solution (or set of solutions) used to verify freedom from excessive instrument drift; the concentration is to be near the mid-range of a linear curve. **E 1613**

DISCUSSION—The CCV must be matrix matched to the acid content present in sample digestates. The CCV must be analyzed before and after all sample digestates and at a frequency not less than every ten sample digestates. The measured value is to fall within ±10 % of the known value for ICP-AES or FAAS (±20 % for GFAA), run once for every ten samples.

contractor—see **lead abatement contractor.** **E 1605**

control joint—See **joint.**

control plate—See **solid metal-coupon control specimen.** **E 1807**

control specimen—See **solid metal-coupon control specimen.** **E 1807**

controlled flow—a characteristic of a resin system with elevated viscosity during cure. **E 1749**

core—a generally centrally located layer or composite component of a sandwich construction, usually low density, which separates and stabilizes the facings and transmits shear between them and provides most of the shear rigidity of the construction. **E 1749 C 274**

core compressive modulus—the ratio of the compressive load (below the proportional limit of the core) per unit of original area to the corresponding deformation per unit of original thickness. **E 1749**

core module—See **module.**

core sample—a fragment of a dry paint film removed from the substrate with a coring tool which is designed to remove a specified area (that is, a square centimetre) of dry paint film. **E 1753**

core shear—the shear stress applied to the core material used in sandwich panel construction. **E 1749**

core shear modulus—the ratio of the shear stress to the corresponding shear strain for stresses below the proportional limit in shear of the core. **E 1749**

core splice adhesive—See **adhesive, core splice.** **E 1749**

core stabilization—a process to rigidize honeycomb core materials to prevent distortion during machining or curing. **E 1749**

cost analysis—subdividing the project estimate into component parts to find and compare their relationship to previously established historical costs. **E 833**

cost effective—the condition whereby the present value benefits (savings) of an investment exceeds its present value costs. **E 833**

cost limitations—the budget boundaries for project elements.

cost model—the description of the project divided into discrete elements showing quantities and unit price for each element. **E 833**

cover flange—See **railing systems.**

cover flange—Synonym for **escutcheon.** **E 631**

cover plate—Synonym for **escutcheon.**

cover ring—Synonym for **escutcheon.** **E 1481**

crack (building defect)**,** *n*—a flaw consisting of complete or incomplete separation within a single element or between contiguous elements of constructions.

DISCUSSION—Occasionally the basic design, or the material characteristics, of a building element will be such that minor cracking may occur. Such cracks are not flaws or defects.

cracking (coatings), *n*—phenomenon manifested in paint films by a break extending through to the surface painted.

DISCUSSION—Where this is difficult to determine, the break should be called a crack only if the underlying surface is visible. The use of a magnification of 10 diameters is recommended in cases where it is difficult to differentiate between cracking and checking. **E 1605**

crazing—the development of a multitude of very fine cracks in a material such as ceramic glaze, varnish, paint, etc., often the result of exposure to sunlight, weathering, or certain solvents. **E 1749**

criterion—See **requirement statement.** **E 1480**

criterion, *n*—An established precedent, rule, measure, norm, or **code** upon which a decision may be based.

critical path method—method of scheduling in a detailed manner the essential steps or actions that must be taken in sequence from the start to the completion of a construction project. **E 1605**

C-stage—the final stage in the reaction of certain thermosetting resins in which the material is relatively insoluble and infusible. Certain thermosetting resins in a fully cured adhesive layer are in this stage. Sometimes referred to as *resite.* **E 1749 D 907**

cure—to change the properties of a polymeric system into a more stable, usable condition by the use of heat, radiation, or reaction with chemical additives. **E 1749 D 883**

DISCUSSION—Cure may be accomplished, for example, by removal of solvent or crosslinking.

curing, *n*—chemical process of developing ultimate properties of a finish or other material over a specified period of time. Compare **drying.**

current dollars—dollars of purchasing power in which actual prices are stated, including inflation or deflation. **E 833**

DISCUSSION—In the absence of inflation or deflation, current dollars equal constant dollars. **E 833**

curtain wall—See **wall.**

debulking—the application of a temporary vacuum bag, bleeder, vacuum, or pressure, with or without heat, to remove trapped air and possibly some resin, in order to compact a composite lay-up. (Syn. **pre-bleeding, compacting.**) **E 1749**

decision analysis—a technique for making economic decisions in an uncertain environment that allows a decision maker to include alternative outcomes, risk attitudes, or subjective impressions about uncertain events in an evaluation of investments. **E 833**

defective pain surface—pain that is cracking, flaking, chipping, or peeling from a building component (for example, window sill, door, or door frame). **E 1605**

degradation—damage by weakening or loss of some property, quality, or capability. **E 1749**

delamination—the separation of the layers (lamina) of material in a laminate. **E 1749 C 582 D 883**

delamination—separation into constituent layers. **E 1925**

deleading—deprecated term. Use **lead-based paint hazard abatement**. **E 1605**

denier, *n*—the number of grams per 9000 m. **E 859**

density—weight per unit volume, usually expressed in pounds per cubic inch, pounds per cubic foot, or kilograms per cubic metre. **E 1749 C 460**

design development—the phase of a project consisting of drawings and document preparation to fix and describe the size and character of the building systems, material, and elements. **E 833**

design program—the information detailing project function, purpose, and characteristics inclusive of floor area, functional spaces, equipment, and building systems.

design program—See **facility performance.**

destructive test—See **test, destructive.** **E 1749**

detached dwelling—See **dwelling.**

detection limit—stated limiting value that designates the lowest concentration or mass that is capable of being estimated or determined with confidence and that is specific to the analytical procedures used. **E 1605**

deteriorated condition—condition of surfaces of such components as walls, windows, and baseboards that are in need of repair (or replacement) due to physical or mechanical breakdown of paint or other materials. **E 1605**

deterministic design, *n*—design based on the physical and mechanical properties of the materials, elements, and structures involved (compare **probabilistic design**).

DISCUSSION—In this method of design, load and resistance to load are assigned values for each particular situation as provided in the codes for given conditions. Existing variability in and range of these values, probability of failure, residual deformation, shock absorption, damping capacity, as well as load-sharing and torsional rigidity may or may not be given direct consideration. Under given conditions, deterministic design is applicable to statically and dynamically exposed, relatively rigid materials, elements, and structures; but not to those that can absorb the surge of high external forces and return to their original shape without permanent failure, or appearance of failure.

differential price escalation rate—the expected percent difference between the rate of increase assumed for a given item of cost (such as energy), and the general rate of inflation. **E 833**

digestate—an acidified aqueous solution that results from digestion of the sample. **E 1644**

digestion—the sample preparation process that will solubilize (extract) targeted analytes present in the sample and results in an acidified aqueous solution called the digestate. **E 1613**

direct-reading XRF—see **XRF direct-reading analyzer.** **E 1605**

discharge—see **hazardous waste discharge.** **E 1605**

discounting—a technique for converting cash flows that occur over time to equivalent amounts at a common time. **E 833**

discount rate—the rate of interest reflecting the investor's time value of money, used to determine discount factors for converting benefits and costs occurring at different times to a base time.

DISCUSSION—The discount rate may be expressed as nominal or real. **E 833**

discount factor—a multiplicative number (calculated from a discount formula for a given discount rate and interest period) that is used to convert costs and benefits occurring at different times to a common time. **E 833**

discounted payback (DPB) period—the time required for the cumulative benefits from an investment to pay back the investment cost and other accrued costs considering the time value of money. **E 833**

disposal facility—facility or part of a facility at which hazardous waste is intentionally placed into or on any land or

water, and at which waste will remain contained after closure. **E 1605**

distribution-system pressure difference—the pressure difference across the exterior air-distribution envelope, expressed in pascals (inches of water, pounds-force per square foot, or inches of mercury). **E 1554**

door, *n*—usually swinging or sliding barrier by which an entry is closed and opened. **E 1605 (E 631)**

drainage hole—an opening in a construction provided for the escape of unwanted liquid, as in a retaining wall. Compare **vent hole, weep hole.**

drawing, *n*—an architectural, structural, mechanical, or electrical plan, elevation, or section indicating in isometric perspective or in axonometric perspective the detailed location, dimension, quantity, or extent of material, product, or member to be furnished. Compare **shop drawing, working drawing.**

drawing, *n*—(dessin): **E 1480**

record set drawing (as-built drawing), n (dessin de l'ouvrage fini (dessin d'après exécution))—construction drawing revised to show changes made during the construction process, usually based on marked-up prints, drawings, and other data furnished by the contractor.

working drawing, n (dessin d'exécution)—detail drawing, usually produced by a draftsperson under direction of an architect, engineer, or other designer showing the form, quantity, and relationship of construction elements and materials and indicating their location, identification, grades, dimensions, and connections. **E 1480 E 631**

drop cap—the cover of a railing post or newel that is exposed to view, usually below the stair stringer or floor. **E 1481 E 631**

drop cap—See **railing systems.**

dry scraping—*of coatings*, method of removing dried, often deteriorated, paint film using a blade or similar tool.

DISCUSSION—This method may pose a health hazard. The surface is not wetted prior to scraping. Compare **wet scraping.** **E 1605**

dry strength—See **strength, dry.** **E 1749**

duplicate sample—a second portion of a homogenized sample carried through sample digestion. Analysis results for these samples are used to provide information on the precision of the homogenization process. **E 1726**

drying, *n*—process of developing, solely by evaporation of volatile ingredients, ultimate properties of a finish or other material over a specified period of time. Compare **curing.**

dummy specimen—Use **blank sample.** **E 1605**

duplex dwelling—See **dwelling.**

durability—the measure of the ability of a material or structure to endure and maintain its essential and distinctive characteristics of strength, resistance to decay, and appearance, with relation to a specific environment of use. **E 1749**

durability—See **building performance.** **E 1480**

dust wipe sample—a settled dust sample collected on a moistened disposable towel. **E 1644**

dwelling, *n*—a **building** designed or occupied as the living quarters for one or more families or households.

apartment—a separate part of a **building** intended as a **dwelling unit** for an individual, family, group, or small household (also used as a synonym for **apartment building**).

detached dwelling—a **dwelling unit** standing by itself.

duplex dwelling—one of a pair of **dwelling units,** generally joined by a common floor/ceiling.

modular dwelling—a manufactured **home** consisting completely or in part of **modules**.

semi-detached dwelling—one of a group of **dwelling units** joined by a common sidewall and occasionally by a garage, carport, or similar structure.

dwelling unit—a unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation. (See also **house.**)

easement, *n*—the curved portion of a rail and handrail forming a transition in the vertical plane between the horizontal and inclined sections of a handrail. **E 1481**

easement—See **railing systems.**

EBL—elevated blood level. **E 1065**

ECA—an abbreviation for *environmentally controlled area*; an area whose temperature and humidity is controlled within specified limits; the presence of grease, dirt, chemical contaminants, etc., are excluded. **E 1749**

economic evaluation methods—a set of economic analysis techniques that consider all relevant costs associated with a project investment during its study period, comprising such techniques as life-cycle cost, benefit-to-cost ratio, savings-to-investment ratio, internal rate of return, and net savings. **E 833**

economic life—that period of time over which an investment is considered to be the least-cost alternative for meeting a particular objective. **E 833**

edge closures—structural members framing the periphery of a sandwich panel providing support and a means of attachment to the panel as well as an environmental seal. **E 1749**

edgewise compressive strength—a term describing the load carrying capacity of flat sandwich constructions when a compressive load is applied uniformly to each facing, usually defined in terms of developed facing stresses as compared to the yield stress of the facings (see Test Method C 364). **E 1749**

EIFS, n—See **exterior insulation and finish system.**

electromagnetic interference—See **EMI.** **E 1749**

electromagnetic pulse—See **EMP.** **E 1749**

elevated blood level (EBL)—lead content in blood that exceeds the safe level established by regulation/local jurisdiction. **E 1065**

EMI—an abbreviation for *electromagnetic interference*; caused by electric and magnetic fields that emanate from a wide range of electrical circuitry. **E 1749**

EMP—an abbreviation for *electromagnetic pulse*; a sudden intense discharge of electromagnetic energy that occurs naturally as a result of lightning discharge and can be induced by near-surface or high-altitude nuclear explosions. **E 1749**

encapsulation—see **lead-based paint encapsulation. E 1065**

encephalopathy, *n*—damage to the brain that is caused by severe lead toxicity that is capable of becoming permanent brain damage. **E 1065**

engineered controls—measures implemented at the work site to contain, control, or otherwise reduce exposure to lead dust and debris. **E 1065**

engineering economics—the application of economic techniques to the evaluation of design and engineering alternatives. **E 833**

engineering economics, *n* (économie du génie)—application of engineering, mathematical, and economic techniques to the economic evaluation of engineering alternatives. **E 1480 E 833**

environmental chamber—See **building space.**

environmentally controlled area—See **ECA.** **E 1749**

EPA—Environmental Protection Agency **E 1065**

EPA identification—unique number assigned by EPA to each generator or transporter of hazardous waste, and to each treatment, storage, or disposal facility. **E 1065**

EPS, *n*—expanded polystyrene. See **rigid cellular polystyrene thermal insulation board.** See also **cellular polystyrene.**

equivalent design load—a magnitude of 60-s duration uniform load selected by specifying authority to represent design loads. **E 997**

equivalent uniform annual value—See **annual value. E 833**

escutcheon, *n*—a protective or ornamental cover located at the termination of a post, picket, or rail against a tread, floor, or wall. (Syn. *collar, cover flange, cover plate,* or *cover ring.*) **E 1481**

escutcheon—See **railing systems.**

evaluate, *v* (évaluer (installations))—*(a facility)* to assess the capability of a facility to perform the function(s) for which it is designed, used, or required to be used. **E 1480**

DISCUSSION—Facility evaluation includes the assessment of **facility performance** in use. *Facility evaluation* is a general term, which incorporates a range of methods and levels of precision. **E 1480**

evaluation—See **facility evaluation.**

excessive corrosion—corrosion that is not removed by cleaning as described in Practice E 864. **E 1749**

exotherm—the temperature rise resulting from the liberation of heat by any process of chemical reaction. **E 1749**

expanded metal—See **screen.** **E 1481**

expansion joint—See **joints.**

exterior air-distribution envelope—the boundary or barrier separating the interior volume of the air distribution system from the outside environment or unconditioned spaces. **E 1554**

DISCUSSION—For the purpose of these test methods, the interior volume is the deliberately conditioned space within a building, generally not including the attic space, basement space, and attached structures, unless such spaces are part of the heating and air conditioning system, such as a crawl space that acts as a plenum.

exterior insulation and finish system (EIFS), *n*—non-load-bearing outdoor wall finish system consisting of a thermal insulation board, an attachment system, a reinforced base coat, exterior joint sealant, and a compatible finish.

EIFS back-wrapping—process of enclosing exposed edges of thermal insulation board by applying the reinforced base coat around the edges and onto the backside of the insulation or onto the substrate.

EIFS base-coat adhesive—semi-liquid adhesive material providing a matrix within which reinforcing mesh is embedded as a base coat.

EIFS insulation board—rigid thermal insulation, interposed between lamina and substrate, providing thermal resistance to the wall assembly. See also **expanded polystyrene thermal insulation board.**

EIFS mechanical fastener, n—special mechanical device providing structural connection of the EIFS system, including the insulation board, to the wall structure.

EIFS reinforcement—mesh or other fibrous component of the EIFS base coat included to provide increased toughness and resistance to mechanical impact and cracking.

EIFS reinforcing mesh, n—woven or non-woven mesh fabric used as a reinforcement in the EIFS base coat.

EIFS substrate—surface or structure of a wall to which EIFS is adhesively or mechanically attached.

exterior work area—outdoor porch, stairway, or other element of trim or walls on the exterior of a building. **E 1065**

extraction—the dissolution of target analytes from a solid matrix into a liquid form. During sample digestion, target analytes are extracted (solubilized) into an acid solution. **E 1644**

fabric, *n* (édifice)—*of a building,* all the elements, components, parts, and materials of a building, at any scale and of any age. **E 1334**

historic fabric, n (édifice historique)—those portions of the building fabric that have historic significance. **E 1334**

fabricate, *v*—to manufacture, form, construct, or assemble a product or **component.**

facility, *n*—a physical setting used to serve a specific purpose.

DISCUSSION—A facility may be within a building, or a whole building, or a building with its site and surrounding environment; or it may be a construction that is not a building. The term encompasses both the physical object and its use.

facility durability, n—the capability of a **facility** to maintain serviceability for a specified time.

DISCUSSION—It may be important that regular maintenance be provided as appropriate, to assist in attaining the desired durability.

facility evaluation, n—comparison of the qualitative and quantitative results of observations, measurements, analyses, or other tests against criteria established for a specified purpose and to a specified precision and reliability.

facility function, n—the purpose or activity for which the **facility** is designed, used, or required to be used.

facility management—practice of planning and managing workplaces.

DISCUSSION—Included are financial forecasting and budgeting; strategic and tactical (short term) facility planning; real estate acquisition or disposal, or both: architectural and engineering planning and design; new construction or renovation work, or both; interior space planning;

workplace specifications, installation, and space management; telecommunications integration; security; maintenance and operations management of the physical plant.

facility performance, *n*—the behavior in service of a **facility** for a specified use.

DISCUSSION—The scope of this performance is of the facility as a system including its subsystems, components, and materials and their interactions such as acoustical, hydrothermal, air purity, and economic and the relative importance of each performance requirement.

facility project brief (statement of work)—document describing services to be provided by the design consultant (architect, engineer, or interior designer) for a **facility**, in detail sufficient for the design to proceed.

DISCUSSION—In included is general project information specifically related to the project, such as functional, technical, and design requirements; time plan; cost plan; and technical design data.

facility serviceability, *n*—the capability of a **facility** to perform the function(s) for which it is designed, used, or required to be used.

facility use, *n*—the functions and activities that take place in a **facility**.

facility—see **hazardous-waste facility.** **E 1605**

facility durability, *n* (durée de facilité)—*of a facility,* the capability of a facility to maintain serviceability for at least a specified period of time. Compare **durability**—*of a building.* **E 1334**

facility evaluation, *n*—comparison of the qualitative and quantitative results of judgments, observations, measurements, analyses, or other tests against performance criteria established for a specified purpose, and to a specified precision and reliability. (See also **requirement statement.**) Compare **rating process.** **E 1334**

facility-in-service, *n* (installation en service)—facility as completed and operational; for example, an occupied **building** or a road in service. **E 1480**

facility operator, *n* (exploitant d'installations)—organization or agency having a contract with the owner or investor to operate a facility. **E 1480**

DISCUSSION—The facility operator assumes responsibility after completion of the implementation phase and during and after the commissioning phase.

facility program, *n* (programme d'installations):

design program, n (programme de conception)—*(design brief)* document specifying what facilities will be provided to the **occupants,** and confirming to the owner the requirements for the facility.

functional program, n (programme fonctionnel)—document that specifies functional facility serviceability requirements of **occupants** and owner.

