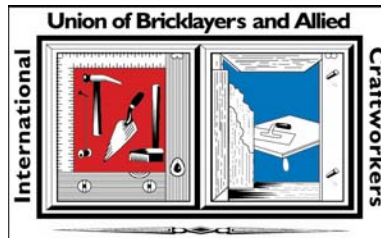


Tile

Glossary



Revised
August 13, 2007
Submit entries to:

Mason

Director, TMT Mechanics

1137

48347-1137

John

BAC Craft

P.O. Box

Clarkston, MI

A

Abrasion Resistance Classification: ASTM C-1027 describes the standard test method for determining visible abrasion resistance of ceramic tile. **Class 0** – Generally not recommended for use on floors; **Class 1 – Light Traffic**, for residential bathroom floors; **Class II – Medium-Light Traffic**, residential interiors with the exception of kitchens, stairs, landings and areas near external entries; **Class III – Medium-Heavy Traffic**, all residential applications. Commercial applications which are similar in traffic to residential applications. Specifically excepted are areas of prevalent circulation or turning points; **Class IV – Heavy Traffic**, all residential and most commercial applications such as the public areas of exhibition halls, hotels, restaurants, supermarkets, shops and schools; **Class IV+ - Extra Heavy Traffic**, all residential and most commercial applications similar to class IV where extra durability may be required.

Absorption: The relationship of the weight of water absorbed to the weight of the dry specimen, expressed in percentages.

Accelerators: Materials used to speed up the setting of mortar.

Accessories: Ceramic or nonceramic artifices, affixed to or inserted in tilework, such as towel bars, paper and soap holders, grab bars and the like.

ACI: American Concrete Institute.

Acid: A chemical substance usually corrosive to common metals (iron, aluminum, zinc). Acids are generally divided into two classes:

- a. strong mineral or inorganic acids such as sulfamic, sulfuric, phosphoric, hydrochloric or nitric.
- b. Weak organic or natural acids such as acetic (vinegar), citric (citric fruit juices), oxalic and fatty acids (oleic, palmitic, stearic, etc.).

Acid-and Alkali-resistant Grout: A grout that resists the effects of prolonged contact with acids and alkalis.

Acidity. A general term applying to substances on the acid side of neutral - principally the degree of acidity.

Acoustical Sealant: A sealant with acoustical properties used to seal the joints in the construction of sound rated ceramic tile installations.

Acrylic: A general class of resinous polymers used as additives for thin-set mortar and grout. See *Portland Cement* or *Grout*.

Acrylic plastics. Plastics based on resins made by the polymerization of acrylic monomers, such as ethyl acrylate and methacrylate.

Acute Angle: An angle less than 90 degrees.

Additive: See *Admixture*.

Adhesive: Organic adhesive used for bonding tile to a surface. Rubber solvents and resin-based and rubber emulsions can be used as adhesives.

Adhesion. The state in which two surfaces are held together by interfacial forces which may consist of valence forces or interlocking action, or both. (See also Adhesion, mechanical and Adhesion, specific.)

Adhesion, mechanical. Adhesion between surfaces in which the adhesive holds the parts together by interlocking action. (See also Adhesion, specific.)

Adhesion, specific. Adhesion between surfaces which are held together by valence forces of the same type as those which give rise to cohesion. (See also Adhesion, mechanical.)

Admixture: Material(s) other than water, aggregates, and hydraulic cement, used as an ingredient of grout or mortar and which is added immediately before or during its mixing to impart special properties. Also called *Additive*.

AGC: The Associated General Contractors of America.

Agglomerated Product: A man made stone product generally consisting of either crushed natural marble, natural granite or quartz chips with a matrix or resins and mineral pigments. The product is available in assorted tile sizes as well as large slabs.

Agglomerated Marble: A mixture of various marble chips bonded together with polyester resins.

Agglomerated Mass: Matrix or binder and the aggregate of a mix such as plaster, mortar, and concrete.

Agglomerated Stone: A product made from quarry waste.

Aggregate: 1) Granular material such as sand, gravel, or crushed stone, used with a cementing medium to form a hydraulic-cement or mortar. 2) In terrazzo work, a granule, other than marble used in toppings (i.e., abrasives, quartz, granite, river gravel, synthetic types, etc.). In general, marble is referred to as *Chips*.

