

# Terminology for Brick Masonry

**Abstract:** This *Technical Note* contains the historical and modern vocabulary used to describe the design, manufacture, testing and installation of clay brick masonry. The glossary defines properties of clay brick, brick unit types, manufacturing processes, structural masonry elements, masonry code and specification-related expressions, mortar elements, installation methods, architectural features, wall types, water resistive materials, and other related terms. Though not comprehensive, it is a useful resource for both novices and industry professionals.

**Key Words:** definitions, glossary, terminology.

## SUMMARY OF RECOMMENDATIONS:

The terms and definitions in this *Technical Note* were obtained primarily from the following sources:

- **TMS 402/602**, *Building Code Requirements and Specification for Masonry Structures* by The Masonry Society (TMS)

- **ASTM C1232**, *Standard Terminology for Masonry*
- **The Masonry Glossary** (out of print) by the International Masonry Institute (IMI)

Additional definitions were obtained from other codes and standards documents or developed by BIA staff.

## INTRODUCTION

This *Technical Note* compiles a wide variety of terms used in relation to brick masonry construction. Although this list is by no means comprehensive, it should serve as a helpful resource to users with various levels or experience with brick masonry. Some uncommon and/or antiquated terms have been maintained for reference.

## TERMS

**absorption\*** – The weight of water gained by a clay masonry unit during immersion at prescribed conditions expressed in relation to the dry weight of the unit. Two conditions of immersion are designated in brick standards: cold water absorption and boiling water absorption. This is a different material property from *initial rate of absorption (IRA)*.

**admixtures** – Materials—other than water, aggregates and cements—added to mortar to impart special properties to the mortar.

**allowable stress design** – Design method by which stresses computed by elastic theory under service loads cannot exceed a permissible value. The permissible value is the ultimate strength of the material divided by a safety factor. Also known as *working stress design*.

**anchor†** – Metal rod, wire or strap that secures masonry to its structural support. Currently, TMS 402/602 recognizes only anchors made from metal. The building code may permit other materials.

**ANSI** – American National Standards Institute, an organization that administers and coordinates the processes used to develop U.S. codes and standards.

**arch** – A curved compressive structural member, spanning openings or recesses; also built flat.

**arch, back** – A concealed arch carrying the backing of a wall where the exterior facing is carried by a lintel.

**arch, jack** – An arch having horizontal or nearly horizontal upper and lower surfaces. Also called *flat arch* or *straight arch*.

\* Term correlated with ASTM C1232

† Term correlated with TMS 402/602

**arch, major** – An arch with either a span greater than 6 ft (1.83 m) or a rise-to-span ratio greater than 0.15. Common major arch types include Tudor arch, semicircular arch, Gothic arch or parabolic arch.

**arch, minor** – An arch with a maximum span of 6 ft (1.83 m) and a rise-to-span ratio less than or equal to 0.15. Common minor arch types include jack arch, segmental arch or multicentered arch.

**arch, relieving** – An arch built over a lintel, flat arch or smaller arch to divert loads, thus relieving the lower member from excessive loading. Also known as a *discharging arch* or *safety arch*.

**arch, trimmer** – An arch, usually a minor arch of brick, used for supporting a fireplace hearth.

**ashlar masonry** – Masonry composed of rectangular units of burned clay, burned shale or stone, generally larger in size than a single modular sized brick and properly bonded, having sawed, dressed or squared beds and joints laid in mortar. When the unit size varies to create a random pattern, it is referred to as *random ashlar*. When laid in horizontal bands with repeating continuous horizontal joints at specific intervals, it is referred to as *coursed ashlar*.

**ASHRAE** – An organization (formerly known as the American Society of Heating, Refrigerating and Air-Conditioning Engineers) that conducts research and develops standards focused on building systems such as HVAC, lighting, energy efficiency, indoor air quality and sustainability.

**ASTM** – ASTM International (formerly known as the American Society for Testing and Materials), an organization involved with the development and delivery of voluntary consensus standards for building materials and construction processes.

**backfilling** – 1. Rough masonry built behind a facing or between two faces. 2. Filling over the extrados of an arch. 3. Brickwork in spaces between structural timbers, sometimes called *brick nogging*.

