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.

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).

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

R_u—maximum diaphragm reaction, lbf (or N)

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**