Aggregate, heavyweight. Aggregate of high specific gravity such as barite, magnetite, limonite, ilmenite, iron or steel used to produce heavy concrete.

Aggregate, Lightweight: Aggregate of low specific gravity, such as expanded or sintered clay, shale, slate, diatomaceous shale, perlite, vermiculite or slag; natural pumice, scoria, volcanic cinders, tuff and diatomite; sinter fly ash or industrial cinders; used to produce lightweight concrete.

AIA: American Institute of Architects.

Air Entrainment: A sometime undesirable effect caused by hi-speed mixing of cementitious materials weakening the bond.

Alumina Porcelain: A vitreous ceramic whiteware for technical application in which alumina (Al_2O_3) is the essential crystalline phase.

Alumina Whiteware: Any ceramic whiteware in which alumina (Al_2O_3) is the essential crystalline phase.

Amalgamation: Mixing of various materials together in a unified mix such as lime, cement, sand, color, and water.

Anchor: Metal rod or strap tie that gives stability to one part of a structure by making it fast to another part.

Andalusite. A polymorph, along with sillimanite and kyanite, of composition Al_2SiO_5 . On firing, it dissociates to yield principally mullite. (ASTM C 21)
Angle divider. The angle divider is used by the tilesetter to determine the degree of an angle to cut. It is used for fitting trim, moldings, and floors into corners. A corner angle is measured by adjusting the divider to fit the corner.

Angle Divider: A tool used by the tile setter, marble mason or terrazzo worker to determine the degree of an angle to cut. It is used for fitting trim, moldings, and flooring into corners. A corner angle is measured by adjusting the divider to fit the corner.

ANSI: American National Standard Institute. This organization monitors the Accredited Standards Committee on Ceramic Tile (A108, A118 and A 137) to ensure that a fair set of standards are developed for products, installation, and setting materials.

APA: American Plywood Association

Apparent Joint: Decorative feature that simulates grout lines or joints on a single tile, so that a large tile, for example, may appear to be four smaller tile.

Apprentice: Individual indentured (contracted) to a training program administered by a Joint Apprenticeship and Training Committee (JATC) in the skilled trade classifications represented by the International Union of Bricklayers and Allied Craftworkers. See *Journeyworker*.

Apron: Trim or facing on the side or in front of a countertop, stool, table edge, windowsill, etc.

Arcade: Series of arches supported by columns or piers.

Arch: Curved structural member spanning an opening and resolving vertical load pressure into horizontal or diagonal thrust.

Area: The surface within any set of lines usually given in square units of measure.

Arris: The edge of an external angle. It can be unfinished or shaped.

Ashlar. Masonry composed 'of squared stones; one pattern of masonry construction

ASTM: American Society for Testing and Materials.

Autoclave. A pressure vessel in which an environment of steam at high pressure may be produced; used in the curing of concrete products and in the testing of hydraulic cement.

Autoclave curing. Steam curing of concrete products, sand-lime brick, asbestos-cement products, hydrous calcium silicate insulation products, or cement in an autoclave at maximum ambient temperatures generally between 340-420 F (170-215 C).

Axis: In masonry arch work, the center or point from which a circle, arc, or intrados (and extrados) is formed or drawn on a template form.

B

BAC: International Union of Bricklayers and Allied Craftworkers.

Back-butter: The spreading of a bond coat to the back of ceramic or marble tile just before the tile is placed.

Backing: See *Substrate*.

Backing Off: See *Featheredging Tile*.

Backing Rod: A flexible and compressible type of closed-cell foam polyethylene, butyl rubber, or open cell and closed cell polyurethane, rounded at surface to contact sealant. It is installed at the bottom or rear of joint. Often described as a *Filler Strip*.

Back-mounted Tile: See *Mounted Tile*.

Back Wall: The wall facing an observer who is standing at the entrance to a room, shower or tub shower.

Balanced Cuts: Cuts of tile at the perimeter of an area that will not take full tiles. The cuts on opposite sides of such an area should be the same size. Also, the cuts on each side of a miter should be the same size. Such cuts are required to be at least one-half a full tile in width.