DISCUSSION—It is normally prepared by the occupants or owner, or their consultant.

project brief, n (exposé de projet)—document describing the required **facility serviceability** in detail sufficient for the project to proceed.

facility serviceability profile, *n*—a graphic representation, usually as a bar chart, of the level of serviceability for each topic of serviceability. **E 1679**

facility serviceability profile, *n* (profil de fonctionnalité d'installations)—graphic display, usually as a bar chart, of the set of **rating scores** for aspects of the serviceability of a facility.

DISCUSSION—Used to summarize the functional capability of a facility for selected aspects of serviceability. **E 1480**

facing—the outermost layer or composite component of a sandwich construction, generally thin and of high density, that resists most of the edgewise loads and flatwise bending moments (Syn. *face; skin*). **E 1749 C 274**

fairing—a shape that produces a smooth transition from one direction to another. Also referred to as a *feathering*. **E 1749**

fan airflow rate, Q_{fan}, *n*—the volume of airflow through the blower door per unit of time (m^3/s, ft^3/min). **E 1827**

fastener, *n*—integral tooth of connector plate and/or separate nail used to fasten connector plate to wood member. **E 1807**

fasteners:

self-sealing fastener—a fastener that provides a tight seal without the need for sealant material nor the use of a mechanical seal (for example, an interference fit fastener). **E 1749**

wet-installed fastener—a fastener that is coated on the shank and under the head with a curing-type sealant to provide a corrosion barrier and a secondary seal. **E 1749**

feature, *n—of a facility*, a physical element of a building, building component, building subsystem, unit of furnishing or equipment, or of a location, or of an aspect of design, arrangement, form or color, which helps or hinders the satisfaction of a requirement for serviceability. **E 1334**

DISCUSSION—A feature may be a physical feature or design feature, or both. For example, a particular sound absorbency in a ceiling may be adequate in a carpeted space but may be inadequate in a space with a hard floor covering.

faying surface—the surface that makes contact with another surface.

DISCUSSION—In bonding or sealing applications, faying surfaces have adhesive or sealant applied between. **E 1749**

faying surface seal—a seal installed between two overlapping surfaces. **E 1749**

feasibility study, *n* (étude de faisabilité)—study of a planned scheme or development, the practicality of its achievement, and its projected financial outcome.

feathering—See **fairing.** **E 1749**

Federal Register (FR)—document published daily by the Federal Government that contains such entries as proposed or final regulations. See **CFR** and **Code of Federal Regulation.** **E 1605**

feature, *n* (élément caractéristique)—of a facility, a building element, building component, building subsystem, unit of furnishing or equipment, or aspects of design, arrangement, form of color, which helps or hinders the satisfaction of a requirement for serviceability. **E 1334**

DISCUSSION—A feature may be a physical feature or design feature, or both. It may only have effect on meeting a requirement when some other feature is also present; for example, a wall with a specified sound transmission coefficient may only have effect on meeting a requirement when sound above a specified level is produced in an adjacent space.

combination of features, n (éléments caractéristiques combiné)—*of a facility,* features which, when present together in a facility, affect satisfying a requirement for serviceability. **E 1334**

fiber content—the amount of fiber present in a composite, usually expressed as volume percent of the composite. **E 1749**

fiber orientation—the direction or alignment of the longitudinal axis of the fiber with respect to a stated reference axis. **E 1749**

field blank—blank sample prepared at the field sampling location. **E 1605**

field blank—a wipe that is exposed to the same handling as field samples except that no sample is collected (no surface is actually wiped). Analysis results from field blanks provide information on the analyte background level in the wipe combined with the potential contamination experienced by samples collected within the batch resulting from handling. **E 1728**

field blank—a sample that is handled in exactly the same way that field samples are handled, except that no air is drawn through it. **E 1553**

field check—*(1)* a survey of existing conditions at a construction site (also called *field observation*). *(2)* verification of an existing structure and its dimensions compared with those shown on drawings (also called *field measure*).

field joint—See **joints.**

field measure—See **field check.**

fieldstone, *n*—natural building stone as found in the field.

filament—a variety of fibers characterized by extreme length. Also known as *fibers* and used interchangeably.

DISCUSSION—Filaments are used in filamentary composites and are also used in filament winding processes, which require long continuous strands. There are normally no filament ends within such composites except at geometric discontinuities. **E 1749**

filamentary composites—See **composite, filamentary.** **E 1749**

fillet seal—a seal applied at the juncture of two adjoining parts or surfaces and along the edges of faying surfaces as a continuous bead of sealing material. **E 1749**

film weight—*in the classification of film adhesives,* weight per unit area of film adhesive usually expressed in pounds per square foot, kilograms per square metre, etc. **E 1749**

filter holder—a plastic holder that supports the filter medium upon which airborne particulate matter is collected. **E 1553**

final inspection—inspection by a qualified inspector, industrial hygienist, or local public health official to determine whether abatement and cleanup meet applicable standards. **E 1605**

financial management rate-of-return (FMRR)—See **adjusted internal rate-of-retun (AIRR).** **E 833**

finial, *n*—an ornamental piece on the top of a post, newel, or railing; frequently in the form of an urn or pineapple, and so named. **E 631**

finial—See **railing systems.**

finish, *n*—*(1)* the final treatment or **coating** of a surface, *(2)* the fine or decorative work required to make a **building** or its parts complete.

finished grade—See **grade.**

finished metal connector plate—galvanized or chemically surfaced steel connector plate, with or without prepunched holes. **E 1807**

fire resistance—as applied to buildings, the property of a material or assembly to withstand fire or to give protection from it, characterized by the ability to confine a fire or to continue to perform a structural function, or both.

first cost—costs incurred in placing a building or building subsystem into service, including, but not limited to, costs of planning, design, engineering, site acquisition and preparation, construction, purchase, installation, property taxes and interest during the construction period, and construction related fees (Syn. *initial investment cost, initial cost*). **E 833**

first floor—See **floor.**

first story—See **building space.**

fit-up, *n* (aménagement)—alterations and improvements to the **base building** and to the **building systems** including demolition, where required, to prepare the accommodation for occupancy. **E 1480**

fixed—See **windows and doors.**

flaking (scaling), *n*—phenomenon manifested in paint films by the actual detachment of pieces of the film itself either from its substrate or from paint previously applied.

DISCUSSION—Flaking (scaling) is generally preceded by cracking or checking or blistering, and is the result of loss of adhesion, usually due to stress-strain factors coming into play. **E 1605**

flame resistance—the property of a material whereby flaming combustion is prevented, terminated, or inhibited following application of a flaming or non-flaming source of ignition, with or without subsequent removal of the ignition source. **E 1749 D 123**

DISCUSSION—Flame resistance can be an inherent property of the basic material or product, or it may be imparted by specific treatment. The degree of flame resistance exhibited by a specific material during testing may vary with different test conditions.

flange, *n*—a flat plate or formed piece at the end of a railing or rail element for attachment to the adjoining construction or supporting member. **E 1481**

flange plate—See **railing systems.**

flash—excess material that forms at the parting line of a mold or die, or the overflow of excess adhesive outside the area of attachment in a bonded assembly. **E 1749**

flat, *n*—a rectangular metal bar of width greater than thickness.

floating roller peel test—See **test, floating roller peel.** **E 1749**

floor, *n—in a building,* a supporting structure (generally horizontal) and constituting the bottom level of each **story.**

first floor—in a building, (1) (in the United States) the floor of a **building** that is at, or closest to, **finished grade** (also used

as a synonym for **ground floor**). *(2)* (except in the United States) the **floor** of a **building** that is next above the **floor** at, or closest to, **finished grade.**

flooring, n—a material used to construct the uppermost layer of a **floor.**

sub-floor, n—a part of a **floor** over which one or more components may be added to complete the **floor.**

sub-flooring, n—the material used in constructing a **sub-floor.**

underlayment, n—in flooring, a layer of material usually placed upon the **sub-floor** that provides a smooth, even base for **flooring.**

floor area:

gross floor area—the entire area within the inside perimeter of the exterior **walls.**

DISCUSSION—Only courts and shafts not under roof are excluded.

net floor area—that part of the **gross floor area** located within **occupiable space.**

DISCUSSION—Accessory areas and thicknesses of walls are excluded.

foam core—a lightweight cellular structure (rigid foam) material used in sandwich panel construction; innermost portion of a multilayer adherend assembly. **E 1749**

foamed adhesive—See **adhesive, foamed.** **E 1749**

force account—term describing PHA self-performance of modernization work by the use of employees, as distinct from performance by a contractor. **E 1605**

forest products laboratory etch—See **FPL etch and sulfochromate etch.** **E 1749**

FPL etch—an abbreviation for *forest products laboratory etch;* an etchant used for preparing the surface of aluminum alloys for adhesive bonding. (Syn. **sulfochromate etch.**) **E 1749**

frame—See **windows and doors.**

frost point—the temperature at which visible frost begins to deposit on the lower air space glass surface of a sealed insulating glass unit in contact with the measuring surface of the frost point apparatus. **E 546**

frost state—the case where the frost point of a sealed insulating glass unit is above the test temperature specified by the purchaser or user. **E 546**

function, *n* (fonction)—the action for which a person or thing is specially fitted or used or for which a thing exists. **E 1334; Webster's New Collegiate Dictionary (1980)**

function—a purpose of the entire project or some portion thereof determined by the needs or desires of the user/owner and expressed in two words, an active verb and a measurable noun. **E 833**

function analysis—an examination of the project consisting of *(1)* the determination of the project functions; *(2)* the examination and sorting of these functions into categories; *(3)* the selection of the critical functions and arrangement into a logical order; and *(4)* the determination of the project cost allocated to performing each critical function. **E 833**

function, basic—a function that is necessary to achieve the primary purpose of a building system or element. **E 833**

functional, *adj* (fonctionnel)—performing or able to perform a regular function; designed or developed chiefly from the point of view of use. **E 1334; Webster's New Collegiate Dictionary (1980) E 1480**

functional program—See **facility program.** **E 1480**

functional requirement, n—See **serviceability requirement.** **E 1480**

function performance, n—See **facility serviceability.** **E 1480**

functionality, *adj—of a building,* being suitable for a particular use or function. (E 1480) **E 1334**

fungus resistance—the ability of a sandwich construction to withstand fungi growth or their metabolic products, or both, under normal conditions of service or laboratory test simulating such conditions. **E 1749**

future value—the value of a benefit or a cost at some point in the future, considering the time value of money (Syn. *future worth*). **E 833**

future worth—See **future value.**

fuzz balls—broken or abraded filaments which have collected as loose bundles or balls during the manufacture of impregnated material, occasionally incorporated into the impregnated material. **E 1749**

gage (also *gauge*)**,** *n—(1) in metal products,* a number designating a specific thickness of metal sheet, or diameter of wire, cable, or fastener shank tabulated in a standardized series, each of which represents a decimal fraction of an inch (or millimetre). *(2)* distance in inches (or millimetres) between adjacent lines of holes or fasteners.

gage pressure—pressure measured from atmospheric pressure as the base.

DISCUSSION—It may be indicated by a manometer with one leg connected to the pressure source and the other exposed to atmospheric pressure.

gage pressure—the difference in pressure existing within a system and that of the atmosphere. Zero gage pressure is equal to atmospheric pressure. **E 1749 D 1356**

galvanic corrosion—accelerated corrosion of a metal because of an electrical contact with a more noble metal or nonmetallic conductor in a corrosive electrolyte. **E 1749 G 15**

galvanic corrosion—the corrosion of metallic objects in the presence of moisture, caused by electrolytic action. **E 1925**

glare—See **lighting.**

glass specimen—the glass to be tested, for example, a single pane, an insulating glass unit, laminated glass, etc. (does not include test frame). **E 997**

glass specimen failure—the fracture or cracking of any glass component of a glass specimen. **E 997**

glaze—See **windows and doors.**

glazing—See **windows and doors.**

glazing bead—See **windows and doors.**

glazing material—See **windows and doors.**

glazing, *n*—material instilled in a window sash, ventilator, or panel such as glass, plastic. **E 1605 (E 631)**

gouge—a surface defect in which material has been removed (scooped out by a sharp instrument) that causes a decrease in strength in a highly stressed area. **E 1749 E 874**

grab bar—See **railing systems.**

grab rail—See **railing systems.**

grab rail—a short length of rail located for safety or convenience to assist a person in movement at a specific location. (Syn. *grab bar.*) **E 1481**

grade, *n*—a level or elevation of a land or water surface.

average grade—the arithmetic mean of the elevations of various ground surfaces within a stated area of **building construction.**

finished grade—the surface elevation of lawns, walks, drives, or other improved surfaces after completion of construction or grading operations.

natural grade—the elevation of the original or undisturbed surface of the ground.

sub-grade—the ground elevation established to receive an additional surfacing.

ground floor—See **floor**. (Synonym for **first floor, first story.**)

guardrail—See **railing systems.**

gross cross-sectional connector plate area—cross-sectional area of metal connector plate determined by multiplying gross thickness of plate by gross dimension of plate perpendicular to direction of load application. **E 1807**

gross floor area—See **floor area.**

guardrail system—a railing system, providing protection for building users against accidental fall and injury, located at or near the outer edge of a stair, ramp, landing, platform, deck, balcony, hatchway, manhole, floor opening, porch, or accessible roof; at the perimeter of an opening or accessible surface, such as the opening of a stair; or at a location at which an operating condition requires access limitation to a designated area. (Compare **railing system.**) **E 1481**

guide for rating, *n* (guide d'évaluation)—a document which explains how to rate the serviceability of an existing or planned facility for a specific purpose. A guide identifies typical requirements and provides a rating scale for comparison with the relevant combinations of features present in the facility. **E 1334 E 1480**

guideline, *n*—a written statement or outline of policy, practice, or conduct.

DISCUSSION—Guidelines may propose options to enable a user to satisfy provisions of a **code,** standard, **regulation,** or **recommendation.**

gusset, *n*—a plate used to connect two or more members or to reinforce a joint.

habitable space—See **building space.**

half bath—See **building space.**

handgrip, *n*—the part of a handrail designed to provide a secure grasp. **E 631**

handrail—See **railing systems.**

handrail, *n*—a horizontal, sloping, or vertical member normally grasped by hand for guidance or support.

DISCUSSION—This member may be part of a railing system and is often, but not necessarily, a top member (top rail), or may be mounted on a wall or other building element. When part of a stair-rail system, it is a member paralleling pitch of stair flight and is often, but not necessarily, a top member. (Compare **wall handrail.**) **E 1481**

handrail bracket—See **railing systems.**

handrail bracket—a device attached to a wall, post, or other surface to support the handrail. **E 631**

handrail height—See **railing systems.**

handrail height—the vertical distance from the top surface of the top rail to the surface of the finished floor, top of a ramp, or the nosing line of stair treads. **E 631**

hard-coat system—type of finish system designed to withstand increased impact loads by increasing the strength of the base coat. Also called high-impact system.

DISCUSSION—in EIF systems, the term generally is associated with PM systems.

hard edge—an edge reinforcement used to either maintain edge integrity under load or at attachment points. **E 1749**

hard points—reinforced points within a sandwich construction to distribute stresses, resist concentrated compression loads, and maintain integrity of an attachment. **E 1749**

hazardous waste—liquid or solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics is capable of: *(a)* causing, or significantly contributing to an increase in mortality or to an increase in serious irreversible, or incapacitating reversible, illness; or *(b)* posing a substantial present or potential hazard to human health or to the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. **E 1605**

hazardous-waste discharge—accidental or intentional spilling, hazardous-waste leaking, pumping, pouring, emitting, discharge emptying, or dumping of hazardous wastes onto any land or water. **E 1605**

hazardous-waste facility—all contiguous land, structures, or other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. **E 1605**

hazardous-waste landfill—disposal facility or part of a facility where hazardous waste is placed in or on land and that is not a land surface treatment facility, a surface impoundment, or an injection well. **E 1605**

hazardous-waste manifest—shipping document (EPA Form 8700-22) used for identifying the quantity, composition, origin, routing, and destination of hazardous waste during its transportation from the point of generation to the point of treatment, storage, or disposal.

hazardous-waste small quantity generator—generator who produces less than 100 kg of hazardous waste per month (or accumulates less than 100 kg at any one time) or one who produces less than 1 kg of acutely hazardous waste per month (or accumulates less than 1 kg of acutely hazardous waste at any one time.) **E 1605**

hazardous-waste storage—holding on-site of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere. **E 1605**

hazardous-waste treatment—any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize it, or render it nonhazardous or less hazardous, or to recover it, make it safer to transport, store, or dispose of, or amenable for recovery, storage, or volume reduction. **E 1605**

head—See **windows and doors.**

heat gun—blower-equipped apparatus that emits heat with sufficient intensity to soften dried paint to permit scraping from the surface. **E 1605**

heat sealing adhesive tape—a strip of material (usually fabric,

metal foil, paper, or plastic film) coated with an adhesive activated with the application of heat. **E 1749**

height, *n—of a building,* the vertical distance measured from the **finished grade** to average level of the roof above the level of the highest **wall.**

HEPA filter—see **high-efficiency particulate air filter. E 1605**

high-efficiency particulate air (HEPA) filter—filter capable of separating out particles of 0.3 µm or greater from a body of air at 99.97 % efficiency or greater. See also **ULPA filter. E 1605**

high-phosphate detergent—detergent that contains the phosphate equivalent of at least 5 % tri-sodium phosphate (TSP). **E 1605**

historic fabric—See **fabric. E 1480**

HOBE—an abbreviation for *honeycomb before expansion*; honeycomb made by layering sheets, usually of thin aluminum or paper, containing adhesive at the cell nodes.

DISCUSSION—HOBEs are stacked layer upon layer to form a block that is subsequently expanded to the desired cell configuration by pulling the outer layer perpendicular to the ribbon direction. **E 1749**

home, *n*—a place of residence. (See also **dwelling.**)

homogeneous surface—surface that exhibits essentially the same appearance and properties at every point throughout the area examined. **E 1605**

honeycomb before expansion—See **HOBE. E 1749**

honeycomb core—a sheet material, formed into cell structure (usually hexagonal) similar to honeycomb and used as core material in the construction of sandwich panel assemblies.

DISCUSSION—Honeycomb core materials exhibit anisotropic behavior; therefore the following notation is used:

L = ribbon direction or longitudinal direction of core,
W = expanded direction or transverse direction of core, and
T = core thickness or depth.