**backing**† – The wall or surface to which veneer is attached.

**bat** – A piece of brick, usually half the length or smaller.

**batter** – Recessing or sloping masonry back in successive courses; the opposite of *corbel*. Sometimes referred to as *racking*.

**bed joint**† – The horizontal layer of mortar on which a masonry unit is laid.

**belt course** – A narrow, horizontal course of masonry, sometimes slightly projected as in the case of windowsills that are made continuous. Sometimes called *string course* or *sill course*.

**blocking** – A method of bonding two adjoining or intersecting walls, not built at the same time, by means of offsets whose vertical dimensions are not less than 8 in. (203 mm).

**bond** – 1. Tying various parts of a masonry wall by lapping units one over another or by connecting with metal ties. 2. Patterns formed by exposed faces of units. 3. Adhesion between mortar or grout and masonry units or reinforcement.

**bond, running** – The placement of masonry units such that head joints in successive courses are horizontally offset at least one-quarter the unit length.

**bond, stack** – The placement of masonry units such that the head joints in successive courses are aligned. Per code, use of this bond pattern requires wire reinforcement to be placed in bed joints.

**bond beam**† – A horizontal, sloped or stepped member that is fully grouted, has longitudinal reinforcement and is constructed within a masonry wall. Serves as the horizontal tie of wall, a bearing course for structural members or as a flexural member itself.

**bond course** – The course consisting of units that overlap more than one wythe of masonry.

**bonder** – A bonding unit. See *header*.

**breaking joints** – Any arrangement of masonry units that prevents continuous vertical joints from occurring in adjacent courses.

† Term correlated with TMS 402/602

**brick\*** – A solid or hollow masonry unit of clay or shale, usually formed into a rectangular prism while plastic and burned or fired in a kiln.

**brick, adobe** – Large roughly molded, sun-dried clay brick of varying size.

**brick, angle** – Any brick shaped to an oblique angle to fit a salient corner.

**brick, arch** – 1. Wedge-shaped brick for special use in an arch. 2. Extremely hard-burned brick from an arch of a scove kiln.

**brick, building\*** – Brick for load-resisting or other purposes where appearance properties such as texture or color are not important. Formerly called *common brick*. See ASTM C62.

**brick, chemical-resistant\*** – Brick suitable for use in chemical environments where resistance to thermal shock may be a consideration, usually used in conjunction with chemical-resistant mortars. See ASTM C279.

**brick, clinker** – A very hard-burned brick whose shape is distorted or bloated due to nearly complete vitrification.

**brick, common** – See *brick, building*.

**brick, dry-press** – Brick formed in molds under high pressures from relatively dry clay (5% to 7% moisture content).

**brick, economy** – Brick whose nominal dimensions are 4 × 4 × 8 in. (102 × 102 × 203 mm).

**brick, engineer** – Brick whose nominal dimensions are 4 × 3.2 × 8 in. (102 × 81 × 203 mm).

**brick, facing\*** – Brick for general purposes where appearance properties such as color, texture and chippage are important. Facing brick are produced from select clays and are available in typical face sizes, various colors and various textures. See ASTM C216 and C652.

**brick, firebox\*** – Brick intended for use as the lining in the hearth, combustion chamber and throat of residential fireplaces. See ASTM C1261.

**brick, floor\*** – Brick with physical properties related to resistance of chemicals, thermal and mechanical shock, absorption, or combinations of these, used as finished floor surfaces in industrial applications. See ASTM C410. See ASTM C902 for brick used as flooring in nonindustrial applications.

**brick, gauged** – 1. Brick that have been ground or otherwise produced to accurate dimensions. 2. A tapered arch brick.

**brick, glazed** – Brick having a ceramic glaze finish fused to the body through firing in a kiln. See ASTM C126 and C1405.

**brick, hollow\*** – A masonry unit of clay or shale whose net cross-sectional area in any plane parallel to the bearing surface is less than 75% of its gross cross-sectional area measured in the same plane. See ASTM C652.

**brick, jumbo** – A generic term indicating brick larger in size than the standard. Some producers use this term to describe oversize brick of specific dimensions manufactured by them.

**brick, lipped** – Special-shaped brick with small, continuous projections along an edge used to conceal a shelf angle or lintel.