Ball Clay: A secondary clay, commonly characterized by the presence of organic matter, high plasticity, high dry strength, long vitrification range, and a light color when fired.

Ball Milling: A method of grinding and mixing material, with or without liquid, in a rotating cylinder or conical mill partially filled with grinding media, such as balls or pebbles.

Bar support. A rigid device used to support or hold reinforcing bars in proper position to prevent displacement before or during concrete placement.

Bas Relief: Decorative technique in which design elements are sculpted or carved to be raised slightly from background.

Basalt: A dark-colored, igneous rock commercially known as granite when fabricated as dimension stone.

Basalt Ware: A black unglazed vitreous ceramic ware that has the appearance of basalt rock.

Base: 1) One or more rows of tile installed above the floor. See *Cove*. 2) The bottom course of a stone wall, or the vertical first member above grade of a finished floor.

Base Tiles: Trim tiles with a curved edge used at the perpendicular junction for desired sanitary or aesthetic design.

Basis for Acceptance: The method of determining whether a lot of ceramic tile is acceptable under certain specifications.

Batch mixer. A machine which mixes batches of concrete or mortar in contrast to a continuous mixer.

Batch plant. An operating installation of equipment including batchers and mixers as required for batching or for batching and mixing concrete materials; also called mixing plant when equipment is included

Batter: A sloping exterior side of a wall that recedes from bottom to top.

Bearing Wall: A wall or partition which supports weight.

Beating Block: A block used to imbed tiles in a flat plane. The method used is called *Beating In*.

Bed (Tile): Layer of mortar or other adhesive that covers the surface to be tiled and onto which the tiles are set.

Belleek China: A highly translucent whiteware composed of a body that contains a significant amount of frit and that normally has a luster glaze. It is produced commercially at Belleek, Ireland.

Bench Mark: Elevation mark or point of reference on a fixed object.

Bentonite. A clay composed principally of minerals of the montmorillonoid group, characterized by high absorption and very large volume change with wetting or drying.

Beryllium oxide (berylla) (BeO). An inorganic material of exceptionally high thermal conductivity which is toxic in the powder form.

Bevel: A sloped surface contiguous with a vertical or horizontal surface.

Bicottura: Method for producing tile by firing it twice (first fire is for body, second is to fuse glazes or patterns in glaze onto the body). Usually, there are two glazes on the tile, first a non-transparent glaze on the body, then a transparent glaze on the surface.

Binders: Material such as cement or lime that produces cohesion of loose material such as aggregate.

Biscuit chips. Glazed-over chips on the edge or corner of the body of a tile.

Biscuit cracks. Any fractures in the body of a tile visible both on face and back.

Bisque: The refined mixture of clay, water and additives that has been shaped into the body of a tile.

Bisque Fire: See *Fire, Bisque*.

Biters: See *Tile Nipper*.

Blaine fineness. The fineness of powdered materials such as cement and pozzolans, expressed as surface area usually in square centimeters per gram, determined by the Blaine apparatus.

Blistering: The development during firing of enclosed or broken macroscopic vesicles or bubbles in a body, or in a glaze or other coating.

Block Angle: A square of tile specially made for changing direction of the trim. Also called *Butterfly*.

Blunging: The wet process of blending or suspending ceramic material in liquid by agitation.

Body: 1) The structural portion of a ceramic article. 2) This term also refers to the material or mixture from which the article is made.

Bollard: A free standing stone post or guard.

Bond: The adherence of one material to another. Effective bonds must be achieved between the mortar and scratch coat, between the tile and mortar, and between the adhesive and backing.

Bonding Agent: In terrazzo work, materials generally applied to thinset terrazzo (i.e., latex, epoxy, polyurethane, or other types of adhesives). Used to increase adherence of the terrazzo mix to an existing base slab.

Bond Breaker: Any material that prevents adhesion.

Bond Coat: A material used between the back of the tile and the prepared surface. Suitable bond coats include pure Portland cement, Dry-set Portland cement mortar, latex-type Portland cement mortar, organic adhesive, and the like.
(Bonding Material)

Bond Strength: A bond coat's ability to resist separating from the tile and setting bed. Measured in pounds per square inch (psi).

Bone Ash: Calcined bone that consist essentially of calcium phosphate.