E 1749

honeycomb sandwich panel—sandwich constructions consisting of honeycomb core adhesively clad with face sheets. **E 1749**

horizontal sliding window—See **windows and doors.**

hot pressing—the curing of thermosets by heat and pressure application. **E 1749**

hours of operation, *n*—(heures d'exploitation):

active hours, n (heures d'activité)—times when a facility is normally fully occupied and operational.

silent hours, n (heures d'inactivité)—period when a facility is essentially unoccupied and only security and building operations staff are present.

transitional hours, *n* (heures de transition)—times in the morning after the first workers normally arrive, until a facility is fully operational, and in the evening from the end of normal work until the occupants have left. **E 1480**

house, *n* (maison)—**building** intended in its entirety as a **dwelling. E 1480 E 631**

house—See **building.**

HUD—U.S. Department of Housing and Urban Development. **E 1605**

hung window—See **windows and doors.**

hygroscopic—attracting, absorbing, and retaining atmospheric moisture. **E 1749 D 1079**

identification limit, *n*—for a qualitative chemical spot test kit, this is the lead content that yields a 50 % chance of either a positive or negative test result for a given sample matrix **(1). E 1828**

importance factor, *n* (coefficient d'importance)—*of a facility requirement*, a numerical indication of the relative importance of a requirement for servicability, expressed on a scale of 0 to 9, with 0 being not related, 1 being relevant but least important, and 9 being most important.

DISCUSSION—The scale of 0 to 9 has been selected for rating relative importance of requirements and for rating each combination of features. This does not imply that a scale of 0 to 9 should necessarily be used for purposes other than preparing a rating of serviceability of facilities. For example, this would not necessarily apply to questionnaires used in general survey research about the built environment. **E 1480**

improve—See **building modification.**

incinerator—enclosed device using controlled-flame combustion in which waste materials are pyrolyzed or burned. **E 1605**

incremental cost (benefit)—the additional cost (benefit) resulting from an increase in the investment in a building project (Syn. *marginal cost (benefit)*). **E 833**

industrial hygienist—person certified by the American Board of Industrial Hygiene, or an industrial hygienist in training, or a person with equivalent education or experience or both. **E 1605**

industrialized building—See **building.**

industrialized building system—See **building system.**

infill, *n*—a series of pickets of a picket railing system and the structural as well as the decorative elements, including the panels, mesh, or similar elements, of a panel railing system; located between top and bottom rails and posts; to serve the twofold purpose of *(a)* protecting bodies from penetrating and falling through the picket and panel infill areas and *(b)* providing a specified resistance to horizontal thrusts as are potentially encountered within the infill area.

DISCUSSION—Infills should be designed in such a way as to deter climbing of the railing system. **E 1481**

infill area—the field of picket and panel railing systems, bordered by top and bottom rails and posts. **E 1481**

inflation—a rise in the general price level, usually expressed as a percentage rate. **E 833**

initial calibration blank (ICB)—a standard solution that contains no analyte and is used for the initial calibration and zeroing instrument response. **E 1613**

DISCUSSION—The ICB must be matrix matched to the acid content present in sample digestates. The ICB must be measured during and after calibration. The measured value is to be less than five times the instrumental detection limit.

initial calibration verification (ICV)—a standard solution (or set of solutions) used to verify calibration standard levels;

the concentration of analyte is to be near mid-range of the linear curve that is made from a stock solution having a different manufacturer or manufacturer lot identification than the calibration standards. **E 1613**

DISCUSSION—The ICV must be matrix matched to the acid content present in sample digestates. The ICV must be measured after calibration and before measuring any sample digestates. The measured value is to fall within ±10 % of the known value.

initial cost—See **first cost.** **E 833**

initial investment cost—See **first cost.** **E 833**

initial survey—systematic inspection of a dwelling unit by a qualified inspector, using a portable XRF analyzer, atomic absorption spectroscopy, or other approved testing techniques, to determine whether a lead-based paint hazard is present. **E 1605**

injection seal—a seal accomplished by injecting sealant into holes, joggles, channels, grooves, and other voids caused by buildup of structure boundaries. **E 1749**

DISCUSSION—This seal is used to provide continuity where fillet seals are interrupted by the structure and also to fill cavities completely.

instrumental detection limit (IDL)—an instrumental measurement value that is used to provide a lower concentration limit for reporting quantitative analysis data for a given instrument. **E 1613**

DISCUSSION—Any sample that generates a lead measurement below the IDL is reported as a less-than value using the IDL value multiplied by the appropriate dilution factors caused by preparing the sample for instrumental analysis. Typical IDLs for FAAS, ICP-AES, and GFAAS are 0.05, 0.03, and 0.002 µg/mL, respectively. However, the IDL for a given instrument must be established prior to reporting analysis data. There are a number of acceptable methods for determining the IDL for a given instrument. One method is to perform repetitive measurements of a single concentration of low-level lead standard (typically between two and five times the estimated IDL) scattered throughout an analysis run. A minimum of five repetitions is generally required to calculate the IDL. Using this method, the IDL is calculated as three times the standard deviation of the lead values (µg/mL) measured for the replicate analyses.

instrumental QC standards—these provide information on measurement performance during the instrumental analysis portion of the overall lead measurement process. They include CCBs, CCVs, ICBs, ICVs, and ICSs. **E 1613**

inspector—person appointed by an authority to examine and evaluate designated domains for conformance to established rules and regulations. **E 1605**

integral tooth of metal connector plate—plate projection punched from metal connector plate at right angle to its surface which remains attached to plate and serves as a fastening element. **E 1807**

integrally mold—to join and cure two or more uncured (B-staged) composite details to create an assembly during a single autoclave cure cycle. **E 1749**

interference check standard (ICS)—a standard solution (or set of solutions) used for ICP-AES to verify an accurate analyte response in the presence of possible spectral interferences from other analytes present in samples; the concentration of analyte is to be less than 25 % of the highest calibration standard, and concentrations of the interferant will be 200 µg/mL of aluminum, calcium, iron, and magnesium.

DISCUSSION—The ICS must be matrix matched to the acid content present in sample digestates. The ICS must be analyzed at least twice, once before and once after all sample digestates. The measured analyte value is expected to be within ±20 % of the known value. **E 1613**

interference seal—a seal produced between a fastener and its hole when a fastener of a given diameter is driven into a hole of a smaller diameter. An interference seal is also produced when a fastener shank is expanded by the installation process. **E 1749**

interlaminar—descriptive term pertaining to some object (voids), event (fracture), or potential field (shear stress) referenced as existing or occurring between two or more adjacent laminae. **E 1749**

interlock—See **windows and doors.**

interior pipe size (IPS)—See **iron pipe size.**

interior work-area—hallway, room, part of a room, or group of rooms in which a lead-hazard abatement activity takes place on the inside of a building. **E 1605**

intermediate rail—one of two or more rails between the top rail and floor. **E 1481**

internal rate of return (IRR)—the compound rate of interest that, when used to discount study period costs and benefits of a project, will make the two equal. **E 833**

investment cost—first cost and later expenditures which have substantial and enduring value (generally more than one year) for upgrading, expanding, or changing the functional use of a building or building subsystem. **E 833**

iron pipe size, IPS, *n*—the nominal inside dimension of **pipe** in inches (or millimetres). (Also called *interior pipe size, standard pipe size*.)

isotropic—having uniform properties in all directions. The measured properties of an isotropic material are independent of the axis of testing. **E 1749**

jamb—See **windows and doors.**

joggle—a displacement machined or formed in a structural member to accommodate the base of an adjacent member.

DISCUSSION—Although joggles are sealed by prepacking during preassembly whenever possible, in some cases they must be sealed by injection during post-assembly operations. **E 1749**

joint, *n*—general term. See particular joint of interest. Compare **connection.**

butt joint—a joint having the edge or end of one member matching the edge, end, or face of another member without overlap.

DISCUSSION—An edge-to-face butt joint may also be called a tee joint or an ell joint.

cold joint, n—boundary between later-applied and previously-applied coatings, plaster, mortar, or concrete.

DISCUSSION—At the boundary there can be less than the desired union of materials.

construction joint—in the construction of members intended to be continuous, a predetermined, intentionally created discontinuity between or within constructions and having the ends of the discontinuous members fastened to each other to

provide structural continuity.

control joint—in concrete, concrete masonry, stucco, or coating systems; a formed, sawed, or assembled joint acting to regulate the location of cracking, separation, and distress resulting from dimensional or positional change.

expansion joint—a discontinuity between two constructed elements, or **components**, allowing for differential movement (such as expansion) between them without damage.

field joint—a connection between adjoining members or parts, made at the time of installation. Compare **construction joint.**

slip joint—a joint allowing axial sliding movement of joined parts.

kick plate—Synonym for **toe board.** **E 1481 E 631**

kickplate—See **railing systems.**

kitchen—See **building space.**

knowledgeable person, *n*—an individual who has technical knowledge concerning the building or facility, for example, about occupant requirements, building design, mechanical systems, operation, and maintenance. **E 1679**

DISCUSSION—In larger facilities, the senior person who is at a facility full time to manage its operation is unlikely to be an appropriate person to facilitate the setting of required levels of serviceability by the occupant because of that role, but he may be well qualified and appropriate to participate as a knowledgeable person in the process of rating that facility.

K-radiation, *n*—characteristic X-rays produced by an atom or ion when a vacancy in the K-shell is filled by one of the outer electrons. **E 1605 (E 135)**

lamb's tongue—See **railing systems.**

lateral scroll—See **railing systems.**

lamb's tongue—an ornamental curved or tapered fitting terminating a handrail, usually tapered to the tip. **E 1481**

laminate—a product made by bonding together two or more layers of material or materials. **E 1749 D 883**

laminate, symmetrical—a composite laminate in which the ply orientation is symmetrical about the laminate midplane. **E 1749**

landfill—see **hazardous waste landfill.** **E 1605**

landfill liner—continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate. **E 1605**

lateral resistance of metal connector plate—resistance to slip or pulling, or both, from wood, in direction of applied external shear force, of integral teeth or separate nails, or both, fastening connector plate to wood members. Also called *tooth holding resistance*, *grip resistance*, and *peel resistance* to cover specific events; yet, preferably called *lateral resistance*. See **shear strength of metal connector plate.** **E 1807**

lateral scroll—a fitting that curves in a horizontal plane, used to terminate a handrail; often ending as a round plate covering the top of a post. **E 1481 E 631**

lay-up—a process of fabrication involving the placement of successive layers of materials. **E 1749**

LBP—lead-based paint. **E 1605**

lead abatement contractor—any business entity, public unit, or person performing the actual abatement for a lead abatement project. **E 1605**

lead-based paint removal—action or process of abatement, that entails stripping lead-based pain from surfaces of components. **E 1605**

lead-containing paint—lead-based paint or other similar surface-coating materials containing lead or a lead compound, and in which the lead content is in excess of 0.06 % by weight of the total nonvolatile content of the paint, or the weight in the dried paint film. **E 1605**

lead exposure—subjection to the presence of a lead hazard that could result in ingestion or inhalation of lead-containing substances.

DISCUSSION—Typical exposure sources are LBP chips, dust, and contaminated soil; and occupational atmospheres as during LBP removal operations. **E 1605**

lead paint hazard—presence of lead-based paint in places and site conditions posing a danger of ingestion or inhalation. **E 1605**

lead poisoning—toxic condition caused by excessive exposure to lead.

DISCUSSION—In early stages most people are asymptomatic. However, some indicators of lead poisoning, particularly in children, are loss of interest in play, excessive sleeping, loss of recently-acquired skills, lack of energy, and headaches. **E 1605**

lead positive/negative—qualitative (not quantitative) judgment of lead content that determines abatement action measures.

DISCUSSION—The HUD guidelines consider >1.0 mg/cm^2 by XRF, or >0.5 % by weight, (quantitative measures) as abatement action levels. **E 1605**

leaded dust—dust containing lead or lead compounds at potentially hazardous concentrations.

DISCUSSION—The Federal legislative term (Section 302(c) of the Lead-Based Paint Poisoning Prevention Act) for a quantitative health-based dangerous level of lead in dust is lead-contaminated dust. **E 1605**

leaded paint—paint or other coatings containing lead compounds at potentially hazardous concentrations.

DISCUSSION—Leaded paints having lead concentrations exceeding the Consumer Product Safety Commission's limit are called lead-containing paints, and those having concentrations exceeding the limits established under Section 302(c) of the Lead-Based Paint Poisoning Prevention Act are called lead-based paints. See **lead-containing paint** and **lead-based paint.** **E 1605**

leak exit—the point where a leak appears. **E 1749**

leak path—the path a leak follows from the leak source to the leak exit. **E 1749**

leak source—the point where a leak starts. **E 1749**

lease (bail)—contract between the owner of real property (lessor) and another party (lessee) for the possession and use of the property for a specified term in return for rent or other income. **E 1480**

length of metal connector plate—dimension of metal connector plate parallel to longitudinal axis of coiled metal strip from which plate was sheared during its fabrication, not necessarily along the long plate dimension. **E 489**

level, *n—of serviceability,* a number indicating the relative serviceability of a building for one topic on a predetermined range, for example, a range from 1 to 9. **E 1679**

life-cycle cost (LCC) method—a technique of economic evaluation that sums over a given study period the costs of initial investment (less resale value), replacements, operations (including energy use), and maintenance and repair of an investment decision (expressed in present or annual value terms). **E 833**

light—See **windows and doors.**

light (glazing), n—use **lite.** **E 1605**

lite, *n*—one piece of glazing (preferred term); (also spelled light) (*synonym*—pane).

lighting (éclairage):

ambient light (lumière ambiante)—surrounding light, such as that reaching an object in a room from all light sources in the room.

glare (éblouissement)—effect of brightness or brightness differences within the visual field sufficiently high to cause annoyance, discomfort, or loss of visual performance.

task lighting (éclairage (de travail) localisé)—localized lighting system consisting of a functional arrangement of luminaires to accommodate the specific visual task or work area needs. **E 1480**

lite—See **windows and doors.**

load—See **static load.**

lot—a batch or fraction thereof, in which each unit is identical in chemical composition, physical properties, and dimensions. **E 1749**

logbook, *n*—notebook that accompanies each XRF analyzer instrument, for recording such information as daily performance, maintenance problems, and average reading time. **E 1605**

loose paint—see **deteriorating paint.** **E 1605**

low-sloped surfaces—surfaces with a slope smaller than 9.5°. The roofing industry has widely accepted a slope of 2:12 or less as a definition of low-sloped roofs. This corresponds to a slop of approximately 9.5° (16.7 %). **E 1918**

L-radiation, *n*—characteristic X-rays produced by an atom or ion when a vacancy in the L-shell is filled by one of the outer electrons. **E 1605 (E 135)**

lumber, *n*—a sawn piece of wood smaller than 100 mm (4 in.) in its least dimension. **E 1807**

MA—Commonwealth of Massachusetts. **E 1605**

maintain—See **building modification.**

maintainability (entretenabilité)—capability of a system or facility to be maintained to a specified level of **reliability**, at a specified measure of cost or economy. **E 1480**

maintenance and repair cost—the total of labor, material, and other related costs incurred in conducting corrective and preventative maintenance and repair on a building, or on its systems and components, or on both. **E 833**

mandrel—a form, fixture, or male mold used in the production of a part by lay-up or filament winding. **E 1749**

manifest—see **hazardous-waste manifest.** **E 1605**

manufactured building—See **building.**

manufactured home—See **building.**

marginal cost (benefit)—See **incremental cost (benefit).** **E 833**

markoff—an indentation or imprinting of the skin surface due to any cause (such as foreign matter between mating parts, improper tooling, mismatch of detail parts, etc.). **E 1749**

masonry, *n*—construction, usually set in mortar, of natural building stone or manufactured units such as brick, concrete block, adobe, glass block, tile, manufactured stone, or gypsum block.

MasterFormat—a standard sequence of numbers and titles for organizing information about construction requirements, products, and activities (source 1995 edition of MasterFormat, published by CSI). **E 833**

mat—a random arrangement of fine fibers uniformly distributed to form a thin, highly porous, felt-like material. **E 1749**

mathematical/analytical (M/A) technique—a technique of obtaining probability functions for economic measures of project worth without the repeated trials of simulation. **E 833**

matrix—the essentially homogenous phase in a composite material in which reinforcements such as fibers, filaments, particles, etc., are embedded. **E 1749**

maximum principal tensile stress (MPTS)—a maximum calculated tensile stress based on strain gage measurements. **E 998**

MD—State of Maryland. **E 1605**

mean value—arithmetic average of data values; calculated as the algebraic sum of the data values divided by the number of data values.

DISCUSSION—When using an XRF, the mean value is the average of a series of numerical readings reported by the XRF. **E 1605**

mean-variance criterion—a technique for evaluating the relative risk and return when choosing among competing projects that dictates that the project value with the higher mean (that is, expected value of project worth) and lower standard deviation be chosen. **E 833**

mechanical connection—a joining of two or more elements by means of mechanical fasteners, such as screws, bolts, or rivets but not by welding or adhesive bonding.

measurement, *n*—act of quantifying a property or dimension. **E 1605 (D 123)**

meeting rail—See **windows and doors**.

medical removal (of workers)—temporary removal of workers from a job site due to elevated blood-lead levels as defined in HUD interim guidelines. Compare **administrative removal.** **E 1605**

MEPS—See **rigid cellular polystyrene thermal insulation board.**

mesh-lapping—process of overlapping one piece of mesh onto another that has been applied to a surface previously.

metal connector plate with integral teeth—metal connector plate with integral multiple projections (teeth) partially sheared from solid sheet during its fabrication and projecting

from the plate in a single direction or in both directions perpendicular to the plate surface area. See **metal connector plate.** **E 1807**

metal connector plate—finished (coated or galvanized) steel or bare stainless-steel plate of specified thickness with or without integral multiple plate projections (teeth) or nail holes, or a combination of both, with projections partially sheared from solid sheet during its fabrication and projecting from the plate in a single direction or both directions perpendicular to the plate surface area; plate of specified thickness to which appropriate tolerances apply. Metal connector plates are manufactured from coiled strips of structural quality sheet metal, produced in various lengths and widths, and designed to connect wood members so as to transmit forces from one wood member (or section) to another one or more wood members (or section). Other common terms include *plate, metal plate, metal-plate connector, nail plate, truss plate,* but the preferable term is **metal connector plate.** **E 1807**

method blank—a digestate that reflects the maximum treatment given any one sample within a sample batch except that only the sampling medium (such as a blank wipe) is initially placed into the digestion vessel. (The same reagents and processing conditions that are applied to field samples within a batch are also applied to the method blanks.) Analysis results from method blanks provide information on the level of potential contamination resulting from the laboratory and sampling medium sources that are experienced by samples processed within the batch. **E 1644**

method blank—a sample, devoid of analyte, that is analyzed to determine its contribution to the total blank (background) reading. **E 1645**

microgram, µg, *n*—one millionth of a gram.