**brick, norman** – Brick whose nominal dimensions are 4 × 2½ × 12 in. (102 × 68 × 305 mm).

**brick, paving\*** – Brick made to provide the wearing surface of highways, streets, driveways, walkways, patios and similar applications. See ASTM C902 and C1272.

**brick, reclaimed** – Brick previously laid in mortar, extracted from its previous construction with the intent of reuse.

**brick, Roman** – Brick whose nominal dimensions are 4 × 2 × 12 in. (102 × 51 × 305 mm).

**brick, salmon** – Generic term for under-burned brick, which are more porous, slightly larger and lighter colored than hard-burned brick. Usually pinkish-orange in color.

**brick, salvaged** – See *brick, reclaimed*.

**brick, SCR** – See *SCR*.

\* Term correlated with ASTM C1232

**brick, sewer\*** – Low absorption, abrasion-resistant brick intended for use in drainage structures. See ASTM C32.

**brick, soft-mud** – Brick produced by molding relatively wet clay (20% to 30% moisture). Often a hand process. When insides of molds are sanded to prevent sticking of clay, the product is *sand-struck brick*. When molds are wetted to prevent sticking, the product is *water-struck brick*.

**brick, special shape\*** – Brick manufactured to a geometry other than a rectangular prism.

**brick, stiff-mud** – Brick produced by extruding a stiff but plastic clay (12% to 15% moisture) through a die.

**brick, thin** – Brick with a thickness of less than 2<sup>5</sup>/<sub>8</sub> in., typically used in adhered veneer applications.

**brick and brick** – A method of laying brick so that units touch one another with only enough mortar to fill surface irregularities.

**brick Grade** – Designation for durability of the unit expressed as SW for severe weathering, MW for moderate weathering or NW for negligible weathering. See ASTM C216, C62 and C652. Thin brick uses the designations Grade Exterior and Grade Interior. See ASTM C1088. In the case of glazed brick, Grade is a designation for permissible variation in face dimensions. Durability ratings of single-fired glazed brick are designated by Class Interior or Class Exterior. See ASTM C1405 and C126.

**brick Type** – Designation for facing brick that describes tolerance, chippage and distortion. Expressed as FBS, FBX and FBA for solid brick and HBS, HBX, HBA and HBB for hollow brick. See ASTM C216 and C652.

**buttering** – Placing mortar on a masonry unit with a trowel.

**C/B ratio** – See *saturation coefficient*.

**centering** – Temporary formwork for the support of masonry arches or lintels during construction. Also called *center(s)*.

**ceramic color glaze** – An opaque colored glaze of satin or gloss finish obtained by spraying the clay body with a compound of metallic oxides, chemicals and clays. It is burned at high temperatures, fusing glaze to body and making them inseparable. See ASTM C126.

**chamfer** – A bevel feature sometimes incorporated on the top edges of a clay paver or permeable clay paver to mitigate chipping and promote drainage of surface water.

**chase** – A continuous recess built into a wall to receive pipes, ducts, etc.

**clay\*** – An earthy or stony mineral aggregate consisting essentially of hydrous silicates of alumina, plastic when sufficiently pulverized and wetted, rigid when dry, and vitreous when fired to a sufficiently high temperature.

**clay mortar-mix** – Finely ground clay used as a plasticizer for masonry mortars.

**clear ceramic glaze** – Same as *ceramic color glaze* except that it is translucent or slightly tinted, with a gloss finish.

**clip** – A portion of a brick unit cut to length.

**closer** – The last masonry unit laid in a course. It may be whole or a portion of a unit.

**closure** – Supplementary or short-length units used at corners or jambs to maintain bond patterns.

**collar joint**† – The vertical, longitudinal space between wythes of composite masonry that is filled with mortar or grout.

**column**† – A structural member not built integrally into a wall, designed primarily to resist compressive loads parallel to its longitudinal axis and subject to dimensional limitations.

**coping** – The material or masonry units forming a cap or finish on top of a wall, pier, pilaster, chimney, etc. It protects masonry below from penetration of water from above.

\* Term correlated with ASTM C1232

† Term correlated with TMS 402/602

**corbel** – A shelf or ledge formed by projecting successive courses of masonry out from the face of the wall.

**course** – One of the continuous horizontal layers of units bonded with mortar in masonry.

**culls** – Masonry units that do not meet the standards or specifications and have been rejected.

**damp course** – A course or layer of impervious material that prevents capillary entrance of moisture from the ground or a lower course. Often called *damp check*.