Bone China: A translucent china made from a ceramic whiteware body composition containing a minimum of 25 percent bone ash.

Breaking Strength: Physical property that indicates the tile's ability to withstand loads. ANSI A137.1 requires minimum strength of 250 lbs. for floor tile.

Brick Joint: See *Horizontal Broken Joint*.

Brick Trowel: A trowel that is larger than the buttering trowel. The most popular size used by tile setters is 5 inches (12.7 centimeters) wide and 11 inches (27.9 centimeters) long. It is used when any preparatory brick work has to be done. Some tile setters use it for quarry and terra cotta tile work. Its greater surface and weight are advantageous in the buttering and tapping in of the larger tiles.

Brick-veneer Tile: Tile produced by several methods to simulate the appearance of brick.

Bridge: A straightedge used as a starting line for the laying of tile. The straightedge can be blocked up to support tile over an opening.

Bright Glaze: A colorless or colored ceramic glaze having high gloss.

Broom Finish: The surface texture obtained by sweeping a broom over freshly poured concrete.

Brown Coat: The second coat in a three-coat plaster or mortar application.

Brushed surface. A sandy texture obtained by brushing the surface of freshly placed or slightly hardened concrete with a stiff brush for architectural effect or, in pavements, to increase skid resistance. (See also Broom finish.)

Bull float. A tool comprising a large, flat, rectangular piece of wood, aluminum, or magnesium usually 8 in. (20 cm) wide and 42 to 60 in. (100 to 150 cm) long, and a handle 4 to 16 ft. (1 to 5 m) in length used to smooth unformed surfaces of freshly placed concrete

Bullnose: A trim tile with a convex radius on one edge. This tile is used for finishing the top of a wainscot or for turning an outside corner.

Bullnose Corner: A type of bullnose trim with a convex radius on two adjacent edges. Also called *Out Corner*.

Bull's Eye: Circular opening in a wall.

Bulking. Increase in the bulk volume of a quantity of sand in a moist condition over the volume of the same quantity dry or completely inundated.

Bulking curve. Graph of change in volume of a quantity of sand due to change in moisture content

Bulking factor. Ratio of the volume of moist sand to the volume of the sand when dry.

Bundled bars. A group of not more than four parallel reinforcing bars in contact with each other, usually tied together.

Burlap. A coarse fabric of jute, hemp, or less commonly, flax, for use as a water-retaining covering in curing concrete surfaces; also called Hessian.

Burn In (*Keying in*): The flat troweling of a substrate prior to using the notched side.

Bushhammer: A hammer that has a rectangular head with serrated or jagged faces. The bushhammer is used for roughing concrete to provide a bond for masonry.

Butterfly: A slang term for inside corner angles for trim shapes.

Buttering: 1) The spreading of a bond coat to the backs of ceramic tile just before the tile is placed. 2) Placing mortar on stone units with a trowel before setting into position. (see Back-Butter)

Buttering Trowel: A trowel that has a blade 4-1/2 inches (11.4 centimeters) wide and 7 inches (17.8 centimeters) long. It is used in buttering pure cement to tile, a method commonly used in the eastern states. This trowel is more efficient than the pointer for working on the larger and heavier tiles because more weight can be placed on it.

Butt Joint: An external corner formed by two stone panels with one head.

Buttonback Tile: Tiles that have projections on the bondable side. Many of these projections are round and therefore the term *Buttonback*. Some projections are quite thick and can also be other shapes, such as square.

C

Calcine: A ceramic material or mixture fired to less than fusion for use as a constituent in a ceramic composition.

Cap: A trim tile with a convex radius on one edge. This tile is used for finishing the top of a wainscot or for turning an outside corner.

Capital: An intermediate member between the shaft of a column or pier and a beam, arch, or vault usually ornamented by molding, carving or both.

Carrara: Marble from the Carrara quarry in west central Italy.

Cassiterite (Sri 02). An inorganic mineral of the tetragonal form used as a source of tin and tin oxide.

Casting: Forming ceramic ware by introducing a body slip into a porous mold that absorbs sufficient water from the slip to produce a semi-rigid article.

Casting, Drain: Forming ceramic ware by introducing a body slip into an open porous mold, and then draining off the remaining slip when the cast has reached the desired thickness. Also called *Hollow casting*.