DISCUSSION—453.59 g in a pound; 28 349 525 µg in 1 oz. **E 1605 (E 380)**

mid rail, *n*—a rail located between top rail and bottom rail or between top rail and floor if there is no bottom rail. **E 1487**

mid rail—See **railing systems.**

mill certification—producing mill certificate or proof of conformance with specified minimum allowable stresses for heat identification number of metal coil(s) from which metal connector plates were fabricated. **E 1807**

minimum acceptable rate of return—the minimum percentage return required for an investment to be economically acceptable. **E 833**

miter ending—See **railing systems.**

miter ending—an angular or dovetailed member end, designed to fit an adjacent matching member, thereby providing continuity of profile at the connection. **E 1487**

mobile home—Obsolete term. Use **manufactured home.** (See **building.**)

mockup, *n*—a section or a structure or assembly, built full-size or to scale, for the purpose of studying construction details, testing performance, judging appearance, or any combination thereof.

modernize—See **building modification.**

model code—See **code.**

modified internal rate of return (MIRR)—See **adjusted internal rate of return (AIRR).** **E 833**

modular dwelling—See **dwelling unit.**

module, *n*—a unit of structure based on a standard pattern of standard dimensions. (See also **modular dwelling.**)

core module—a **module** containing electrical, plumbing, heating, and related **subsystems.**

mold form—the cavity or shape that uncured composite laminae are placed into or onto and from which they derive their form. **E 1749**

mull—See **windows and doors.**

mullion—See **windows and doors.**

muntin—See **windows and doors.**

nail, *n*—straight, slender fastener, usually pointed and headed; designed to be driven through connector plate or plates with or without nail holes; serving as separate supplementary or primary fastener. **E 1807 F 547**

nail hole—round perforation in metal connector plate through which a nail can be driven to fasten plate to wood members (or section) and to transmit shear loads; providing predetermined location for appropriately locating nails to be driven. See **plate hole.** **E 1807 E 489**

nail-on plate—solid or prepunched (or predrilled) metal connector plate of specified thickness (gage); manufactured to various sizes, that is, lengths and widths; designed to be fastened with nails (or staples) to wood members and to transmit forces from one wood member (or section) to another one or more wood members (or section). **E 1807**

natural grade—See **grade.**

natural state—condition of woodwork before priming and painting.

DISCUSSION—Natural state wood tests Pb negative. **E 1605**

negative load—a load that results in the indoor side of a glass specimen being the high-pressure side. **E 997**

negative test—the absence of the characteristics color change within a specified time limit, usually within a few minutes. **E 1753**

net assignable area—See **space categories.** **E 1480**

net benefits (savings)—the difference between the benefits and the costs—where both are discounted to present or annual value dollars.

net floor area—See **floor area.** **E 1480**

net molded edge—an edge, not physically altered after molding, in final form ready for use. **E 1749**

net programmable area—See **space categories.** **E 1480**

newel—See **railing systems.**

newel, *n*—a decorative or structural post member at the start or end of a stair run, often extending above a handrail; usually square or rectangular in cross section, supporting the end of a stair railing or serving as the common support for two stair railings, often supporting a stair stringer and platform; also, the center post of a spiral stair. **E 1481**

node—the bonded portion of the honeycomb flat sheet material; the honeycomb cell's double wall. **E 1749**

no-frost state—the case where the frost point of a sealed insulating glass unit is below the temperature specified by

the purchaser or user. **E 546**

nominal airflow rate, Q_{nom}, *n*—the flow rate indicated by the blower door using the manufacturer's calibration coefficients (m^3/s, ft^3/min). **E 1827**

nominal discount rate—the rate of interest reflecting the time value of money stemming both from inflation and the real earning power of money over time.

DISCUSSION—This is the discount rate used in discount formulas or in selecting discount factors when future benefits and costs are expressed in current dollars. **E 833**

nominal pressure—the intended operating pressure. **E 1749**

nominal temperature—the intended operating temperature. **E 1749**

nondestructive test—See **test, nondestructive.** **E 1749**

nonbearing wall—See **wall.**

non-spiked sample—a sample, devoid of analyte, that is targeted for addition of analyte but is not fortified with all target analytes prior to sample preparation.

DISCUSSION—Analysis results for this sample are used to correct for background levels in the blank medium that is used for spiked and spiked duplicate samples. **E 1645**

non-spiked sample—a portion of a homogenized sample that is targeted for addition of analyte but that is not fortified (spiked) with all the lead before sample preparation. Analysis results for this sample are used to correct for background levels in soil that are used for the spiked and spiked duplicate samples. **E 1726**

non-spiked sample—a blank wipe sample that was targeted for addition of analyte but was not fortified with all the target analysis before sample preparation. **E 1644**

DISCUSSION—For wipe samples, a non-spiked sample is equivalent to a method blank. Analysis results for this sample are used to correct for background levels in the blank wipes used for spiked and spiked duplicate samples.

normalize—by calculation, to revert a given thickness (actual) of cured composite to a standard thickness (that is, a specific per ply thickness standard) to yield equivalent fiber stress (based upon the standard).

DISCUSSION—Normalization is applicable only to fiber dominated properties (for example, tension), not matrix dominated properties (for example, shear). **E 1749**

numerical value of a quantity—magnitude of a quantity expressed by the product of a number and the unit in which the quantity is measured. **E 621**

"O"—See **windows and doors.**

occupancy, *n* (occupation)—discouraged term, to be used only in connection with building codes, where the term refers to the number of occupants in a space, or other specific classification of use. **E 1480**

occupancy instrument (OI) (accord d'occupation (AO))—agreement between a prospective or current occupant and the manager or owner of a facility concerning occupancy in that facility. **E 1480**

occupant (occupant)—*(1)* Department, agency, corporation, or other organization, or a part thereof, that is or will be occupying space in a particular facility. *(2)* Individual or family living in a housing **dwelling.**

building occupant (occupant d'un immeuble)—one who has certain rights to, possession of, or control over the premises occupied, such as **tenant** or owner. **E 1480**

overall serviceability score—See **serviceability score.**

occupant, *n—of a facility,* a group, department, agency or corporation, or other organization, or a part thereof, or an individual or individuals thereof, that is or will be occupying space in a particular facility. **E 1334**

DISCUSSION—Persons who are authorized to be present only temporarily, or in special circumstances as those permitted to pass through during an emergency, are visitors.

occupiable space—See **building space.**

office—See **building space.**

office, n—a place, such as an open workspace, room, suite, or building, in which business, clerical, or professional activities are conducted. **E 1334**

ogee—See **railing systems.**

ogee, *n*—a molding with a profile having a double curve formed by a convex line turning into a concave line, resulting in an S-shape. **E 631 E 1481**

oil canning—a form of buckling; *in flat sandwich constructions,* a defect occasioned by excessive compressive loads and represented by waviness of the product. **E 1749**

opaque wall—all exposed areas of a wall that enclose conditioned space, except openings for windows, doors and building service systems.

open construction—See **building constructions.**

open-plan workstation—See **building space.**

open system—See **building system.**

operable—See **windows and doors.**

operating cost—the expenses incurred during the normal operation of a building or a building system or component, including labor, materials, utilities, and other related costs. **E 833**

operator—person having direct control of equipment or operation. **E 1605**

opportunity cost of capital—the rate of return available on the next best available investment of comparable risk. **E 833**

overall rate of return (ORR)—See **adjusted internal rate of return (AIRR).** **E 833**

ordinance, *n*—a rule or law adopted by local governmental authority.

orifice blower door, *n*—a blower door in which airflow rate is determined by means of the pressure drop across an orifice or nozzle. **E 1827**

orthotropic—having three mutually perpendicular planes of elastic symmetry. **E 1749**

overpressed metal connector plate—metal connector plate with teeth, fully penetrating wood member, with tooth side of plate pressed more than one half of plate thickness below surface of wood member; in contrast to underpressed metal connector plate, the surface of which is not in contact with the surface of the wood members. **E 1807**

owner—see **property owner.** **E 1605**

P2 etch—an etchant used for preparing the surface of aluminum alloys for adhesive bonding. (Syn. **sulfoferric etch.**)

E 1749

packaged building—See **building.**

paint, *n—in general,* a pigmented coating. **E 1605**

paint chip sample—a fragment of a dry paint film removed from the substrate. **E 1753**

paint collection container—a sealable rigid walled container. **E 1729**

DISCUSSION—Use of a resealable plastic bag for holding and transporting dried paint samples is not recommended due to the potential losses of paint chips within the plastic bag during laboratory handling. Quantitative removal and processing of the dried paint samples by the laboratory is significantly improved through the use of sealable rigid walled containers.

paint collection tray—any clean, dry, lead-free container for use in catching paint scrapings. **E 1729**

DISCUSSION—This practice describes the use of letter-size white paper for making a funnel type collection tray. However, other types of collection trays can be utilized.

paint residue—dry or chemically softened paint that remains on a surface after initial paint removal. **E 1605 (D 16)**

paint scrapings—waste material consisting of paint removed by wet or dry scraping during an abatement process. **E 1605**

painted element—a painted architectural or building component. **E 1796**

pane, n—use **lite.** **E 1605**

pane—See **windows and doors.**

panel, *n*—in a building, (*1*) a portion of a surface flush with or recessed from, or sunk below the surrounding area, sometimes set off by distinct molding or other decorative measure. (*2*) a usually flat and rectangular piece of construction material made to form part of a surface (as of a **wall,** ceiling, or **floor**). (See also **railing systems** and **windows and doors.**)

panelized construction—See **building constructions.**

passive solar energy system—See **building subsystem.**

pattern—see **components pattern.** **E 1605**

payback method—a technique of economic evaluation that determines the time required for the cumulative benefits from an investment to recover the investment cost and other accrued costs (see **discounted payback period; simple payback period**). **E 833**

Pb—chemical symbol for the element, lead. **E 1605**

Pb-positive/negative—see **lead positive/negative.** **E 1605**

peel ply—a removable ply molded onto the surface of a laminate to provide a chemically clean surface for bonding or painting after removal. **E 1749**

peeling resistance of metal connector plate with integral teeth—resistance to consecutive withdrawal of adjacent teeth of metal connector plate from wood member during shear load application starting at the last row of teeth and progressing toward the center of the connection. See **lateral resistance of metal connector plate.** **E 1807**

perforated metal connector plate—metal connector plate with prepunched or predrilled holes. Also called *punched metal connector plate.* **E 1807**

performance—See **building performance.** (See also **facility performance**) **E 1480**

performance criterion, of a facility—See **requirement statement.** **E 1480**

performance curve, *n*—for a qualitative chemical spot test kit, this is a plot of the test kit response (positive or negative) versus the lead content in a given sample matrix as determined by quantitative analysis **(2)**. **E 1828**

DISCUSSION—The performance curve may be statistically modeled to yield qualitative test kit performance parameters for lead detection.

performance parameter—for a particular spot test kit and a particular sample matrix, this is the lead content that yields a known degree of confidence in detecting lead. **E 1828**

DISCUSSION—Examples of qualitative test kit performance parameters include the identification limit and the amounts of lead in a given sample matrix yield a desired confidence (for example, 95 %) of a negative and positive test result, respectively.

performance standard, *n—in building constructions,* a standard that defines the required **performance** of a building material, element, **subsystem,** or **system.**

performance test method of a facility—See **requirement statement.** **E 1480**

perm, *n*—empirical unit of **water-vapor permeance** (mass flow rate), equal to one grain (avoirdupois) of water vapor per hour flowing through one square foot of a material or construction induced by a vapor-pressure difference of one inch of mercury between the two surfaces.

DISCUSSION—This mass flow rate can be stated in other desired or convenient units. (For SI conversion, see Test Method E 96). A maximum value of one perm is the moisture vapor migration rate below which there is low probability of induced moisture problems in conventional buildings in climates not exceeding 5000 heating degree days (65°F base), and not so hot and humid that continual air conditioning would be required.

permanent set—See **residual deflection.**

permanent set of test frame—a load-induced permanent displacement from an original position of the test frame. **E 998**

personal air samples—air samples that are collected within the personal breathing zone (PBZ) of a person. **E 1553**

personal air samples—*airborne particulates,* samples of air collected from within the breathing zone of a person, but outside a respiratory, if worn. **E 1605**

personal breathing zone (PBZ)—an area within approximately 6 in. of a person's face. **E 1553**

pH—chemical symbol meaning the (p)otential) of (H)ydrogen ion, indicating a measure of acidity or alkalinity of an aqueous solution.

DISCUSSION—A neutral solution has a pH of seven. The numerical indicator increases with an increase in alkalinity, or decreases with an increase in acidity. **E 1605**

PHA—see **public housing agency**. **E 1605**

physical protection (protection physique)—barriers that will delay or deter someone attempting unauthorized physical access to assets at a specific location.

DISCUSSION—(*1*) These barriers may be physical, such as walls or locked doors, possibly monitored by technical systems; or they may be provided by persons with specific responsibility for physical security,

such as guards or authorized personnel of the organizational unit working at the same location, or both. (*2*) Physical protection is an aspect of physical security. **E 1480**

pick, *n*—an individual filling yarn. **E 859**

picket—See **railing systems.**

picket, *n*—one of a series of closely spaced upright infill members located between top rail or handrail and bottom rail of a railing system. (Syn. *baluster, baluster bar.*) **E 1481**

picket casting—See **railing systems.**

picket casting—an ornamental cast element attached to a picket. Also, cast element designed to attach picket to top and bottom rails. **E 1481**

picket railing system—See **railing systems.**

picket railing system—a system consisting of posts, pickets, top rail, and bottom rail. **E 1481**

pineapple, *n*—a finial in the form of a pineapple. **E 1481**

pineapple—See **railing systems.**

pipe, *n*—a tubular conduit for transport of fluids or finely divided solids; also, a hollow structural member or safety barrier; a hollow product of round cross section.

DISCUSSION—If of metal, its size usually is designated by its nominal inside diameter and schedule which indicates the wall thickness; or by its nominal inside diameter and its exact wall thickness. Compare **piping, tube.**

pipe railing system—See **railing system.**

pipe railing system—a railing system fabricated of pipe or round tubing. **E 1481**

piping, *n*—a system of **pipes.**

pitch, *n*—an inclination or slope measured in degrees, or percent, or by the ratio of rise and run.

plate, *n*—a flat, rolled sheet having a width and length much greater than thickness. (If of steel, having dimensions of 0.180 in. (4.6 mm) or greater in thickness, and greater than 8.0 in. (203 mm) in width.)

DISCUSSION—Similar distinctions are made for sheet and plate in other metals. Other specific values apply to nonmetallic products.

plate, *n*—abbreviated term for **metal connector plate**. **E 1807**

plate hole—opening in metal connector plate resulting from punching integral plate projection(s) from, or nail hole in, connector plate during its fabrication. See **nail hole.** **E 1807**

plate shear—a term describing the stresses associated with shear distortion of planes parallel to the edge plane of a sandwich construction or core material when loaded in shear parallel to the plane of the facings (see Test Method C 273). **E 1749**

pocket, *n*—an opening in a structure to accept a construction member.

portfolio (portefeuille)—group of securities, buildings, or other properties held by an individual or institutional investor. **E 1480**

portfolio analysis—a technique used to seek the combination of assets with the maximum return for any given degree of risk (that is, variance of the return), or the minimum risk for any given rate of return. **E 833**

positive load—a load that results in the outdoor side of a glass specimen being the high-pressure side. **E 997**

positive test—the observation of the characteristic color change within a specified time limit, usually within 10 to 30 s. **E 1753**

post—See **railing systems.**

post, *n*—a vertical supporting member. **E 1481 E 631**

post cure—heat or radiation treatment, or both, to which a cured or partially cured thermosetting plastic or rubber composition is subjected to enhance the level of one or more properties. **E 1749 D 1566**

pot-life—See **working life.** **E 1749**

prebleeding—See **debulking.** **E 1749**

precision—degree of mutual agreement between individual measurements, namely repeatability and reproducibility. Compare **accuracy.** **E 1605 (F 221)**

precision index of the average, *n*—the sample standard deviation divided by the square root of the number of samples. **E 1827**

precut building—See **building.**

predrilled hole—hole drilled through metal connector plate during its fabrication. **E 1807**

prefabricated building—See **building.**

prefabricated panel system—See **building system.**

prefit—a process to check the fit of mating detail parts in an assembly prior to adhesive bonding in order to ensure proper bondlines. **E 1749**

DISCUSSION—Mechanically fastened structures are also prefit sometimes to establish shimming requirements.

prepack seal—a preassembly seal installed to fill voids or provide a support seal for subsequent fillet sealing. **E 1749**

prepreg—a combination of mat, fabric, nonwoven material, or roving with resin usually advanced to the B-stage, ready for curing. **E 1749**

prepunched hole—hole punched through metal connector plate during its fabrication. **E 1807**

present value—the value of a benefit or cost found by discounting future cash flows to the base time (Syn. *present worth*). **E 833**

present value factor—The discount factor used to convert future values (benefits and costs) to present values (Syn. *present worth factor*). **E 833**

present worth—See **present value.** **E 833**

present worth factor—See **present value factor.** **E 833**

preservation, *n*—the act or process of applying measures to sustain the existing form, integrity, or materials of a **building,** structure, or **artifact** and the existing form or vegetative cover of a cite.

conservation, n—management of a natural resource, structure, or **artifact** to prevent misuse, destruction, or neglect. It may include detailed characterization and recording (technical or inventory) or provenance and history and application of measures.

protection, n—the act or proces of applying measures designed to afect the physical condition of a **building,** structure, or **artifact** by guarding it from deterioration, loss, or attack; or, to cover or shield it from damage.

rehabilitation, n—of a structure, the act or process of returning a sructure to a state of utility through **repair** or

alteration which makes possible an efficient contemporary use.

DISCUSSION—As applied to historic structures, it may include the preservation of those portions or features of the structure that are significant to its historical, architectural, and cultural values.

restoration, n—the act or process of reestablishing accurately the form and details of a structure, site, or **artifact** as it appeared at a particular period of time, by means of removal of later work or by the **reconstruction** of missing earlier work.

pressure sensitive adhesive—See **adhesive, contact pressure**. **E 1749**

pressure station, *n*—a specified induced change in the building pressure difference from the initial zero-flow building pressure difference (Pa, in. H_2O). **E 1827**

primary circulation area—See **space categories.** **E 1480**

primary circulation area—See **building space.**

primary seal—a seal that in combination with the structure and optional brush coat or secondary seal forms a continuous, durable, and absolute seal in the sealing plane and requires no additional seals. **E 1749**

primer—a coating applied to a surface prior to the application of an adhesive, sealant, or paint to improve the adhesive bonding characteristics or corrosion resistance, or both, of the surface. **E 1749**

primary prevention—abatement of accessible lead-based paint and paint residue to prevent the possibility of lead poisoning. **E 1605**

probabilistic design—design that accounts for the uncertainties due to statistical variabilities in physical and mechanical properties of the materials, elements, or structures, and in the applied loads (compare **deterministic design**).