**dampproofing** – Material that reduces moisture penetration by capillary action.

**diaper** – A continuous pattern of brickwork creating diagonal or diamond-shaped layouts.

**dog's tooth** – Brick laid with their corners projecting from the wall face. Also referred to as *sawtooth*.

**drip** – A projecting piece of material, shaped to throw off water and prevent its running down the face of a wall or other surface.

**$e_1/e_2$**  – Ratio of virtual eccentricities occurring at the ends of a column or wall under design. The absolute value is always less than or equal to 1.0.

**EBM** – See *engineered brick masonry (EBM)*.

**eccentricity** – The normal distance between the centroidal axis of a member and the parallel resultant load.

**effective height<sup>†</sup>** – Clear height of a member between lines of support or points of support and used for calculating the slenderness ratio of a member. Effective height for unbraced members shall be calculated.

**effective thickness** – The thickness of a member to be assumed for calculating the slenderness ratio.

**efflorescence** – A crystalline deposit, usually white, of water-soluble compounds on the surface of masonry.

**engineered brick masonry (EBM)** – Masonry in which design is based on a rational structural analysis.

**face, finished\*** – The surface of a unit designed to be exposed to view in the finished masonry.

**facing** – Any material, forming a part of a wall, used as a finished surface.

**field** – The expanse of wall between openings, corners, etc., principally composed of stretchers.

**fire clay\*** – A sedimentary clay of low flux content that is highly resistant to heat without deforming and used for making brick.

**fire-resistive material** – See *noncombustible material*.

**fireproofing** – Any material or combination protecting structural members to increase their fire resistance.

**flashing** – 1. A thin, impervious material placed in mortar joints and through air spaces in masonry to prevent water penetration and/or provide water drainage. 2. A manufacturing method to produce specific color tones.

**frog\*** – An indentation in the bed surface of a brick unit. Sometimes called a *panel*.

**furring** – A method of finishing the interior face of a masonry wall to provide space for insulation, prevent moisture transmittance or provide a level surface for finishing.

**grounds** – Nailing strips placed in masonry walls as a means of attaching trim or furring.

**grout<sup>†</sup>** – A plastic mixture of cementitious materials, aggregate and water, with or without admixtures, initially mixed to pouring consistency without segregation of the constituents during placement. Also refers to the hardened equivalent of such a mixture.

<sup>†</sup> Term correlated with TMS 402/602

\* Term correlated with ASTM C1232

**grouting** – The process through which the cells of masonry constructed with hollow masonry units are filled with grout.

**grouting, high-lift** – The technique of grouting masonry in lifts up to 12 ft (3.7 m).

**grouting, low-lift** – The technique of grouting as the wall is constructed.

**hacking** – 1. The procedure of stacking brick in a kiln or on a kiln car. 2. Laying brick with the bottom edge set in from the plane surface of the wall.

**hard-burned** – Nearly vitrified clay products that have been fired at high temperatures. They have relatively low absorptions and high compressive strengths.

**head joint**† – The vertical mortar joint placed between masonry units at the time the units are laid. Also called *cross joint*.

**header** – 1. A brick unit laid with its width parallel to the wall face and end exposed to view. 2. A brick unit that overlaps two or more adjacent wythes of masonry to tie them together. Also called *bonder*.

**header, blind** – A concealed brick header in the interior of a wall, not showing on the faces.

**header, clipped** – A bat placed to look like a header for purposes of establishing a pattern. Also called a *false header*.

**header, flare** – A header of darker color than the field of the wall.

**header course** – A continuous bonding course of header brick. Also called *heading course*.

**initial rate of absorption (IRA)\*** – A measure of the suction of water upward into a dry brick from a bed face during one minute of exposure. Also called *suction*. See ASTM C67.

**IRA** – See *initial rate of absorption (IRA)*.

**joint reinforcement**† – Prefabricated cold-drawn steel wire assembly consisting of two or more longitudinal wires welded to cross wires and placed in the bed joint. See ASTM A951.