Casting Plaster: A fast-setting gypsum plaster that is used to anchor marble to walls, set *Spots*, or mix temporary *Hot Mud*.

Casting, Solid: Forming ceramic ware by introducing a body slip into a porous mold that usually consists of two major sections: one section forming the contour of the outside; and the other forming the contour of the inside of the ware and allowing a solid cast to form between the two mold faces.

Caulk: See *Sealant*.

Caulking: Making a joint tight or moisture resistant by sealing with an elastic, adhesive compound. See *Sealing*.

Caulking Compound: Waterproof caulking material usually sold in tubes. See *Sealant*.

Ceiling Mortar: Extra-rich wall mortar.

Cement: See *Portland Cement*.

Cement Body Tile: Tile with the body made from a mixture of Portland cement and sand. The surface may be finished with Portland cement, spheroids and marble, or other materials.

Cement Grout: A cementitious mixture of Portland cement, sand or other ingredients, and water. The mix produces a water-resistant, uniformly colored material used to fill joints between tile units.

Cement, masonry. A hydraulic cement for use in mortars for masonry construction, containing one or more of the following materials: portland cement, portland blast-furnace slag cement, portland-pozzolan cement, natural cement, slag cement or hydraulic lime; and in addition usually containing one or more materials such as hydrated lime, limestone, chalk, calcareous shell, talc, slag, or clay, as prepared for this purpose.

Cement Mortar: A cementitious mixture of Portland cement, sand or other ingredients, and water. This mortar is used for bonding tile to backup material.

Cementitious: Having the properties of cement.

Cementitious Backer Unit: A backer board designed for use with tile. It can be used in place of metal lath, Portland cement scratch coat and mortar bed over frame construction. Should be used in place of plywood or drywall in wet areas or for exterior use.

Ceramic Article: An article having a glazed or unglazed body of crystalline or partly crystalline structure, or of glass. The body is produced from essentially

inorganic, nonmetallic substances and is formed either from a molten mass which solidifies on cooling or is formed and simultaneously or subsequently matured by the effects of the heat.

Ceramic Mosaic Tile: An unglazed tile formed by either the dust-pressed or plastic method, usually 1/4 to 3/8 inch (0.6 to 1.0 centimeter) thick. It has a facial area of less than 6 square inches (38.7 square centimeters) and is usually mounted on sheets approximately 1 by 2 feet (30 by 61 centimeters) to facilitate setting. Ceramic mosaic tile may be of either porcelain or natural clay composition. It may be plain, or it may have an abrasive mixture throughout.

Ceramic Paste: A French term synonymous with *ceramic body*.

Ceramic Process: The production of articles or coatings from essentially inorganic, nonmetallic materials. The article or coating is made permanent and suitable for utilitarian and decorative purposes by the action of heat at temperatures sufficient to cause sintering, solid-state reactions, bonding, or conversion partially or wholly to the glassy state.

Ceramic Tile: A ceramic surfacing unit, usually relatively thin in relation to facial area made from clay or a mixture of clay and other ceramic material, called the body of the tile. The tile has either a glazed or unglazed face. It is fired above red heat in the course of manufacture to a temperature sufficiently high to produce specific physical properties and characteristics.

Ceramic Whiteware: A fired ware that consists of a glazed or unglazed ceramic body which is commonly white and of fine texture. This term designates such products as china, porcelain, semi-vitreous ware, and earthenware.

Ceramics: A general term applied to the art or technique of producing articles by a ceramic process, or to the articles so produced.

Chalk Line: Usually a cotton cord coated with chalk. The cord is snapped to mark a straight line. The chalk line is used to align spots or screeds and to align tiles.

Chamfer: To cut away the edge where two surfaces meet in an external angle, leaving a bevel at the junction.

Chemical Porcelain: Vitreous ceramic whiteware used for holding, transporting, or mixing chemicals.

Chemical Resistance: The resistance offered by products to physical or chemical reactions as a result of contact with or immersion in various solvents, acids, alkalis, salts, etc.

China: A glazed or unglazed vitreous ceramic whiteware used for non-technical purposes. This term designates such products as dinnerware, sanitary ware, and art ware when they are vitreous.