DISCUSSION—In probabilistic design, the variable characteristics of each component are considered; and design loads and conditions may be based on specific probabilities of occurrence.

probability of failure—the probability that a glass specimen will fail when tested at a given load. General industry practice is to express the probability of failure as lights per 1000 lights. **E 997**

program—See facility program. **E 837**

project (projet)—resources and activities used to achieve a specific set of objectives within a specified time schedule. **E 1480**

project brief—See **facility program.** **E 1480**

project record—use **as-built,** the preferred term.

protection—See **preservation.**

proof load—a magnitude of uniform load at which glass specimens shall be tested. **E 997**

proof load factor, *a*—the constant which, when multiplied by the equivalent design load, determines the proof load. **E 997**

property owner—person, firm, corporation, guardian, conservator, receiver, trustee, executor, or other judicial officer who, alone or jointly or severally with others, owns, holds, or controls the whole or any part of the freehold or leasehold title to any property, with or without accompanying actual possession of it, and shall include in addition to the holder of legal title, any vendee in possession of it, but may not include a mortgagee or an owner of a reversionary interest under a ground rent lease. **E 1605**

public housing agency (PHA)—any state, county, municipality, or other government entity or public body (or agency or instrumentality thereof) that is authorized to engage or assist in the development or operation of housing for low-income families. **E 1605**

pultrusion—a process to continuously fabricate composite structural shapes or flat sheet by drawing prepreg materials through forming dies to produce the desired constant cross-sectional shape and simultaneously curing the resin. **E 1749**

pyranometer—an instrument (radiometer) used to measure the total solar radiant energy incident upon a surface per unit time and unit surface area. **E 1918**

quantitative analysis—an analysis run on sample digestates (or serial dilutions of sample digestates) that includes instrumental QC standards. Data from this run are used to calculate and report final lead analysis results. **E 1613**

quantity—measurable attribute of a physical phenomenon. There are base units for seven quantities and supplementary units for two quantities upon which units for *all* other quantities are founded. **E 621**

queue-rail system—Synonym for **traffic-rail system.** **E 1481**

racking—when applied to shear walls, refers to the tendency for a wall frame to distort from rectangular to rhomboid under the action of an in-plane force applied parallel to the wall length. **E 564**

rail, *n*—a horizontal, inclined, or vertical member of a railing system, such as top, intermediate, or bottom member connecting pickets or posts, or both, at specified intervals. (Compare **handrail.**) **E 631, E 985, A 1264.1**

rail—See **railing systems, windows and doors.**

rail cap—See **railing systems.**

railing—See **railing systems.**

railing return—a bent at the end of a handrail, turning toward the wall or post to which the handrail is attached. **E 1481**

railing system—See **railing systems.**

railing system—a framework of horizontal, inclined, vertical, and infill members, including panels and grillwork, for protection of building occupants against fall or injury and for offering safety and convenience in their movement. (Compare **guardrail.**) **(E 1481)**

railing systems:

baluster, n—(baluster bar) same as **picket.**

balustrade, n—a **railing system** consisting of a row of **pickets** capped by a **handrail.**

bottom rail—the lowest member of a **railing system,** supporting **pickets** or **panels**.

cap, n—a fitting used to close the end of a **pipe,** tubular **post, newel,** or **rail.**

cap rail—a **handrail** fastened to the **top rail** of a **railing system.**

collar, n—Same as **escutcheon.**

cover flange—Same as **escutcheon**.

drop cap—the cover of a railing **post** or **newel** that is exposed to view, usually below stringer or **floor.**

easement, n—the curved portion of a **handrail** forming a transition in the vertical plane between horizontal and inclined sections of **handrail.**

escutcheon, n—a protective or ornamental cover located at the termination of a **post, picket,** or **rail** against a tread, **floor,** or wall. Same as **collar, cover flange.**

finial, n—an ornamental piece on the top of a **post, newel,** or **railing;** frequently in the form of an **urn** or **pineapple,** and so named.

flange plate—a flat (piece) between the end of a **railing** or rail element and the adjoining construction or supporting member.

grab bar—Same as **grab rail.**

grab rail—a short length of **rail** or similar member located for safety or convenience to assist a person in movement.

guardrail system—a **railing system** located for protection of building users at or near the outer edge of a **stair,** ramp, landing, platform, balcony, or accessible roof; at the perimeter of an opening or accessible surface, such as the opening of a **stair;** or at a location where an operating condition requires access limitation to guard against accidental fall and injury. Compare **railing system.**

handgrip, n—the part of a **handrail** designed to provide a secure grasp.

handrail, n—a horizontal or sloping member normally grasped by hand for guidance or support.

DISCUSSION—A handrail is often, but not necessarily, the top member (**top rail** or **cap rail**) of a **railing system.** It may be mounted on a wall or other building element. When it is part of a **stair-rail system** it is the member paralleling the **pitch** of the stair flight. Compare **wall handrail.**

handrail bracket—a device attached to a wall, **post**, or other surface to support the **handrail.**

handrail height—the vertical distance from the top surface of the **top rail** to the surface of the finished **floor,** top of a ramp, or the nosing line of stair treads.

kick plate—Same as **toe board.**

lamb's tongue—an ornamental curved or tapered fitting terminating a **handrail**, usually tapered to the tip.

lateral scroll—a fitting that curves in a horizontal plane, used to terminate a **handrail;** often ending as a round plate covering the top of a **post.**

mid rail—a rail located between **top** and **bottom rails.**

miter ending—a square, angular, or dovetailed member end, designed to fit an adjacent matching member, thereby providing continuity of profile at the joint.

newel, n—(1) a decorative or structural **post** member, often extending above a **handrail** at the start or end of a **stair** run; usually square or rectangular in cross section, supporting the end of a stair railing or serving as the common support for two stair railings; often supporting a stair stringer and platform. *(2)* the center **post** of a spiral **stair.**

ogee, n—a molding with a profile having a double curve formed by a convex line turning into a concave line, and resulting in an S-shape.

panel, n—in a **railing system,** a flat element between a **post, top rail** and **bottom rail.**

picket, n—one of a series of closely spaced upright members that support the **handrail** in a **railing system.** Same as **baluster, baluster bar.**

picket casting—an ornamental element attached to a **picket.**

picket railing system—a system consisting of **posts, pickets, top rail** and **bottom rail.**

pineapple, n—a **finial** in the form of a pineapple.

pipe railing system—a **railing system** fabricated from **pipe.**

post, n—in **railing systems,** a vertical supporting member. Compare **column.**

rail, n—a horizontal, inclined, or vertical member of a **railing system** connecting **pickets** or **posts,** or both, at specified intervals. Compare **handrail.**

rail cap—Same as **cap rail.**

railing, n—Use **railing system.**

railing system—a framework of horizontal, inclined, or vertical members, **panels,** grillwork, or their combinations that support a **handrail;** located at the edge of a **stair** flight, platform, or **floor** as a safety barrier. Compared **guardrail system, stair rail system.**

railing-system penetration limitation—an arrangement of railing elements designed to prevent passage of a sphere of specified diameter through a **railing system.**

ramp-rail system—a **railing system** located alongside a ramp.

screen, n—in a **railing system,** a perforated sheet or **wire mesh** in sheet form serving as a **panel.**

scroll, n—in a **railing system,** a cast or forged ornamental spiral of convoluted shape serving, for example, as a decorative **panel** or insert.

side mount—a railing support that anchors the **post** of a **railing system** to a vertical surface, such as fascia or stair stringer.

spindle, n—in a **railing system,** a tapered, round **picket** having a center portion larger in diameter than its ends.

stair-rail system—a **rail** or **railing system** located along a **stair** or landing.

toe board—in a **railing system,** a vertical plate forming a low curb at the open edge of a stairwell, platform, or floor; to provide a barrier preventing objects from falling beyond it. Same as **kick plate, toe plate.**

toe plate—Same as **toe board.**

top rail—the uppermost member of a **railing system.**

traffic-rail system—a **railing system** designed to control the movement of people and requiring special consideration for given conditions.

transfer-rail system—a **railing system** designed to support and to permit transfer of body weight in such locations as toilets, showers, and tub enclosures.

urn, n—a **finial** in the form of an urn.

volute, n—in a **railing system,** an ornamental spiral or *scroll*-shaped form serving, for example, as **handrail** termination.

wall clip—a bracket used for anchoring to a wall. Same as **wall flange.**

wall flange—Same as **wall clip.**

wall handrail—a **handrail** attached to a wall adjacent to a stair, and paralleling the **pitch** of the stair flight; also used along landings, walkways, ramps, and corridors. Same as **wall rail.**

wall rail—Same as **wall handrail**.

wall railing return—in a **railing system,** a bend at the end of a **wall handrail,** turning toward the wall to which the **handrail** is attached.

wire mesh—Same as **screen.**

railing-system penetration limitation—See **railing systems.**

ramp-rail system—See **railing systems.**

ramp-rail system—a railing system located along the open sides of a ramp. **(E 1481)**

random sample—see **representative sample.** **(E 1605)**

random sampling—technique for selecting a sample of *n* elements from a population of elements in such a way that each combination of *n* elements has the same probability of being selected. **(E 1605) (C 859)**

random sampling—*in statistical sampling,* the process of selecting sample units in such a way that all units under consideration have the same probability of being selected.

range, *n*—region between the limits within which a quantity is measured, and is expressed by stating the lower and upper range-values. **(E 1605) (E 344)**

rate of return—the percentage yield on an investment per unit time. **E 833**

rater, *n*—a person having primary responsibility for organizing and conducting the rating process for a building or building-related facility. **E 1334**

rating process, *n*—the process of determining the serviceability of a facility for a specified purpose. **(E 1480) E 1679**

rating scale, *n—for a topic of facility serviceability*, a set of descriptions of combinations of features, in which each description has been selected to indicate a specific level of serviceability on a scale from the lowest to the highest level likely to be encountered. **E 1679**

rating scale (échelle d'évaluation)—(*for an* ***aspect of facility serviceability***) set of descriptions of combinations of features, in which each combination has been selected to indicate a specific level of serviceability on a scale from the lowest to the highest level likely to be encountered. **E 1480**

rating score (résultat d'évaluation)—result (expressed as a number) of finding the combination of features described in a specified rating scale (for one aspect of servicability) that matches most closely the attributes present in a facility. **E 1480**

RCRA—Resource Conservation and Recovery Act of 1976.

reading, *n*—numerical value obtained from a digital display or indicated on a scale or dial of an apparatus or instrument. **(E 1605) (E 1227)**

reagent blank—a digestate that reflects the maximum treatment given any one sample within a sample batch except that it has no sample initially placed into the digestion vessel. (The same reagents and processing conditons that are applied to field samples within a batch are also applied to the reagent blank.) **E 1644**

DISCUSSION—Analysis results from reagent blanks provide information on the level of potential contamination resulting from only laboratory sources that are experienced by samples processed within the batch.

real discount rate—the rate of interest reflecting that portion of the time value of money related to the real earning power of money over time.

DISCUSSION—This is the discount rate used in discount formulas or in selecting discount factors when future benefits and costs are expressed in constant dollars. **E 833**

real dollars—See **constant dollars**. **E 833**

rebuild—See **building modification.**

recommendation, *n—in building constructions*, a written suggestion for policy, practice, conduct, design, or material, implying endorsement but not requiring compliance (see **guideline**).

reconciliation—a comparison of two or more estimate values by independent cost professionals for the purpose of reaching consistency in the estimate assumptions, parameters, and scope of work. **E 833**

reconstruct—See **building modification.**

reconstruction—See **building modification.**

record set drawing—See **drawing.** **(E 1480)**

reference material—material of definite composition that closely resembles in chemical and physical nature the material with which the analyst expects to deal, and that is employed for calibration or standardization. **(E 1605) (E 131)**

reference material (standard reference material) (SRM)—a material of known composition where the lead level is certified by the manufacturer. **E 1645**

reflectance—a measurement technique (subset of spectrophotometry; see 3.5) in which light is reflected off of a reflecting surface and measured by a detector. The amount of reflected light may be a function of analyte concentration.

regulation, *n*—a rule prescribing a set of conditions and requirements that have been made mandatory for those under its control, by an executive (administrative) authority.

rehabilitation—See **preservation.**

reliability, *n* (fiabilité)—the probability of performing without failure a specified function under normal conditions for a specified period of time. **(E 1480) E 344**

remodel—See **building modification.**

repair—See **building modification.**

replacement cost—building component replacement and related costs, included in the capital budget, that are expected to be incurred during the study period. **E 833**

representative sample—sample of a universe or whole (for example, waste sample pile, lagoon, ground water, or waste stream), selected in a random sampling process, which represents the total properties in the universe or whole. **(E 1605)**

requirement scale, *n—for a topic of facility serviceability*, a set of descriptions of requirements for serviceability in which each description has been selected to indicate a specific level of serviceability on a scale from the lowest to the highest level likely to be encountered. **E 1679**

requirement statement (enoncé de boisons)—*for a facility,*

the serviceability requirements for a facility, together with applicable performance criteria, performance test methods, and optional explanatory comments.

criterion, n (critéré)—an established precedent, rule, measure, norm, or code upon which a decision may be based. **E 631**

performance criterion, n (critére de rendement)—a quantitative statement of the level of performance needed to satisfy a serviceability requirement. **E 1334**

DISCUSSION—This may be expressed as a threshold value, a range, or a point value. **(E 1480)**

performance test method, n (méthode d'essai de rendement)—a method of determining whether the performance of a facility is in accordance with a specified performance criterion. **E 1480**

serviceability requirement, n (besoin de fontionalité)—*for a facility*, a qualitative statement of the serviceability required from a facility.

DISCUSSION—Examples include: smoke control for life safety; removal of heat from computer equipment; relocation of workplaces in rapidly changing organizations; resistance to insect damage; maintenance of the temperature within a specified range at a specified location; acoustical, visual, thermal, and air quality performance. **(E 1480)**

resale value—the monetary sum expected from the disposal of an asset at the end of its economic life, its useful life, or at the end of the study period. **E 833**

residual deflection—permanent deformation of a building element, component, or structure after complete or partial removal of applied force. Also called **permanent set** or **residual deformation.**

residual deformation—See **residual deflection.**

residual stress—an initial, state of stress on unloaded, unglazed glass resulting from manufacturing process (heat-strenthening, tempering). **E 998**

resin batch—the quantity of resin that has been formulated in a single continuous operation and subjected to chemical processing or physical mixing to produce a homogenous material. **E 1749**

resin content—the amount of matrix present in a composite usually expressed in units of weight percent. **E 1749**

resite—See **C-stage.** **E 1749**

resitol—See **B-stage.** **E 1749**

resol—See **A-stage.** **E 1749**

Resource Conservation and Recovery Act of 1976—an amendment to the Solid Waste Disposal Act of 1965.

DISCUSSION—RCRA was amended in 1980 and most recently on November 8, 1984 by the Hazardous and Solid Waste (HSW) Amendments. **(E 1605)**

restoration—See **preservation.**

retaining wall—See **wall.**

re-temper, *v*—to add more water to a hydraulic-setting compound after the initial mixing, but before partial set has occurred.

retrofit—See **building modification.**

retrofit—the modification of an existing building or facility to include new systems or components. **E 833**

REX hardness—*in sealants*, the hardness of a sealant as measured by a REX hardness gage. **E 1749**

rhodizonate spot test method—*for lead detection,* the use of a dilute solution of rhodizonate ion to test a painted surface or paint chip for the qualitative presence of lead **(1)**.[3] A color change from yellow/orange to pink or red indicates the presence of lead above the level of detection of the test kit. **E 1753**

risk-adjusted discount rate (RADR)—a discount rate that has been adjusted to account for risk.

DISCUSSION—When using the RADR technique, projects with anticipated high variability in distributions of project worth have their net benefits or returns discounted at higher rates than projects with low variability. **E 833**

risk analysis—the body of theory and practice that has evolved to help decision makers assess their risk exposures and risk attitudes so that the investment that is *best for them* is selected.

DISCUSSION—This definition is restricted to the types of analyses described in ASTM Building Economics Standards, and is not necessarily consistent with how the term is used in reference to analyses in such areas as the environment or health. **E 833**

risk attitude—the willingness of decision makes to take chances or gamble on investments of uncertain outcome.

DISCUSSION—Risk attitudes are generally classified as risk averse, risk neutral, or risk taking. Risk averse decision makers would prefer a sure cash payment to a risky venture with known expected value greater than the sure cash payment. Risk neutral decision makers act on the basis of expected monetary value. They would be indifferent between a sure cash payment and a risky venture with expected value equal to the sure cash payment, and would therefore accept a fair gamble. Risk takers prefer a risky venture with known expected value to a sure cash payment equal to the expected value. **E 833**

risk averse (RA)—See **risk attitude.**

risk exposure—the probability of investing in a project whose economic outcome is different from what is desired (the target) or what is expected. **E 833**

risk neutral (RN)—See **risk attitude.** **E 833**

risk taking (RT)—See **risk attitude.** **E 833**

rigid cellular polystyrene thermal insulation (RCPS)—rigid thermal insulation board formed by expansion of polystyrene resin beads or granules in a closed mold (EPS), or by the expansion of polystyrene resin in an extrusion process (XPS).

DISCUSSION—Ad hoc abbreviations such as *MEPS* and *XEPS* are deprecated. The term *beadboard*, should not be used for commercial EPS.

rising damp, *n*—upward-moving moisture in a **wall** or other structure standing in water or in wet soil. (Compare: **capillary migration,** wicking).

roofing system—assembly of interacting components designed to weatherproof, and sometimes to insulate, the roof surface of a building.

round, *n*—a solid member, circular in cross section.

sag flow test—See **test, sag flow.** **E 1749**

salvage value—the value of an asset, assigned for tax computation purposes, that is expected to remain at the end of the depreciation period. **E 833**

sample, *n*—a portion of material taken from a larger quantity for the purpose of estimating properties or composition of the larger quantity. **E 1605**

sample set—a group of samples (one or more). **E 1645**

sampling device—a filter holder and air sampling pump assembly used to collect airborne particulate lead on a filter. The filter holder houses a cellulose ester membrane filter, through which air is drawn by using an air sampling pump; the filter holder is connected to the pump by tubing. **E 1553**

sampling location—a specific area within a sampling site that is subjected to sample collection. Multiple sampling locations are commonly designated for a single sampling site. **E 1728**

sampling site—a local geographical area that contains the sampling locations. A sampling site is generally limited to an area that is easily covered by walking. **E 1728**

sandwich panel—a structure consisting of relatively dense high-strength facing(s) bonded to a less dense low-strength intermediate material or core. **E 1749**

sash—See **windows and doors.**

sash, *n*—single frame in a door or window that holds one or more lites (panes) of glass. See **window sash.** **E 1605**

savings-to-investment ratio (SIR)—either the ratio of present value savings to present value investment costs, or the ratio of annual value savings to annual value investment costs. **E 833**

scaling—see **flaking.** **E 1605**

schematic design—the phase of a project during which the initial solutions to the program are prepared by the design professional through the use of plans and sections and system's descriptions. **E 833**

score, n—See **serviceability score.** **E 1480**

screen—See **railing systems.**

screen, *n*—a perforated sheet consisting of wire mesh, woven or welded wire fabric, or standard or flattened expanded metal; serving as an infill panel and being an integral part of a panel railing or guardrail system. **E 1481**

scrim—a reinforcing fabric woven into an open mesh construction, used in the processing of tape or other B-stage material to facilitate handling and control bondline thicknesses. Also referred to as a *carrier*. **E 1749**

scroll—See **railing systems.**

scroll, *n*—a cast or forged ornamental spiral of convoluted shape, serving, for example, as a decorative panel or insert. **E 1481**

seal—the closure of a structure to make it leakproof by the application of sealant to fasteners, seams, and any other possible leak path. **E 1749**

sealing, absolute—See **absolute sealing.** **E 1749**

seal plane—all surfaces of a shelter that establish seal continuity and are in immediate contact with the environment.