**kiln** – A furnace oven or heated enclosure used for burning or firing brick or other clay material.

**kiln run** – Brick from one kiln that have not been sorted or graded for size or color variation.

**king closer** – A brick unit cut diagonally to have one 2 in. (51 mm) end and one full-width end.

**lateral support** – The means whereby walls are braced either vertically or horizontally by columns, pilasters, cross walls, beams, floors, roofs, etc.

**lead** – The section of a wall built up and racked back on successive courses. A line is attached to leads as a guide for constructing a wall between them.

**lime, hydrated** – Quicklime to which sufficient water has been added to convert the oxides to hydroxides.

**lime putty** – Hydrated lime in plastic form ready for addition to mortar.

**limewash** – A combination of lime, water and optional pigment to be used as a paint-like coating. A different product from *whitewash*.

**limit design method** – Alternate provisions in TMS 402 that can be applied to fully grouted special reinforced masonry shear walls otherwise designed per the strength design provisions,

**lintel**† – A horizontal member placed over an opening, chase or recess.

**lug** – A projection feature sometimes incorporated on the sides of a clay paver or permeable clay paver to act as a spacer and promote drainage of surface water. Lugs on clay paver units create joints between units no wider than  $\frac{3}{16}$  in., while lugs on permeable clay paver units typically create joints  $\frac{1}{4}$  in. or wider.

† Term correlated with TMS 402/602

**masonry\*** – Type of construction consisting of brick, stone, concrete, etc., or combinations thereof, laid with mortar, grout or other methods of joining.

**masonry, empirical** – Masonry in which design is based on rules learned from experience without a structural analysis that control minimum thickness, lateral support requirements and height.

**masonry, plain** – Masonry without reinforcement. See *masonry, unreinforced*.

**masonry, prefabricated** – Masonry construction fabricated in a location other than its final in-service location in the structure. Also known as *preassembled, panelized* and *sectionalized brick masonry*.

**masonry, reinforced†** – Masonry in which reinforcement acting in conjunction with the masonry is used in design to resist forces.

**masonry, unreinforced†** – Masonry in which reinforcement, if present, is not used in design to resist forces.

**masonry cement** – A mill-mixed cementitious material to which sand and water must be added to form mortar. See ASTM C91.

**masonry unit\*** – Natural or manufactured noncombustible building product of fired clay, concrete, stone, glass, gypsum, etc. intended to be laid by hand and joined by mortar, grout or other methods of joining.

**masonry unit, hollow** – One whose net cross-sectional area in any plane parallel to the surface containing cores, cells or frogs is less than 75% of the gross cross-sectional area in the same plane.

**masonry unit, modular** – One whose nominal dimensions are based on 4 in. (102 mm) or a multiple of 4 in. (102 mm).

**masonry unit, solid** – One whose net cross-sectional area in every plane parallel to the surface containing cores, cells or frogs is 75% or more of the gross cross-sectional area in the same plane.

**mortar†** – A plastic mixture of cementitious materials, fine aggregate and water, with or without admixtures, that is used to construct masonry. Also the hardened equivalent of such mixtures. See ASTM C270.

**mortar, fat** – Mortar containing a high percentage of cementitious components. It is a sticky mortar that adheres to a trowel.

**mortar, high-bond** – Mortar that develops higher bond strengths with masonry units than normally developed with conventional mortar.

**mortar, lean** – Mortar that is deficient in cementitious components; it is usually harsh and difficult to spread.

**mortar, polymer modified** – Mortar that includes chemical admixtures used to improve its flexibility, bond strength and durability.

**mortar cement** – A hydraulic cement consisting of a mixture of Portland or blended hydraulic cement, plasticizers, and additional property-enhancing materials. Similar to masonry cement except that mortar cement requires a minimum flexural bond strength. See ASTM C1329.

**mortar wash** – Cementitious finish applied to obscure portions of completed brickwork. Finish ranges from semiopaque to opaque. Thick applications are consistent with parging.

**nominal dimension\*** – A dimension greater than a specified masonry dimension by the specified thickness of a mortar joint. A nominal dimension is usually expressed as a whole number.

**noncombustible material** – A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion or release flammable vapors when subjected to fire or heat.