China Process: The method of producing glazed ware by which the ceramic body is fired to maturity, following which the glaze is applied and matured by firing at a lower temperature.

China Sanitary Ware (sanitary plumbing fixtures): Glazed, vitrified whiteware fixtures having a sanitary service function.

Chipped: Also caused by rough handling and confined to corners and edges of tile.
See *Pitted*.

Chipping Hammer: A lightweight hammer that comes in a variety of sizes. The head and back can be capped with tungsten carbide for durability. It is used by the tile setter to chip excessive material from the backs and edges of wall and quarry tiles, thus reducing the amount of grinding work necessary to smooth a cut.

Cladding: Covering, particularly wall covering.

Clay: A natural mineral aggregate, consisting essentially of hydrous aluminum silicates. It is plastic when sufficiently wetted, rigid when dried as a whole, and vitrified when fired to a sufficiently high temperature.

Clear Glaze: A colorless or colored transparent ceramic glaze.

Cleavage Membrane: 1) A layer of 15-pound (7-kilogram) roofing felt or an equivalent type of construction paper or polyethylene sheeting. It is used to isolate a wire-reinforced mortar bed from the concrete substrate. 2) A membrane that provides a separation and slip sheet between the mortar setting bed and the backing or base surface.

Clinker (Klinker): Red body formed by either the extrusion process or dust pressing. Sometimes referred to as red stoneware. This tile can be glazed or unglazed with a water absorption of 0.7%.

Coefficient of Friction: Measurement, either dynamic or static, used to determine different aspects of slippage on a tiled plane. Measures include wet and dry conditions, speed of subject, required force to move subject, and critical angle of tiled surface. Area used and maintenance directly affect tile's coefficient of friction. Current US standard under ANSI A137.1 is ASTM test method C1028 Static Coefficient of Friction, or SCOF. ISO standard is 10545-17; annex A, B, and C define methods of determining a tile's coefficient of friction.

Coefficient of Restitution: Measurement used to determine a ceramic tile's impact resistance. (ISO 10545-5)

Cold Joint: Any point in a tile installation where tile and setting bed have terminated and the surface has lost its plasticity before work is continued.

Colored Grout: Commercially prepared grout consisting of carefully graded aggregate, Portland cement, water-dispersing agents, plasticizers, and color-fast pigments.

Column: An ornamental or supporting pillar.

Commercial Portland Cement Grout: A mixture of Portland cement with other ingredients to produce a water-resistant, dense, uniformly colored material.

Compaction: The process whereby the volume of freshly placed mortar or concrete is reduced to the minimum practical space usually by vibration, centrifugation, tamping or some combination of these: to mold it within forms or molds and around imbedded parts and reinforcement and to eliminate voids other than entrained air.

Composition Tile: A hard tile surfacing unit made from a mixture of chemicals. The finished surface can be the mixture of chemicals or can be marble chips to create a terrazzo finish. The unit is made hard by the set of the chemicals. The tile is not fired as in the manufacture of ceramic tile.

Compressive Strength: A material's ability to withstand a load measured in psi.

Conductive Ceramic Tile: Tile made from special body compositions or by methods that result in specific properties of electrical conductivity while retaining other normal physical properties of ceramic tile.

Concrete. A composite material which consists essentially of a binding medium within which are embedded particles or fragments of aggregate; in portland cement concrete, the binder is a mixture of portland cement and water.

Concrete, fibrous. Concrete containing, dispersed, randomly oriented fibers.

Concrete, field. Concrete delivered or mixed, placed, and cured on the job site.

Concrete, foamed. Concrete made very light and cellular by the addition of a prepared foam or by generation of gas within the unhardened mixture.

Concrete, green. Concrete which has set but not appreciably hardened.

Conductive Mortar: A tile mortar to which specific electrical conductivity is imparted through the use of conductive additives.

Conductive Tile: Tile made from special body compositions or by methods that result in specific properties of electrical conductivity while retaining other normal physical properties of ceramic tile.

Consistency: Degree of density or viscosity.

Contaminated: Tile stained as a result of carton and tile being saturated by moisture, oils, solvents, or other materials.

Control Joint: See *Expansion Joint*.

Conventional Installation: The method of installing ceramic tile with Portland cement mortar.