DISCUSSION—These surfaces may be composed of structure, fastener, or sealing materials, or combination thereof. **E 1749**

sealed insulating glass—See **windows and doors**.

sealed insulating glass unit—a preassembled unit, comprising sealed panes of glass separated by dehydrated space(s), intended for vision areas of buildings. The unit is normally used for windows, window walls, picture windows, sliding doors, patio doors, or other types of windows or doors. **E 774**

secondary bonding—the joining together, by the process of adhesive bonding, of two or more cured composite parts, during which the only chemical (or thermal) reaction taking place is the curing of the adhesive itself. **E 1749**

secondary circulation area—See **building space.**

secondary circulation area—See **space categories.** **E 1480**

secondary seal—a seal that alone cannot provide a dependable absolute seal. **E 1749**

secondary sources (of lead)—sources of lead exposure other than lead-based paint.

DISCUSSION—Secondary sources can include some newsprint inks, some ceramic glazes, bullets, storage batteries, and soil. **E 1605**

SEL—see **substrate equivalent lead concentration.** **E 1605**

semi-detached dwelling—See **dwelling.**

semiquantitative screen—an analysis run that is performed on highly diluted sample digestates for tghe purpose of determining the approximate analyte level in the digest. This analysis run is generally performed without inserting instrumental QC standards except for calibration standards. Data from this run are used for determining serial dilution requirements for sample digestates to keep them within the linear range of the instrument. **E 1613**

sensitivity analysis—a test of the outcome of an analysis by altering one or more parameters from an initially assumed value(s). **E 833**

separator cloth—a fabric, coated with TFE-fluorocarbon or similar release agent, placed between the lay-up assembly and the bleeder system to facilitate subsequent bleeder-system removal from the laminate after it has been cured. **E 1749**

setting, *n*—process by which, after application, a liquid (wet-state) material changes to a serviceable condition by **curing** or **drying.**

DISCUSSION—Generally, **curing** implies a chemical reaction, while **drying** implies evaporation of volatile constituents.

serial dilution—a method of producing a less-concentrated solution through one or more consecutive dilution steps. A dilution step for a standard or sample is performed by volumetrically placing a small aliquot of higher concentrated solution into a volumetric flask and diluting to volume with water containing the same acid levels as those found in original sample digestates. **E 1613**

serviceability—see *facility serviceability.* **E 1679**

serviceability, *n*—See **facility serviceability.** (See also **building performance.**) **E 1480**

serviceability requirement—See **requirement statement.** **E 1480**

serviceability requirements profile (SRP) (profit de besoins génériques de fonctionnalite (PBGF))—listing of the levels

of serviceability (capability to perform, including quality) required in a facility. **E 1480**

shear strength of metal connector plate—resistance to shear force by net plate cross section, expressed as force per unit of length of full cross section of connector plate, when used in connections composed of pairs of plates. **E 1807**

shear transfer plate—metal connector plate with integral teeth projecting from plate in both directions perpendicular to plate surfaces; designed to be placed between adjacent wood members and to connect and transmit forces from one wood member to another. **E 1807**

sheet, *n*—a thin, flat, rolled metal product having mill or cut edges. (If of steel, having dimensions of less than 0.229 in. (5.8 mm) thickness, and greater than 12.0 in. (305 mm) width and length.)

DISCUSSION—Similar distinctions are made for sheet and plate in other metals. Other specific values apply to nonmetallic products.

sheet—*in honeycomb core material*, a slice of honeycomb cut from a production block. **E 1749**

shelf life—See **storage life.** **E 1749**

shelters:

expandable shelters—those shelters that are expanded from the transport size to a larger size, at expansion ratios of three-to-one or less and perhaps to a different shape. (See Specification PS 27.)

highly expandable shelters—as classified by the U.S. Department of Defense (MIL-STD-907B), those shelters that have expansion ratios greater than three-to-one from their transport size.

knockdown shelters—as classified by the U.S. Department of Defense (MIL-STD-907B), those shelters that are reduced in height and nested with identical items for transportation.

large area shelters—as classified by the U.S. Department of Defense (MIL-STD-907B), those shelters that are disassembled and packed in dedicated or general-purpose containers for shipment.

nonexpandable shelters—as classified by the U.S. Department of Defense (MIL-STD-907B), those shelters that are used in the same size and shape in which they are transported. **E 1749**

shear wall—structural subassembly that acts as a cantilever/diaphragm to transfer horizontal building loads to the foundation in the form of horizontal shear and an overturning moment. **E 564**

shielding effectiveness—the ability of a sandwich panel of suitable thickness and physical characteristics to exclude (protect) sensitive components or units from electromagnetic radiation (interference). **E 1749**

shop drawing—See **drawing.** **E 1480**

shop drawing—a drawing prepared by the fabricator based on a **working drawing** and used in a shop or on a site for assembly.

shoot—see **XRF-shoot.** **E 1605**

Shore A hardness—a measurement of hardness for rubbers and plastics using a Shore A hardness gage (durometer).

DISCUSSION—The gage has a dial, a foot, and a pin that protrudes slightly through a hole in the face of the foot. The procedure for determining Shore A hardness of rubbers and plastics is described in Test Method D 2240. **E 1749**

SI—The International System of Units (abbreviation for "le Système International d'Unités) as defined by the General Conference on Weights and Measures (CGPM)—based upon seven base units, two supplementary units, and derived units, which together form a coherent system. **E 621**

side mount—See **railing systems.**

side mount—a railing-system support that anchors the post of picket of a railing system to a vertical or inclined surface, such as a fascia or stair stringer. **E 1481**

silent hours—See **hours of operation.** **E 1480**

sill—See **windows and doors.**

simple payback (SPB) period—the time required for the cumulative benefits from an investment to pay back the investment cost and other accrued costs, not considering the time value of money. **E 833**

single zone, *n*—a space in which the pressure differences between any two places, as indicated on a manometer, differ by no more than 2.5 Pa (0.01 in. H_2O) during fan pressurization at a building pressure difference of 50 Pa (0.2 in. H_2O) and by no more than 5 % of the highest building pressure difference achieved. **E 1827**

skin—See **facing.** **E 1749**

sleeve, *n—(1) in concrete, masonry, or other construction,* a tubular section of sheet metal or other material placed to provide a pocket or opening for the insertion of a railing or other member. *(2)* an internal or external tubular splice between abutting sections of **pipe, tubing,** or similar members.

sliding glass door—See **windows and doors.**

slip joint—See **joint.**

slope, n—See **pitch.**

slump—See **block flow.** **E 1749**

small quantity—see **hazardous-waste small quantity generator.** **E 1605**

sodium rhodizonate method—*for lead detection,* use of a dilute solution of sodium rhodizonate to spot test a painted surface qualitatively for the presence of lead. **E 1605**

sodium sulfide method—for lead detection, use of a dilute solution of sodium sulfide to spot test a painted surface qualitatively for the presence of lead. **E 1605**

soil collection container—a container for holding and transporting the soil sample from the field to the laboratory. A sealable rigid walled container or a resealable plastic bag can be used. The internal volume must be sufficient to hold the entire collected sample. **E 1727**

solar energy—the radiant energy originating from the sun. Approximately 99 % of solar energy lies between wavelengths of 0.3 to 3.5 μm. **E 1918**

solar energy system—See **building subsystem.**

solar flux—for these measurements, the direct and diffuse radiation from the sun received at ground level over the solar spectrum, expressed in watts per square metre. **E 1918**

solar reflectance—the fraction of solar flux reflected by a surface. **E 1918**

solid metal connector plate—metal connector plate without any prepunched or predrilled plate holes. **E 1807**

solid metal-coupon control specimen—solid metal connector plate sample of same material as metal connector plate under scrutiny of dimensions meeting the requirements of Test Methods E 8 (or other applicable standard or specification) without plate holes or integral plate projections. **E 1807 E 489**

space categories, *n* (catégories de locaux) (See also **floor area**):

assignable area, n (zone assignable)—*floor areas* of a facility assigned to or available for assignment to occupant groups of functions, including interior walls, building columns, and building projections, and excluding circulation.

DISCUSSION—Assignable area includes the area of all enclosed rooms, open work areas, and other support spaces. It does not include the areas of circulation or exterior walls. Assignable area can be measured for buildings, **floors,** departmental areas, individual rooms, or work areas. Assignable area is measured to the center of all interior walls and to the inside finished surface of the outer building walls. In open plan workspace, it is measured to the center of furniture panels. If assignable area has been measured to exclude the areas of columns, interior walls, or building projections, note the exception to the practice with an appropriate qualifying phrase as follows: *(1)* assignable area without columns, *(2)* assignable area without **building projections,** or *(3)* assignable area without columns or **building projections.**

basement (sous-sol)—space partly below average grade having less than one half of its clear height (measured from floor level to ceiling level) below average grade. **E 631**

building core and service area, n (noyau d'un immeuble et aire de service)—**floor area** of a facility necessary for the general operation of a building that is not available for general occupancy, including: **primary circulation areas**, mechanical, electrical, telephone, and custodial rooms serving individual floors; toilet rooms, building lobbies and atria, stairways, elevators, vertical shafts and chases, loading docks; and also central, mechanical, electrical, telephone, and custodial spaces and penthouses, but excluding interstitial area.

DISCUSSION—Building core and service area is measured to the center of all interior walls except inthe following cases: where a stair, elevator, vertical shaft or chase adjoins a mechanical room, electrical room, custodial room, toilet room, building lobby, or primary circulation; the area of the wall should be included in the area of the stair, elevator, vertical shaft, or chase. Where a building core or service area space adjoins a space designed as usable area, the area of the wall should be included in the building core or service area space. An alternative method of classifying building core and service areas may be used, which is not compatible with ANSI Z65.1: measure to the center of interior walls for all spaces. The use of this alternative method should be noted when reporting area measurements. Toilet rooms that are accessible to all of the **occupants** on a floor of a **building** or that serve the general public should be classified as building core and service areas. A toilet room that is accessible only from a private office, or that is not available to all occupants on a floor, would be classified as a private toilet room and included in **usable area** for the **tenant** or **occupant** that it serves.

building gross area, n (superficie brute d'un immeuble)—sum of the floor areas of a building included within the outside face of outer building wall for all stories.

DISCUSSION—Building gross area includes basements, enclosed porches, penthouses, mechanical equipment, floors, lobbies, mezzanines, and corridors, provided they are within the outside face of the building. The areas of stairways, elevator shafts, mechanical service shafts, and ducts are to be included in building gross area for each floor through which they pass. Building gross area is measured from the outside face of exterior walls on each floor, disregarding comices, pilasters, buttresses, etc., that extent beyond the wall face. The buiding gross area of basement space includes the area measured to the outside face of basement or foundation walls. For enclosed open courts, enclosed light wells, enclosed atria, or other interior spaces more than one story in height, only the area on the lowest floor is included, not the void above on upper levels. Interstitial areas and unfinished attics are excluded.

building service area (aire de service d'un immeuble)—Used preferred term **building core and service area.**

cellar (cave)—space wholly or partly below average grade have more than one half of its clear height (measured from floor level to ceiling level) below average grade. **E 631**

circulation space—See **primary circulation; secondary circulation.**

primary circulation area (aire de circulation principale)—portion of a **building** that is a public corridor, lobby, or atrium; or is required for access by all occupants on a floor to stairs, elevators, toilet rooms, or building entrances.

secondary circulation area (aire de circulation secondaire)—portion of a **building** required for access to some subdivision of space, whether bounded by walls or not, that does not serve all **occupants** on a **floor,** and that is not defined as **primary circulation area.**

support space (locaux de soutien)—(*in offices*) part of **usable area** not assigned or dedicated to a specific task or function. Support space includes meeting rooms, waiting areas, storage, lounges, operational equipment (for example, computer rooms), copy areas, libraries, and similar areas.

usable area, n (superficie utilisable)—**floor area** of a facility assigned to, or available for assignment to, occupant groups or functions, inlcuding interior walls, building columns and projections, and **secondary circulation.**

DISCUSSION—Usable area includes the areas of all enclosed rooms, open work areas, support areas, **secondary circulation,** and interior walls, columns, and **building projections** in those spaces. Usable area does not include **building core and service areas** or exterior wall area. Usable area can be determined for **buildings, floors,** and departmental areas. Usable area for a **floor** is measured to the inside finished surfaces of the outer building walls. From this is deducted the area for the **building core and service area** for that floor, and the area of enclosed shafts. When determining the **usable area** of the portion of a floor occupied by a department of leasehold, measure the the center of walls dividing departments or leaseholds.

workplace (poste de travail)—part of a **usable area,** intended for an individual or group to work in.

DISCUSSION—A workplace is identified by having been assigned to, or intended for, an individual or a group or team. It may be an enclosed office; a part of an open plan office; or a combination of enclosed and open plan spaces.

workspace (aire de travail)—part of **usable area,** intended for a specific function or type of work.

DISCUSSION—A workspace is identified by the function or type of work for which it is intended. It may include workplaces, and it may include some area that is not intended for individuals or groups and therefore is not a **workplace.**

workstation (poste de travail) (aménagement ouvert)—all or part of a **workplace,** suitable for carrying out one function or type of work.

DISCUSSION—Workstation(s) may be included in a **workplace** and in a **workspace.** The boundaries of workstations may overlap, or there may be gaps between workstations. For example, a **workplace** for an individual might include: *(1)* a workstation for computer work, equipped with personal computer, visual display unit, keyboard, and reference material; *(2)* a workstation for desk-work and reference to documents; and *(3)* a workstation for telephoning (the latter two workstations would likely overlap). **E 1480**

special tools—tools other than common hand tools or those designed specifically for use with a delivered product. **E 1925**

specification, *n* (caractérisation (caractérisation technique))—precise statement of a set of requirements to be satisfied by a material, product, system, or service.

DISCUSSION—It is desirable that the requirements, together with their limits, should be expressed numerically in appropriate units. **E 1480**
E 631

specifying authority—professional(s) responsible for determining and furnishing information required to perform the test. **E 997**

specimen—See **test specimen.** **E 1605**

specimen thermal conductance, C_s—the time rate of heat flow through a unit area of a specimen (window or door), induced by a unit temperature difference between the specimen surfaces. It is calculated as follows:

$$C_s = 1/(1/U_S - 1/h_I - 1/h_{II}) \quad (1)$$

where:
C_s = thermal conductance of specimen (surface to surface), W/(m^2 · K) [Btu/(ft^2· h · °F)],
U_s = thermal transmittance of specimen (air to air under test conditions), W/(m^2· K) [Btu/ft^2· h · °F],
h_1 = surface conductance, room side, W/(m^2· K) [Btu/(ft^2· h · °F)], and
h_{II} = surface conductance, weather side, W/(m^2· K) [Btu/(ft^2· h · °F)].

DISCUSSION—The test specimen thermal conductance is an approximate value calculated from the measured thermal transmission, U_s, and the calculated room-side, h_I, and weather-side, h_{II}, surface conductances. When testing inhomogeneous test specimens, the test specimen surface temperatures and surface conductances will not be exactly the same as those obtained using the calibration transfer standard. Consequently, the surface conductances obtained using the calibration transfer standard cannot be defined unambiguously; hence the test specimen conductance cannot be defined and measured. For inhomogeneous test specimens, only the termal transmittance, U_s, can be defined and measured. It is therefore essential to test with surface conductances as close as possible to the conventionally accepted values for building design. Likewise, it would be desirable to have a surround panel that closely duplicates the actual wall where the fenestration system would be installed. However, this is not feasible due to the wide variety of fenestration opening designs and constructions. Furthermore, for high-resistance fenestration systems installed in fenestration opening designs and constructions with thermal bridges, the large relative amount of heat transfer through the thermal bridge will cause the relatively small amount of heat transfer through the fenestration system to have an error which is greater than desirable. As a result, the calculation of a specimen thermal conductance or resistance (surface to surface) from a measured thermal transmittance and the calculated surface conductances is not part of the basic mesurement procedure. The purpose of this procedure is to arrive at a U_{ST} value that includes standard film coefficients combined with the specimen thermal conductase, C_s. In this manner, it becomes easier to compare the thermal transmission of various fenestration systems. **E 1423**

specimen thermal resistance, R_c—the mean temperature difference, at equilibrium, between two defined surfaces of a material or construction that induces a unit heat flow rate through unit area. It is calculated as follows:

$$R_c = 1/U_s - 1/h_I - 1/h_{II} \quad (2)$$

where:
R_c = surface to surface thermal resistance of specimen, m^2· K/W (ft^2· h · °F/Btu).

E 1423

specimen thermal transmittance, U_s (sometimes called overall coefficient of heat transfer)—the heat transmission in unit time through unit area of a specimen and its boundary air films, induced by unit temperature difference between the environments on each side. It is calculated as follows when

$$t_{b2} = t_{II}\ (\pm 0.5°C)\ and\ t_{b1} = t_I\ (\pm 0.5°C) \quad (3)$$

where:
t_{b1} = baffle surface temperature, room side, K or °C (°F),
t_{b2} = baffle surface temperature, weather side, K or °C (°F),
t_I = temperature of room side air, °C (°F), and
t_{II} = temperature of weather side air, °C (°F).

$$U_s = Q_s/A_s \cdot (t_I - t_{II}) \quad (4)$$

where:
A_s = projected area of specimen (same as open area in surround panel), m^2 (ft^2), and
Q_s = time rate of heat flow through the specimen, W (Btu/h).

The transmittance of the specimen can be calculated from the thermal conductance and the surface conductances as follows:

$$1/U_s = 1/h_I + 1/C_s + 1/h_{II} \quad (5)$$

where the values of h_I and h_{II} are calculated using the appropriate equations in 3.1.4. **E 1423**

spectrophotometry—an analytical technique in which a spectrum of analyte species is obtained and used to determine the analyte concentration in the following manner. Light is directed onto or through analyte species, and the absorption of this light across a range of wavelengths is measured by a detector. The amount of absorbed light is a function of the concentration of analyte species.

spectrum analyzer XRF—see **XRF spectrum analyzer.** **E 1605**

spiked sample and spiked duplicate sample—a sample portion (split from an original sample) that is spiked with a known amount of analyte. Two portions of a homogenized sample that were targeted for addition of analyte and are fortified with all the target analytes before preparation. Analysis results for these samples are used to provide information on the precision and bias of the overall analysis

process. **E 1613**

spiked sample and spiked duplicate sample—a spiked sample (or spiked duplicate sample) is a blank wipe that is spiked with a known amount of analyte before preparation. **E 1644**

DISCUSSION—Analysis results for these samples are used to provide information on accuracy and precision of the overall analysis process.

spiked sample or spiked duplicate sample—a blank medium that contains no purposely added analyte to which a known amount of analyte is added before preparation. **E 1645**

DISCUSSION—Analysis results for these samples are used to provide information on the precision and accuracy of the overall process.

spiked sample and spiked duplicate sample—each is a portion of a single homogenized sample to which the same known amount of analyte is added (spiked) before sample digestion. Analysis results for these samples are used to provide information on accuracy and precision of the overall analysis process. **E 1726**

spindle—See **railing systems.**

spindle, *n*—a tapered picket of circular cross-section(s), having a center diameter larger or smaller than the diameter at its ends. **E 1481**

splice plate—a plate used for fastening and joining members. See also **gusset.**

split-level house—See **building.**

spot test—the application of reagent solution to a prepared dry paint film sample, paint chip, paint powder, or painted surface and the subsequent observation for the presence or absence of the characteristic color change. **E 1753**

square, *n*—an equal-sided rectangular **bar** or **tube** having sharp or slightly rounded edges.

stacking sequence—the order in which each individual ply is layed up, or stacked, on the tool.