**overhand work** – Laying brick from inside a wall by workers standing on a floor or on a scaffold.

**parging** – The process of applying a coat of cement mortar, which may contain dampproofing ingredients, to masonry.

**partition†** – An interior wall without structural function.

\* Term correlated with ASTM C1232

† Term correlated with TMS 402/602

**paver, clay** – See *brick, paving*.

**paver, permeable clay** – A clay paver intentionally designed to be used in permeable clay pavements, which allow surface water to be drained. Such pavers typically feature lugs or modified geometry to create sufficient space between units to allow for drainage.

**pick and dip** – A method of laying brick whereby the bricklayer simultaneously picks up a brick unit with one hand and, with the other hand, enough mortar on a trowel to lay the brick unit. Sometimes called the *Eastern method* or *New England method*.

**pier** – An isolated column of masonry.

**pilaster†** – A vertical member, built integrally with a wall, with a portion of its cross-section typically projecting from one or both faces of the wall.

**plumb rule** – A narrow board with parallel edges having a straight line drawn through the middle and a string attached at one end of the line for determining a vertical plane. They are made in lengths of 42 and 48 in. (1067 and 1219 mm) and short lengths from 12 to 24 in. (305 to 610 mm).

**pointing** – Inserting mortar into a joint after masonry units are laid.

**prism†** – An assemblage of masonry units and mortar, with or without grout, used as a test specimen for determining properties of the masonry.

**queen closer** – A cut brick having a nominal 2 in. (51 mm) horizontal face dimension.

**quoin** – A projecting right angle masonry corner.

**racking** – A method entailing stepping back successive courses of masonry.

**raggle** – A groove in a joint or special unit to receive roofing or flashing.

**RBM** – Reinforced brick masonry. See *masonry, reinforced*.

**reglet** – A recess to receive and secure flashing.

**repointing\*** – The process of removing and replacing defective mortar with fresh mortar between masonry units.

**retempering** – Moistening mortar and remixing after original mixing to achieve the proper consistency for use.

**return** – Any surface turned back from the face of a principal surface.

**reveal** – That portion of a jamb or recess that is visible from the face of a wall.

**rolok** – See *rowlock*.

**rowlock** – A brick unit laid on its stretcher face with the end surface visible in the wall face. Also spelled *rolok*.

**rowlock stretcher** – A brick unit laid on its stretcher face so that the usual bedding surface is visible in the wall face. Although used at times for a unit laid in this position, the term *shiner* is not recommended due to potential confusion with its historic definition. See *shiner*.

**sailor** – A brick unit laid on its header face with the usual bedding surface visible in the wall face.

**salt glaze\*** – The color and texture resulting from the thermochemical reaction between silicates of the clay brick body and vapors of salt or chemicals.

**saturation coefficient** – The ratio of the weight of water absorbed by a masonry unit during immersion in cold water to weight absorbed during immersion in boiling water. An indication of the probable resistance of brick to freezing and thawing. Also called *C/B ratio*. See ASTM C67.

**sawtooth** – Brick laid with their corners projecting from the wall face, typically at 45°. Also referred to as *dog's tooth*.

† Term correlated with TMS 402/602

\* Term correlated with ASTM C1232

**SCPI** – Acronym for *Structural Clay Products Institute*, the original name of the Brick Industry Association.

**SCR** – Acronym for *Structural Clay Research* (registered trademark of the Structural Clay Products Institute [BIA]).

**SCR acoustile** – A side-construction two-celled facing tile having a perforated face backed with glass wool for acoustic purposes. Patented by SCPI (BIA).

**SCR brick** – A patented brick developed by the SCPI for single-wythe loadbearing walls in residential construction, with nominal dimensions of 6 × 2<sup>2</sup>/<sub>3</sub> × 12 in. Patented by SCPI (BIA).

**SCR building panel** – Prefabricated, structural ceramic panels, approximately 2½ in. thick. Patented by SCPI (BIA).

**SCR insulated cavity wall** – Any cavity wall containing insulation that meets the rigid criteria established by the SCPI (BIA). Patented by SCPI (BIA).

**SCR masonry process** – A construction aid providing greater efficiency, better workmanship and increased production in masonry construction. It utilizes story poles, marked lines and adjustable scaffolding. Patented by SCPI (BIA).

**shale** – A thinly stratified, consolidated, sedimentary clay with well-marked cleavage parallel to the bedding.

**shiner** – A brick unit laid incorrectly such that the intended finished face is concealed and an unfinished face is exposed.