Coping: The material or units used to form a cap or finish on top of a wall, pier, pilaster or chimney.

Corbel. A projection from the face of a beam, girder, column, or wall used as a beam seat or a decoration

Cordierite Porcelain: A vitreous ceramic whiteware for technical application in which cordierite ($2 \text{MgO} \cdot 2\text{Al}_2\text{O}_3 \cdot 5\text{SiO}_2$) is the essential crystalline phase.

Cordierite Whiteware: Any ceramic whiteware in which cordierite ($2 \text{MgO} \cdot 2\text{Al}_2\text{O}_3 \cdot 5\text{SiO}_2$) is the essential crystalline phase.

Cottoforte: Pink to red body used for most decorated, double-fired tile (glazed).

Course: A horizontal range of units the length of a wall.

Cove: 1) A trim tile unit having one edge with a concave radius. 2) A concave stone molding. A cove is used to form a junction between the bottom wall course and the floor or to form an inside corner. See *Base*.

Cove Base (sanitary): A trim tile having a concave radius on one edge and a convex radius with a flat landing on the opposite edge. This base often is used as the only course of tile above the floor tile.

Covering Power: The ability of a glaze to uniformly and completely cover the surface of the fired water.

Crack-control reinforcement. Reinforcement in concrete construction designed to prevent opening of cracks.

Cracked Tiles: Tiles that have been cracked into one or more pieces usually during the beating-in process of installation. These will show up as hairline cracks.

Crawling: A parting and contraction of the glaze on the surface of ceramic ware during drying or firing, resulting in unglazed areas bordered by coalesced glaze.

Crazing: A parting and contraction of the glaze on the surface of ceramic ware during drying or firing, resulting in unglazed areas bordered by coalesced glaze.

Creep: Deformation due to sustained load.

Crow Hop: A slang term used to describe tile joints that are out of alignment.

Crown: High point or ridge in a floor.

Crystalline Glaze: Glazed tile with an extra heavy glaze produced for use on counter tops and light-duty floor surfaces where abrasion or impact is not excessive.

CSI: The Construction Specifications Institute.

CTDA: Ceramic Tile Distributors Association.

CTI: Ceramic Tile Institute.

CTI: Chicago Tile Institute.

CTIOA: Ceramic Tile Institute of America.

Cull: An inferior construction unit.

Curing: Maintenance of humidity and temperature of the freshly placed mortar or grout during some definite period following the placing or finishing, to assure satisfactory hydration of Portland cement and proper hardening of the mortar or grout.

Curing, electrical. A system in which a favorable temperature is maintained in freshly-placed concrete by supplying heat generated by electrical resistance.

Curing blanket. A built-up covering of sacks, matting, hessian, straw, waterproof paper, or other suitable material placed over freshly finished concrete. (See also Burlap.)

Curing compound. A liquid that can be applied as a coating to the surface of newly placed concrete to retard the loss of water or, in the case of pigmented compounds, also to reflect heat so as to provide an opportunity for the concrete to develop its properties in a favorable temperature and moisture environment. (See also Curing.)

Curling. The distortion of an originally essentially linear or planar member into a curved shape such as the warping of a slab due to creep or to differences in temperature or moisture content in the zones adjacent to its opposite faces.

Curtain Wall: Nonbearing wall not supported by girders or beams.

Cushion-edged Tile: Tile on which the facial edges have a distinct curvature that results in a slightly recessed joint.

D

Dash Coat: A first coat of mortar sometimes applied to a smooth surface with a whisk broom or fiber brush in such a manner as to provide a good mechanical key for subsequent mortar coats.

Dago float. A slang term used to describe the use of a fresh mortar screed in lieu of float strips to rod floor mortar. This method is commonly used in floor work. Italian terrazzo workers use this technique to align "concrete" for placement of brass or aluminum strips to the desired grade.

Dago stick. A slang term used by tilers when referring to a small piece of wood used to rod off mortar that has been applied to fill the holes caused by the removal of float strips.

Deck or Floor Mortar: Mortar commonly used for decks or floors. It consists of sand and regular Portland cement mixed with water to a firm consistency. Also known as **Dry Pack**.

Decorated: Adorned, embellished, or made more attractive by means of color or surface detail.