DISCUSSION—Such information is commonly given on the engineering drawing. **E 1749**

stair, *n*—an uninterrupted series of level steps, or connecting flights of steps, extending between two or more **floors** or landings.

stair-rail system—See **railing systems.**

stairway, n—See **stair.**

standard deviation (in statistics)—a measure of the precision of the readings, the average deviation of the deviations from the mean value.

DISCUSSION—The smaller the standard deviation, the more precise the analysis, and the less variation there is when an analysis is repeated. The standard deviation is calculated by first obtaining the mean (arithmetic average) of all of the readings. A formula is then used to calculate how much the values from the mean (standard deviation = the square root of the arithmetic average of the squares of the deviations from the mean). Many hand calculators have an automatic standard deviation function. **E 1605**

standard pipe size—See **iron pipe size**.

stair-rail system—a railing system located along the open sides of a stair or landing. (Compare **guardrail/railing/stair-rail system**.) **E 1481 E 985, A1264.1**

static load—a load or series of loads that are supported by or are applied to a structure so gradually that forces caused by change in momentum of the load and structural elements can be neglected and all parts of the system at any instant are essentially in equilibrium. **E 73**

static load, *n*—an imposed stationary force that is constant in magnitude, direction, and sense.

stiffener, *n*—a reinforcing member designed to limit or prevent the deformation of an attaching member.

stile—See **windows and doors.**

storage—see **hazardous-waste storage.** **E 1605**

storage life—the length of time that a packaged adhesive, sealant, or other product can be stored under specified temperature conditions and remain suitable for use (Syn. **shelf-life.**) **E 1749 D 907**

story—See **building space.**

strength, *n*—resistance to external force or load or generation of internal strain, expressed in terms of units of force, lbf, pounds force (N, newtons).

DISCUSSION—Strength is the resistance to tensile, compressive, or shear force, or a combination of these; as compared to stress that is expressed in terms of force per unit area.

ultimate strength, n—maximum resistance to applied force, load, or stress that a material, member, component, or assembly of a structure can withstand without failure.

DISCUSSION—Sometimes referred to as ultimate load, maximum load, or maximum strength. Ultimate strength is expressed in terms of ultimate load resisted, that is, in units of force; as compared to ultimate stress that is expressed in terms of units of force per unit area.

strength:

compressive strength—the maximum compressive stength that a material is capable of sustaining. Compressive strength is calculated from the maximum load during a compressive test and the original cross-sectional area of the specimen.

DISCUSSION—Materials that fail in an abrupt manner typically produced well-defined endpoints for calculating compressive strength. For other materials, the value may be arbitrary depending upon the degree of distortion that is regarded as indicating complete failure of the material.

dry strength—the strength of an adhesive joint or composite structure determined immediately after drying under specified conditions or after a period of conditioning in a standard laboratory atmosphere.

wet strength—the strength of an adhesive bond or composite measured after exposing the test specimen to moisture/water vapor until saturated. **E 1749**

stress, *n*—internal force developed by application of external force or load or generation of internal strain expressed in terms of unit of force per unit of area, megapascals (pound-force per square inch). When the forces are parallel to the plane on which it acts, the stress is called shear stress; when the forces are normal to the plane on which it acts, the stress is called normal stress; when the normal stress is directed toward the plane on which it acts, it is called compressive stress; when the normal stress is directed away from the plane on which it acts, it is called tensile stress. Sometimes referred to as unit stress. **E 1807**

stress ratio—ratio of ultimate stress of metal connector plate to ultimate stress of matched solid metal-coupon control specimen. Also called *effectiveness ratio* and *efficiency ratio.* **E 1807**

strip, *n*—a flat, thin member, much longer than wide, having width greater than thickness (if of steel, having dimensions of 0.229 in. (5.8 mm) or less thickness and 12.0 (305 mm) or less width).

structural integrity—for the purpose of this specification, it is the ability of the AR to maintain air leakage performance after exposure to elevated positive and negative pressure (see 5.1.2 for performance).

structural system—a combination of load supporting and transmitting construction elements or **components** of an assembly or **building** including connections.

structural quality sheet coil—coiled sheet metal used for production of metal connector plates meeting minimum specified grade properties for yield and ultimate stresses and elongation. If Specification A 653/A 653M Grade 40 is specified, the steel properties shal exceed 16 pct for elongation for a 50 mm (2.0 in.) gage length of the 275 MPa (40 ksi) yield point and 380 MPa (55 ksi) ultimate tensile stress, according to Specification A 653/A 653M. **E 1807**

structural test, *n*—determination of one or more values for load, stress, and deflection characteristics of a material or assembly.

DISCUSSION—Typical test loads simulate wind load, or seismic load, or gravity load.

study period—the length of time over which an investment is analyzed. (Syn. *life cycle, time horizon*). **E 833**

sub-floor—See **floor.**

sub-flooring—See **floor.**

sub-grade—See **grade.**

substandard dwelling—dwelling or residence that does not meet minimum local housing codes, or is unsafe because of violation of fire, safety, or health codes. **E 1605**

subsurface layers—layers of material that may exist on a base substrate and which are underneath the outermost layer, or surface, on a base substrate. **E 1796**

substrate base—unfinished building-material surface to which finishes are applied. Examples include wood, plaster, drywall, masonry, and metal. **E 1605**

substrate effect—see **XRF substrate effect.** **E 1605**

substrate equivalent lead concentration (SEL)—average of at least three XRF analyzer readings on a surface from which the coating has been removed. **E 1605**

subsystem—See **building subsystem.**

sulfochromate etch—etchant used for preparing the surface of aluminum alloys for adhesive bonding (sulfuric acid/sodium dichromate). Also known as the *Forest Products Laboratory (FPL)* etch. **E 1749**

sulfoferric etch—etchant used for preparing the surface of aluminum alloys for adhesive bonding (sulfuric acid/ferric sulfate). Also known as the *P2 etch.* **E 1749**

sulfide spot test method—*for lead detection*, the use of a dilute solution of sulfide ion to test a painted surface or paint chip for the qualitative presence of lead **(2)**. A color change from clear to grey or black indicates the presence of lead above the level of detection of the spot test. **E 1753**

sunk cost—a cost that has already been incurred and which should not be considered in making a new investment decision. **(E 833)**

support space—See **space categories.** **E 1480**

supported file adhesive—See **adhesive, supported film.** **E 1749**

surface—the outermost layer of material on a base substrate facing the inspector or occupants. **E 1796**

surface preparation—a physical or chemical preparation, or both, of an adherend surface to render it suitable for adhesive joining. **E 1749 D 907**

surface conductance, h—(often called surface or film coefficient)—the time rate of heat flow from a unit area of a surface to its surroundings, induced by a unit temperature difference between the surface and the environment. Subscripts are used to differentiate between room-side (1 or I) and weather-side (2 or II) surface conductances (see Fig. 1). Due to radiation effects, the room-side or weather-side temperatures (t_I and t_{II}, respectively), or both, can differ from the respective room-side or weather-side baffle temperatures (t_{bI} and t_{bII}, respectively). If there is a difference of more than± 0.5 °C, (±1.0 °F), either on the room side or the weather side, the radiation effects must be accounted for to maintain accuracy in the calculated surface conductances. The room-side and weather-side surface conductances are calculated as follows:

When

$$t_I = t_{b1}\ (\pm 0.5°C), \qquad h_I = q_s/(t_I - t_1) \tag{6}$$

where:

t_1 = temperature of specimen room-side surface, K or °C (°F), and

q_s = heat flux through the specimen, W/m^2 [Btu/(h·ft^2)].

When

$$t_I \neq t_{b1}, \qquad h_I = (q_{r1} + q_{c1})/(t_I - t_1) \tag{7}$$

where:

q_{r1} = net radiative heat flux to the room side of the specimen, W/m^2 [Btu/(hr · ft^2)], and

q_{c1} = convective heat flux to the room side of the specimen, W/m^2 [Btu/(h· ft^2)].

When

$$t_{II} = t_{b2}\ (\pm 0.5°C), \qquad h_{II} = q_s/(t_2 - t_{II}) \tag{8}$$

where:

t_2 = temperature of specimen weather-side surface, K or °C (°F).

When

$$t_{II} \neq t_{b2}, \qquad h_{II} = (q_{r2} + q_{c2})/(t_2 - t_{II}) \tag{9}$$

where:

q_{r2} = net radiative heat flux from the weather side of the specimen, W/m^2[Btu/(h · ft^2)], and

q_{c2} = convective heat flux from the weather side of the specimen, W/m^2 [$Btu/(h \cdot ft^2)$]. **E 1423**

symmetrical laminate—See **laminate, symmetrical.** **E 1749**

system—of a building—See **building system.** **E 1480**

tape—materials in which the reinforcing filaments or fibers are laid in a single direction within a resin matrix in the B-stage. **E 1749**

tap test—See **test, tap**. **E 1749**

target cost—the planning expenditure, determined in cooperation with the cost professionals and the design team, for project elements. **E 833**

task lighting—See **lighting.** **(E 1480)**

task outline—a general plan of the estimating work to be performed. **E 833**

technical performance—discouraged term for **performance**—*of a building* or **performance—***of a facility*. **(E 1480)**

temper, *v*—in hydraulic-setting compounds, to bring to a usable state by mixing in or adding water.

tempest—term used to describe techniques used to reduce emanation of electronic data or intelligence from a tactical shelter. **E 1749**

DISCUSSION—Tempest requirements attempt to minimize signals given off by any electronic system by shielding and careful attention to signal paths.

template, *n*—(*1*) a pattern used as a guide in fabricating elements. (*2*) a precise, detailed pattern or layout to provide essential fabrication details.

tenant (locataire)—organization that has rights and obligations of occupancy in a facility, as specified in a lease or occupancy agreement.

DISCUSSION—An occupant organization may also be a tenant; or, it may be a unit that is part of a larger tenant organization. Typically, the official who commits the tenant to the terms of a lease or occupancy agreement is either an occupant or a member of a larger organization of which the occupant organization is also a part. **(E 1480)**

tensile strength of metal connector plate—resistance to tensile force by net plate cross section normal to the direction of load application, expressed as force per unit of width of full cross section of connector plate, when used in pairs of plates. **E 1807**

test:

accelerated test—the testing of materials by exposure to intensified simulation of service conditions, for example, weathering, radiation, etc.

climbing drum peel test—a method of determining the relative peel resistance of adhesive bonds between a relatively flexible adherend and a rigid adherend, and the relatively flexible facing of a sandwich structure and its core (see Test Method D 1781).

destructive test—a test involving the destruction of assemblies or parts in order to evaluate the maximum performance of the assembly or part.

floating roller peel test—a method of determining the relative peel resistance of adhesive bonds between one rigid and one flexible adherend (see Test Method D 3167).

nondestructive test—an inspection test for the evaluation of structural quality without damaging the assembly, for example, ultrasonics, visual inspection, etc.

sag flow test—a method of determining the maximum thickness to which a material can be applied without sagging and that provides a means of measuring the amount of sag flow at a given thickness (for highly viscous resins) (see Test Method D 2730). **E 1749**

test, *n*—critical examination of the quality, composition, or properties of a material, usually involving standardized test procedures. **(E 1605)**

test kit—equipment (for example, a cutting tool, adsorbent applicators, if necessary) and chemicals (for example, sulfide or rhodizonate spot test reagents and any extraction solutions needed) assembled for use during spot testing for lead. **E 1753**

test piece—member of test specimen. **F 1807**

test pressure difference—the actual pressure difference across the building envelope, expressed in pascals (inches of water or pounds-force per square foot or inches of mercury). **E 779**

test specimen—portion of a test unit needed to obtain a single test determination.

DISCUSSION—When used for a physical test, this is sometimes called *test piece*. For a chemical test, it is sometimes called *test portion* or *test sample*. For optical and other tests, it is also sometimes called *test sample*. In interlaboratory evaluation of test methods and other statistical procedures, it is best to reserve the word **sample** for the whole amount of material involved and not the individual test specimens, pieces, or portions being tested. **(E 1605)**

test specimen—sample connections to be tested to determine a particular plate strength characteristic; fabricated by connecting two or more butted wood members with two parallel metal connector plates at each connection, placed symmetrically on opposite sides along the butted ends. **E 1807**

test, tap—a nondestructive evaluation procedure for detecting areas of panel delamination in sandwich or other composite constructions; outer surface of the panel is tapped with a hammer or coin. Changes in acoustic emissions (sound) resulting from tapping are used to distinguish between delaminated and nondelaminated sections of the panel (see Test Method E 492). **E 1749**

thermoplastic—a polymer material that will repeatedly soften when heated and harden when cooled. **E 1749 D 907**

thermoset—a polymer material that will undergo or has undergone a chemical reaction by the action of heat, catalysts, ultraviolet light, etc., leading to a relatively infusible state. **E 1749 D 907**

thixotropy—a property of nonsag materials that display a reduction in viscosity when a shearing action is applied but resist seeking their own level when left undisturbed. **E 1749**

time horizon—See **study period**.

time value of money—the time-dependent value of money stemming both from changes in the purchasing power of money (that is, inflation or deflation), and from the real earning potential of alternative investments over time.

toe board—a vertical plate at the bottom of a railing system located at the open edge of a stairwell, platform, ramp, or floor; forming a low curb to provide a barrier preventing objects from falling beyond it. (Syns. *kick plate* and *toe plate*.)

DISCUSSION—Toe boards are normally not used for stair-rail systems. **E 1481**

toe board—See **railing systems.**

toe plate—See **railing systems.**

toe plate—Synonym for **toe board**. **E 631**

tolerance, *n*—the allowable deviation from a value or standard; especially the total range of variation permitted in maintenance a specified dimension in machining, fabricating, or constructing a member or assembly.

tooling—a term used to describe the shaping of a fillet bead of applied sealant to a feathered edge where it meets the substrate(s).

DISCUSSION—The goal is to ensure good surface contact at feathered edges, to eliminate voids, trapped air, and reentrant edges, and to produce a contour of the correct thickness and shape over the area being sealed.

tooth, *n*—integral projection of metal connector plate formed in direction perpendicular to plate surface(s) during punching process. Also called prong, barb, plug, and nail, yet, preferably called tooth. **E 1807**

top rail—the uppermost member of a railing system. **E 631**

top rail—See **railing systems.**

top story—See **building space.**

topic, *n—of serviceability*, a part of the serviceability of a facility for which a paried set of requirements and rating scales can be prepared. **E 1679**

DISCUSSION—At any level of serviceability, a topic can be expressed in two ways: a statement of a requirement in the normal language of occupants or owners; and a statement in technical performance language describing the combination of features that meet that requirement. Each statement is a translation of the other. Taken together, several related topics typically comprise one aspect of serviceability.

toxicity characteristic leaching procedure (TCLP)—a mild laboratory extraction procedure designed to determine the mobility of organic and inorganic constituents present in liquid, solid, and multiphasic wastes.

DISCUSSION—The Environmental Protection Agency TCLP procedure is provided in 40 CFR 261, Appendix II. **(E 1605)**

traffic-rail system—a railing system designed to control the movement of people and requiring special consideration for given use conditions. Also, *queue-rail system*. **E 631, E 985**

traffic-rail system—See **railing systems**.

transfer-rail system—See **railing systems.**

transfer-rail system—a railing system designed to support and to permit the transfer of body weight in such locations as toilets, showers, and tub enclosures. **E 631**

DISCUSSION—The clearance between the rail and the face of the mounting surface shall be 40 mm (1.5 in.). **E 1481 E 985**

treatment—see **hazardous-waste treatment.** **(E 1605)**

truss—a coplanar system of structural elements joined together at their ends usually to construct a series of triangles that form a stable beam-like framework. **E 73**

truss plate—See **metal connector plate.** **E 1807**

TSD facility—facility for treatment, storage, or disposal of hazardous waste. **(E 1605)**

TSP—tri-sodium phosphate. **(E 1605)**

tube, *n*—a tubular conduit for transport of fluids or finely divided solids; also, a hollow structural member; a hollow product of round or other cross section.

DISCUSSION—A tube is designated by (*1*) its exact outside diameter, and (*2*) its exact wall thickness which may be described in gage numbers or other units. An exception exists for copper tubes as used in the plumbing industry which are designated by the nominal size, which for 2-in. diameter or less approximates the inside diameter; while the exact outside diameter is 0.125 in. (3.2 mm) larger than the nominal size. Compare **tubing, pipe.**

tubing, *n*—a system of **tubes**.

typical metal connector plate—metal connector plate representative of single shipment of plate to be tested; with plate manufacturing procedure simulating actual production conditions anticipated during plate fabrication as well as during member and component assembly. **E 1807**

µg—microgram.

ULPA filter—ultra-low-penetration air filter.

ultimate strength—See **strength.**

ultimate strength—maximum resistance to external force, load, or generation of internal strain of a material, member, connection, component, or assembly at which failure occurs; expressed in terms of units of force, newtons (pound-force); as compared to ultimate stress which is expressed in units of force per unit of area. Often referred to as *maximum load*, *ultimate load*, *maximum strength*, or *nominal strength*, and incorrectly referred to as ultimate stress. **E 1807**

ultra-low penetration air (ULPA) filter—filter capable of separating out particles of 0.13 µm or greater from a body of air at 99.9995 % efficiency or greater. See also **HEPA filter**. **(E 1605)**

uncertainty—lack of certain, deterministic, values for the variable inputs used in an economic analysis of a building or building system. **E 833**

unconditioned space—any space that is not intentionally heated or cooled for human occupancy, including attics, crawlspaces, unfinished basements, attached structures (such as a garage), or any space completely outside the building envelope (for example, rooftop ductwork on small commercial buildings). **E 1554**

underlayment—See **floor.**

unilaterally punched metal connector plate—metal connector plate with integral teeth projecting from plate in single direction perpendicular to plate surface area. **E 1807**

unit—see **dwelling unit**.

unit—reference value of a given quantity as defined by CGPM Resolution or ISO Standards. There is *only one* unit for each quantity in SI. **E 621**

unit—the smallest single portion of material received in any one lot (for example, a single roll of material).

unsupported film adhesive—See **adhesive, unsupported film**.

uplift—the vertical displacement measured at the loaded end stud with respect to the test apparatus. **E 564**

urn, *n*—an ornamental vase used as a finial. **E 148**

urn—See **railing systems**.

useful life—the period of time over which an investment is considered to meet its original objective. **E 833**

utility core—Use **core module**.

utility function—a function that shows how utility (that is, satisfaction) varies with money or income.