**shoved joints** – Vertical joints filled by shoving a brick unit against the next brick unit when it is being laid in a bed of mortar (generally not recommended).

**slenderness ratio** – Ratio of the effective height of a member to its effective thickness.

**slushed joints** – Vertical joints filled, after units are laid, by “throwing” mortar in with the edge of a trowel (generally not recommended).

**soap** – A masonry unit of normal face dimensions, having a nominal 2 in. (51 mm) thickness.

**soffit** – The underside of a beam, lintel or arch.

**soft-burned** – Clay products that have been fired at low temperature ranges, producing relatively high absorptions and low compressive strengths.

**solar screen** – A perforated wall used as a sunshade.

**soldier** – A brick unit set on end with the longest dimension oriented vertically and with the narrower finished face showing on the wall surface.

**spall** – A small fragment removed from the face of a masonry unit by a blow or by action of the elements.

**stack** – Any structure or part thereof that contains a flue or flues for the discharge of gases.

**story pole** – A marked pole for measuring masonry coursing during construction.

**strength design** – Design method that separately accounts for the uncertainty of loads and member capacities by applying factors to increase loads and to reduce the nominal strength of the member. Also known as *load and resistance factor design (LRFD)* outside of masonry design.

**stretcher** – A brick unit laid with its greatest dimension horizontal and its finished face parallel to the wall face.

**string course** – A horizontal band of masonry extending across a facade. Also called a *belt course* or *band course*.

**stringing mortar** – The procedure of spreading enough mortar on a bed to lay several masonry units.

**struck joint** – Any mortar joint that has been finished with a trowel.

**suction** – See *initial rate of absorption (IRA)*.

**temper** – To moisten and mix clay, plaster or mortar to a proper consistency.

**thermal mass** – The amount of thermal energy that can be stored by a material, calculated by multiplying the mass by the specific heat capacity of the material.

**tie** – A component that connects masonry to masonry or other materials.

**tie, veneer**† – Metal connector that attaches masonry veneer to the backing. Currently, TMS 402/602 recognizes only veneer ties made from metal unless the strength and stiffness of the veneer ties are determined by testing per the engineered design provisions.

**tie, wall**† – Metal connector that connects wythes of masonry walls together. Currently, TMS 402/602 recognizes only wall ties made from metal.

**tooling** – Compressing and shaping the face of a mortar joint with a special tool other than a trowel.

**toothing** – Constructing the temporary end of a wall with the end stretcher of every alternate course projecting. Projecting units are toothers.

**tuckpointing** – The practice of installing masonry with a flush mortar joint that approximates the color of the masonry units in combination with mortar of contrasting color that is shaped into a thin strip, giving the appearance of a very thin mortar joint. Incorrectly used interchangeably with *repointing*.

**veneer, masonry**† – A masonry wythe that provides the exterior finish of a wall system and transfers out-of-plane load directly to a backing but is not considered to add strength or stiffness to the wall system.

**veneer, adhered masonry**† – Masonry veneer secured to and supported by the backing through direct bond to a masonry or concrete backing, or bond to either a scratch coat and lath or a cement backer unit that is fastened to the backing.

**veneer, anchored masonry**† – Masonry veneer secured to and supported laterally by the backing through veneer ties and supported vertically by the foundation or other structural members.

**vent** – An opening or gap typically formed by omitting mortar in a head joint at the top of the veneer intended to allow for air and water vapor to exit the cavity. May be filled with inserts of noncorrosive metal, plastic or open weave mesh.

**virtual eccentricity** – The eccentricity of a resultant axial load required to produce axial and bending stresses equivalent to those produced by applied axial loads and moments. It is normally found by dividing the moment at a section by the summation of axial loads occurring at that section.

**vitrification** – The condition resulting when kiln temperatures are sufficient to fuse grains and close pores of a clay product, making the mass impervious.

**wall**† – A member, usually vertical, used to enclose or separate spaces or uses.

**wall, apron** – That part of a panel wall between window sill and wall support.

**wall, area** – 1. The masonry surrounding or partly surrounding an area. 2. The retaining wall around basement windows below grade.