DISCUSSION—The utility function shows the decision maker's risk attitude. **E 833**

vacuum bag molding—a process in which an adhesive or composite assembly is cured under pressure generated by drawing a vacuum in the space between the lay-up and a flexible sheet placed over it and sealed at the edge. (Compare with **bag molding**.) **E 1479**

value anaylis (VA)—the procedure for developing and evaluating alternatives to a proposed economical design that best fulfills the needs and requirements of the user/owner of the building. (Also referred to as *value engineering*.)

value analysis team leader (VATL)—the individual who facilitates the **value analysis**. **E 833**

vapor retarder—a material or system that adequately impedes the transmission of water vapor under specified conditions.

DISCUSSION—For practical purposes it is assumed that the permeance of a vapor retarder will not exceed one perm in inch-pound units (57.4 ng/(s·m^2·Pa)), although at present this value may only be appropriate for residential construction. For certain other types of construction the permeance must be lower.

vent hole—an opening for the escape of gases of relief of pressure, often required in fabricated, immersion-coated, or hot-dip galvanized steel members. Compare **drainage hole, weephole**.

ventilator—See **windows and doors**.

verification—see **calibrate**. **E 1605**

VOC—an abbreviation for *volatile organic compound*; an organic compound with the tendency to become vapor at specified conditions of temperature and presure. **E 1479**

void—*instructural members*, any opening, small crack, or crevice occurring at the juncture of structural members (such as chambers, reliefs, joggles, butt joints, or fasteners).

DISCUSSION—Voids may also occur in adhesive bondlines or within laminated composites. **E 1749**

volatile materials—materials, particularly chemicals such as organic solvents that are readily vaporized at room temperature. **E 1605**

volatile organic compound—See **VOC**. **E 1749**

volatility—the capability of evaporating into a gas. **E 1479**

volute—See **railing systems**.

volute, *n*—an ornamental spiral or scroll-shaped form serving, for example, as the handrail termination. **E 631**

Von Mises yield theory—stated ratio between shear and tension yield stresses for an isotopic, solid material. Theoretical yielding in shear is assumed to occur at a stress equal to 0.577 of the yield stress in tension. **E 1807**

wall, *n*—a part of a **building** that divides spaces vertically.

bearing wall—a **wall** supporting a vertical load in addition to its own weight.

curtain wall—a **nonbearing** exterior **wall**, secured to and supported by the structural members of the **building**.

nonbearing wall—a **wall** that does not support a vertical load other than its own weight.

retaining wall—a **wall** not enclosing portions of a **building**, designed to resist the lateral displacement of soil or other material.

wall bracket—a bracket used for anchoring the central portion of a handrail to a wall. **E 1481**

wall clip—a bracket used for anchoring the end of a handrail to a wall. (Syn. *wall flange*.) **E 1481**

wall clip—See **railing systems.**

wall flange—Synonym for **wall clip**. **E 1481**

wall flange—See **railing systems.**

wall handrail—See **railing systems.**

wall handrail—a handrail attached to a wall or other building element adjacent to a stair and along landings, walkways, ramps, and corridors. (Syn. *wall rail*.)

DISCUSSION—Wall handrails shall parallel the pitch of a stair and the slope of other inclined floor surfaces. **E 1481**

wall rail—Synonym for **wall handrail**. **E 631**

wall railing return—a bend at the end of a wall handrail, turning toward the wall to which the handrail is attached. **E 1481**

water leakage—penetration of water onto the exterior plane of framing or cavity insulation under specified conditions of air pressure difference across the AR during a test period. **E 1677**

water migration resistance—the ability of either facing or core materials to prevent migration of water in sandwich panels. **E 1749**

wall rail—See **railing systems.**

wall railing return—See **railing systems.**

water-repellant, *n*—a material or treatment for surfaces to provide resistance to penetration by water.

water resistance—the capability of a material or system to retard water leakage. **E 1677**

water vapor barrier—Use **water-vapor retarder**, the preferred term.

water vapor diffusion—the process by which water vapor spreads or moves through permeable materials caused by a difference in water vapor pressure. **E 1677**

water-vapor permeance—time rate of water-vapor transmission through unit area of a flat material or construction induced by unit vapor-pressure difference between two specified surfaces, under specified temperature and humidity conditions. See **perm.** **C 168**

water-vapor retarder, *n*—material or system that impedes the transmission of water vapor under specified conditions.

DISCUSSION—See Practice C 755 for guidance on acceptable limits.

weather sealer—form of coating applied to the outer surface of a construction to augment its weather resistance.

weephole, *n*—a small hole allowing drainage of fluid. Compare **drainage hole, vent hole**.

wet strength—See **strength, wet.** **E 1749**

width of metal connector plate—dimension of metal connector plate perpendicular to longitudinal axis of coiled metal strip from which plate was sheared during its fabrication. **E 1807 E 489**

window—See **windows and doors.**

windows and doors:

back bedding—a **bead** of sealant, glazing compound, or putty, applied between the face of glass and the **frame** containing it.

back putty—Use **back bedding.**

balance, n—a mechanism used in hung window assemblies to provide mechanical assistance in raising the operable **sash** and providing a means of holding the **sash** in the open position.

bead, n—in glazing, (*1*) a strip of metal or wood used around the periphery of a **pane** of glass to secure it in place (also referred to as a "stop"). (*2*) a strip of sealant, glazing compound, or putty.

bite, n—the distance that the surround member (rail or stile) overlaps the **glazing.**

fixed, adj—describing a **sash, panel**, or **glazing** designed not to be opened (antonym: **operable**).

frame, n—an assembly of structural members that surrounds and supports the **sash, ventilators,** doors, **panels,** or **glazing** that is installed into an opening in a **building envelope** or **wall.**

glaze, v—to install **glazing**.

glazing, n—a material installed in a **sash, ventilator,** or **panel** such as glass, plastic, etc.

glazing bead, n—a **glazing material** used in a **sash, ventilator, panel, window** or door assembly that retains the glazing.

glazing material, n—the **components** used to install **glazing** into its surrounding edge members, such as gaskets, sealants, glazing retainers, etc.

head, n—an upper horizontal member of a **window** or door **frame.**

horizontal sliding window, n—a window assembly in which the operable **sash** (es) moves horizontally in the plane of the **window**.

hung window, n—window assembly in which the operable **sash** (es) moves vertically in the plane of the **window** and having a balance(s) to aid in the operation of the sash.

Windows may be single, double, or triple hung depending on the number of **operable sash** (es).

interlock, n—a set of **meeting rails** or meeting **stiles** that contains a provision for each of the **rails** or **stiles** to physically engage one another over their entire length.

jamb, n—a vertical member of a **window** or door **frame**.

light, n—Use **lite**.

lite, n—one piece of **glazing** (preferred term) (also spelled light) (synonym: pane)

meeting rail, n—a **rail** that overlaps another rail.

mull, v—to join or connect **frame** members of **windows** or doors; or a **frame** member to a **mullion**.

mullion, n—a member used between **windows** or doors as a means of connection, which may or may not be structural.

muntin, n—a member used between **lites** of **glazing** within a **sash, ventilator,** or **panel.**

"O"—in window and door design, a designation used to indicate a **fixed sash, panel,** or **lite.**

operable, adj—describing a **sash, ventilator,** or **panel** designed to be opened and closed (antonym: **fixed**).

pane, n—See **lite.**

panel, n—an assembly of one or more **lites** of **glazing,** encompassed by surrounding edge members, which when **operable,** slides horizontally in the plane of a sliding door.

rail, n—a horizontal surrounding edge member of a **sash, ventilator,** or **panel.**

sash, n—an assembly of one or more **lites** of **glazing**, encompassed by surrounding edge members, which when **operable,** slides in the plane of the **window**.

DISCUSSION—In the wood window industry, the term "sash" is used regardless of the mode of operation.

sealed insulating glass, n—an assembly of two or more **lites** separated by a dehydrated gaseous space(s), the entire assembly being sealed to resist passage of water vapor or gas.

sill, n—a lower horizontal member of a **window** or sliding door **frame**.

sliding glass door, n—a door assembly in which the **operable panel** (s) moves horizontally in the plane of the door.

stile, n—a vertical surrounding edge member of a **sash, ventilator,** or **panel.**

ventilator, n—an assembly of one or more **lites** encompassed by surrounding edge members, that operates in a manner other than sliding in the plane of the **window.**

DISCUSSION—In the wood window industry, this term is not normally used; the parts of the window described are denoted as "sash."

window, n—an assembly consisting of a surrounding **frame** and one or more **sashes, ventilators,** or fixed **lites** of glass, or a combination of these, designed to be installed in a **wall** opening for the purpose of admitting light or air, or both.

"X"—in window and door design, a designation used to indicate an **operable sash, ventilator,** or **panel.**

window stool—flat, horizontal molding fitted over the sill, on the window interior, between jambs, that comes in contact with the bottom rail of the (lower) operating sash and the window sill. **E 1605**

wipe, *n*—a disposable, porous paper (cellulosic) towellette that is moistened with a wetting agent. **E 1792**

DISCUSSION—The towellette is used to collect a sample of settled dust on a smooth, hard surface for subsequent lead analysis.

wipe—disposable twoelettes moistened with a wetting agent. These towelettes are used for cleaning sampling equipment. Wipe brands or sources selected for use shall contain insignificant background lead levels. **E 1792**

DISCUSSION—Laboratory analysis on replicate blank wipes should be used to determine background lead levels prior to use in the field. Brands of wipes that contain aloe should be avoided due to increased potential of significant background lead in these wipes. Brands of wipes

that contain lanolin should also be avoided due to potential increased laboratory processing difficulties that have been reported with such wipes. Background lead levels less than 5 µg per wipe are considered insignificant for most investigative purposes.

wipe—disposable towelettes moistened with a wetting agent (see 2.1.5.1 and 2.1.5.2). These towlettes are used to collect the sample and to clean sampling equipment. Wipe brands or sources selected for use shall not contain significant background lead levels (see 2.1.5.1.) Wipe brands or sources selected for use shall be of adequate width and thickness to perform the collection procedure (see 2.1.5.2).

DISCUSSION—Laboratory analysis on replicate blank wipes should be used determine background lead levels prior to use in the field. Brands of wipes that contain aloe should be avoided due to increased potential of significant background lead in these wipes. Background lead levels less than 5 µg per wipe are considered insignificant for most investigative purposes.

DISCUSSION—A thin wipe having dimensions of approximately 15 by 15 cm is recommended. Use of multiple or extra-thick wipes can cause problems with laboratory analysis activities. Use of wipes with smaller dimensions may not be capable of holding settled dust contained within the sampling area.

wipe sampling kit—a sealable rigid walled container with 50 mL minimum volume (see 2.1.6.1). The kit must also include a separate container of clean uncontaminated wipes for use in collecting samples. One container of bulk packed wipes is typically used for collection of multiple samples. **E 1728**

DISCUSSION—Use a resealable plastic bag for holding and transporting the settled dust wipe sample is not recommended due to the potential losses of settled dust within the plastic bag during laboratory handling. Quantitative removal and processing of the settled dust wipe sample by the laboratory is significantly improved through the use of sealable rigid walled containers.

wire fabric—See **screen.** **E 1481**
wire mesh—See **screen.** **E 1481**
wire mesh—See **railing systems.**
work area—assigned space within a building, or at an exterior location, that is designated as the region delineated by the scope of work. **E 1605**
work-practice control—see **engineered control.** **E 1605**
working drawing—a detail drawing, usually produced by a draftsperson under direction of an architect, engineer, or other designer showing form, quantity, and relationship of construction elements and materials; indicating their location, identification, grades, dimensions, and connections. Compare **shop drawing.**
working life: **E 1749**
adhesive working life—the period of time during which an adhesive, after mixing with catalyst, solvent, or other compounding ingredients, remains suitable for use. **D 907**
sealant working life—the amount of time faying surfaces can be left open once sealant has been applied and still squeeze out excess sealant on closure to a thickness of 0.005 in. (0.13 mm) or less.
workshop effort—the exclusive, intense concentration of the VA team on the project during the workshop period. **E 833**
workstation—See **building space.**
worth—the value as defined in monetary terms of a specific function identified. **E 833**
XEPS—see **rigid cellular polystyrene thermal insulation board.**
XRF direct-reading analyzer—an analyzer that provides the operator with a display of a lead concentration calculated from the lead "K" x-ray intensity. Compare **XRF spectrum analyzer.** **E 1605**
XRF reading cycle-XRF direct-reading analyzers—calculate the lead "K" x-ray intensity in a specific time interval (10 to 30 s) that is fixed by the manufacturer and related to the age of the source. The calculated result in this time interval is a *reading cycle*.

DISCUSSION—In order to determine a concentration of lead (ALC or SEL) the displayed results *of a minimum of three* single reading cycles must be averaged. The difference between the lowest and highest readings from at least three reading cycles must be less than 1.7 mg/cm^2. **E 1605**

XRF analyzer—instrument that determines lead concentration, using the principle of X-ray fluorescence.

DISCUSSION—For coatings, the concentration normally is expressed in milligrams per square centimetre (mg/cm^2). **E 1605**

XRF sample site—specific spot on a surface being tested for lead concentration by portable or laboratory XRF equipment. **E 1605**
XRF-shoot, *v*—to obtain the results of an XRF single reading cycle. **E 1605**
XRF spectrum analyzer—type of XRF analyzer that provides the operator with a plot of the energy and intensity of both" k" and "L" x-rays, as well as a calculated concentration of lead. Compare **XRF direct-reading analyzer.** **E 1605**
XRF substrate effect—return of backscattered radiation from paint, substrate, or underlying material to the XRF analyzer.

DISCUSSION—This radiation when counted as lead x-rays by an XRF contributes to SEL or bias. The inspector may have to compensate for this effect when using direct-reading XRF analyzers. **E 1605**

yield stress, *n*—limit to internal force developed by application of external force or load or generation of internal strain to a material, member, connection component, or assembly beyond which a marked increase in the rate of deformation occurs without an increase in load; expressed in terms of units of force per unit area, psi, pounds force per square inch (Mpa, megapascals).

DISCUSSION—When the initial rate of force is non-linear, an agreed-on convention shall apply. Sometimes incorrectly referred to as *yield strength* and as *ultimate strength.*

APPENDIX

(Nonmandatory Information)

X1. KEYWORDS

X1.1 Scope

X1.1.1 This appendix of keywords is provided as a resource and a convenience to aid in providing index terms for standards of Committee E-6. It has been compiled from the titles and text of current standards. Other appropriate keywords may be selected; such as terms listed elsewhere in this terminology standard.

NOTE X1.1—Some keywords herein are listed more than once.

X1.2 Resource List of Keywords

abatement contractor
accelerated testing
accelerated weathering
acceptance testing
accreditation
accuracy of loading
acoustic method
adhesion
adhesive bonding
adhesive primer
adhesives
adjusted internal rate of return
agencies capabilities
agencies criteria
agencies evaluation criteria
agencies guidelines
agencies testing
air capacity
air change rate
air-erosion testing
air flow calibration
air infiltration
air leakage
air-leakage detection
air-leakage measurement
air-leakage rates
air-leakage testing
air-pressure difference
air-pressure difference testing
air-pressure differential test
air-pressure testing
airflow measurement
airflow calibration
aluminum alloy panels
aluminum facings
anchorage
anchorage devices testing
anchorage systems
anchorage system tests
anchorage testing
anemometer method
annealed glass
architectural drawings
asbestos abatement

basic building module
beams testing
benefit/cost analysis
benefit-to-cost ratio
bimetallic thermometer
bituminous roofing
blower-door test
bonding strength
bond strength
building air-change rate
building anchors
building assemblies data
building components life
building components evaluation
building construction
building construction materials
building constructions data
building construction tests
building decisions
building design metric practice
building economics
building elements
building envelope
building inspection
building inspector
building materials service life
building neutral zone
building owner
building parts sizing
buildings
buildings connections data
buildings definitions
buildings drawings
buildings investment
buildings life cycle costs
buildings modules
buildings terminology
building thermal envelope
building systems
building systems costs
building systems evaluation
built-up roofing

canopies
cantilever-beam test
cantilever frame
carports
certainty equivalent factor
certification

rectilinear building parts
reliability
relocatable shelters
relocatable structures
repeat loadings
repetitive loads
replacement doors
replacement windows
return on investment
rigidity
risk evaluation
Roof Decks
insulated roof deck steel frame
steel roof deck

Roofs and Roofing
bituminous roofing
built-up roofing
flat roof testing
modified bitumen sheets
pre-engineered roof structures
preformed roof insulation
roof drains
roof diaphragm
roofing adhesives
roofing base flashing
roofing edge detail
roofing equipment support
roofing expansion joints
roofing mechanical equipment
roofing membrane
roofing scuppers
roofing systems
roof maintenance
roof panel testing
roof relief vent
roof sheathing
roof-system assemblies
roof systems
roof testing

safety considerations
sandwich panels
savings/investment ratio
seal durability
sealed insulating glass
seismic tests
serviceability
service-life prediction
shear resistance
shear resistance testing
shear strength tests
shear testing
sheds
shelter panels
shock tests
SI metric practice in buildings
simple-beam diaphragm
simple payback
simple-span frame
simulated load conditions
simulated service tests
simulated structures
sizing building parts
sliding glass doors
smoke-tracer method
soil burial testing
soil contact testing
sprayed materials
sprayed fire-resistive material
sprayed materials testing
stack flashing
standard terminology
static air-pressure difference
static axial strength
static load
static load testing
static shear capacity
static tests
steel corrosion
steel deck deflection tests
steel deck insulation
steel roof decks
steel truss plates
storm doors
storm sashes
storm windows
strain gages
strength of anchors
strength tests
stress testing
structural adequacy
structural applications
structural clay units
structural film adhesives
structural performance
structural tests
structural tests data
surface preparation
system analysis

tactical shelters
technical staff evaluation
tensile load
tensile strength properties
tensile testing
tension testing
terminology
test data gathering
vapor retarder
wind uplift resistance

Testing
acceptance testing
accelerated testing
agencies testing

framed walls testing
wall panel testing
wall testing
water-induced damage
water leakage
water penetration
water-vapor retarder
water-vapor transmission testing
wear testing
weather-cycle tests
wet tensile strength
wind-driven rain
wind loading
wind pressure
window assemblies
window rotary operators
windows
window sashes
windows installation
windows performance
wood-framed truss assemblies
wood products testing