**wall, bearing** – A wall that supports a vertical load in addition to its own weight.

**wall, cavity** – A wall built of masonry units so arranged as to provide a continuous air space within the wall (with or without insulating material) and in which the inner and outer wythes of the wall are tied together with metal ties. A type of drainage wall.

**wall, composite** – A multi-wythe wall where the wythes are connected by collar joints and either headers or wall ties such that they act together as a single member when resisting loads.

**wall, drainage** – A wall system constructed to provide a continuous air space immediately behind the exterior masonry wythe that allows water penetrating the masonry to travel downward to where it is collected and diverted by flashing to the exterior face of the exterior wythe.

**wall, dwarf** – A wall or partition that does not extend to the ceiling.

† Term correlated with TMS 402/602

**wall, enclosure** – An exterior non-bearing wall in skeleton frame construction. It is anchored to columns, piers or floors, but not necessarily built between columns or piers nor wholly supported at each story.

**wall, exterior** – Any outside wall or vertical enclosure of a building other than a party wall.

**wall, fire** – Any wall that subdivides a building to resist the spread of fire and which extends continuously from the foundation through the roof.

**wall, fire division** – Any wall that subdivides a building so as to resist the spread of fire. It is not necessarily continuous through all stories to and above the roof.

**wall, foundation** – That portion of a loadbearing wall below the level of the adjacent grade, or below first-floor beams or joists.

**wall, hollow** – A wall built of masonry units arranged to provide an air space within the wall. The separated facing and backing are bonded together with masonry units.

**wall, insulated cavity** – See *SCR insulated cavity wall*.

**wall, loadbearing**<sup>†</sup> – A wall supporting vertical loads greater than 200 lb/ft (2919 N/m) in addition to its own weight.

**wall, noncomposite** – A multi-wythe wall where the wythes are connected by either headers or wall ties and each wythe is designed to carry the load applied to the wall independently.

**wall, non-loadbearing** – A wall that supports no vertical load other than its own weight.

**wall, panel** – An exterior, non-loadbearing wall wholly supported at each story.

**wall, parapet** – That part of any wall entirely above the roof line.

**wall, party** – A wall used for joint service by adjoining buildings.

**wall, perforated** – A wall that contains a considerable number of relatively small openings. Often called *pierced wall* or *screen wall*.

**wall, shear** – A wall that resists horizontal forces applied in the plane of the wall.

**wall, single-wythe** – A wall only one masonry unit in thickness.

**wall, solid masonry** – A wall built of solid masonry units, laid contiguously, with joints between units completely filled with mortar or grout.

**wall, spandrel** – That part of a panel wall above the top of a window in one story and below the sill of the window in the story above.

**wall, veneer** – See *veneer, masonry*.

**wall plate** – A horizontal member anchored to a masonry wall to which other structural elements may be attached. Also called *head plate*.

**water retentivity** – That property of a mortar that prevents the rapid loss of water to masonry units of high suction. It prevents bleeding or water gain when mortar is in contact with relatively impervious units.

**water table** – A projection of lower masonry on the outside of the wall slightly above the ground. Often a damp course is placed at the level of the water table to prevent upward penetration of groundwater.

**waterproofing** – Prevention of moisture flow through masonry due to water pressure.

**weeps** – Openings or gaps typically formed by omitting mortar in head joints at the level of flashing to permit the escape of air and moisture. May be filled with inserts of noncorrosive metal, plastic or open-weave mesh.

**whitewash** – A general term used to describe an inexpensive white coating, not necessarily lime-based. Often consists of diluted paint in modern applications. A different product from *limewash*.

**wythe**<sup>†</sup> – 1. Each continuous vertical section of a wall, one masonry unit in thickness. 2. The thickness of masonry separating flues in a chimney. Also called *withe* or *tier*.

<sup>†</sup> Term correlated with TMS 402/602

## SUMMARY

This *Technical Note* presents a wide variety of terms related to brick masonry construction. Although not comprehensive, it should serve as a useful resource.

*The information and suggestions contained in this Technical Note are based on the available data and the combined experience of the engineering staff and members of the Brick Industry Association. The information contained herein must be used in conjunction with good technical judgment and a basic understanding of the properties of brick masonry. Final decisions on the use of the information contained in this Technical Note are not within the purview of the Brick Industry Association and must rest with the project architect, engineer and owner.*