Decorating Fire: See *Fire, Decorating*.

Decoration: See *Decoration, Inglaze; Decoration, Overglaze*.

Decoration, Inglaze: A ceramic decoration applied on the surface of an unfired glaze and matured with the glaze.

Decoration, Overglaze: A ceramic or metallic decoration applied and fired on the previously glazed surface of ceramic ware.

Decorative Tile: Ceramic tile with a decoration on the surface.

Deflection: A variation in the position or shape of a structure element due to the effects of loads or volume change; usually measured as a linear deviation from an established plane rather than an angular variation.

Deformation Eutectic: See *Eutectic, Deformation*.

Delft Ware: A calcareous earthenware having an opaque white glaze and monochrome overglaze decorations. It was produced originally in Delft, Holland.

Dinnerware: Ceramic whiteware made in a given pattern and in a full line of articles composing a dinner service.

Dolomite. The double carbonate of lime and magnesia having the general formula $\text{CaCO}_3 \cdot \text{MgCO}_3$.

Dope Coat: Neat cement applied to the setting bed.

Dot-mounted Tile: Tile packaged in sheet format and held together by plastic or rubber dots between the joint.

Double Bullnose: A type of trim with the same convex radius on two opposite sides.

Down Angle: Trim tile with two rounded or curved edges, which serve to finish an outside corner.

Dowel. A steel pin, commonly a plain round steel bar, which extends into two adjoining portions of a concrete

construction, as at a joint in a pavement slab, so as to connect the portions and transfer shear loads. Also, as used in the construction of column and wall sections, a deformed steel reinforcing bar placed so as to transmit tension or compression as well as shear loads.

Dragging: See *Floating*.

Drain Casting: See *Casting, Drain*.

Dry Edging: Rough edges and corners of glazed ceramic ware due to insufficient glaze coating.

Dry Line: A heavy string strung tight across a floor to check floor for flatness; can also be used to check a tile floor for straightness of a joint line.

Dry Mix: See *Pressing, Dry*.

Dry Pressing: See *Process, Dry*.

Dry-saw: See *Four-inch Grinder Saw*.

Drying: Removal, by evaporation, of uncombined water or other volatile substances from a ceramic raw material or product. The process can be expedited by heating at low temperatures.

Dry-set Mortar: A mixture of Portland cement with sand and additives imparting water retentivity, which is used as a bond coat for setting tile. Normally when this mortar is used, neither the tile nor the walls have to be soaked during installation.

Dunting. The cracking that occurs in fired ceramic bodies due to thermally induced stresses.

Dusting: The application of dry Portland cement to a wet floor or deck mortar surface. A pure coat is thus formed by suction of the dry cement.

Dust Pressed Tiles: Tiles formed by dust pressed method in which the finely milled raw materials are shaped in molds at high pressure before firing.

Dutchman: A cut tile used as a filler in the run of a wall or floor area.

Dynamite: A slang term used by tile setters when referring to a mortar accelerator.

E

Eagle Beak: A 6 by 3/4 inch (15.2 by 1.9 centimeter) outside corner trim shape.

Earthenware: A glazed or unglazed non-vitreous ceramic whiteware.

Edge-bonded Tile: See *Pre-grouted Tile*.

Edge-mounted Tile: Tiles assembled into units or sheets and bonded to each other at the edges or corners of the back of the tiles by an elastomeric or resinous material which becomes an integral part of the tile installation. Units or sheets must meet criteria of back-mounted sheets. See *Mounted Tile*.

Efflorescence: The residue deposited on the surface of a material by the crystallization of soluble salts.

Eggshell: The texture of a fire glaze similar in appearance to the surface of an eggshell.

Elastomeric: Any of various elastic substances resembling rubber.

Electrical Porcelain: Vitrified whiteware having an electrical insulating function.

Embossed: Decorated in relief or excised on the surface.

Engobe: A slip coating applied to a ceramic body for imparting color, opacity, or other characteristics. It subsequently is covered with a glaze.

Entrained air. Microscopic air bubbles intentionally incorporated into mortar or concrete during mixing, usually by use of a surface-active agent, typically between 10 and 1,000 pm in diameter and spherical or nearly so.

Epoxy: The radical -O-, esp. as bonded to different atoms already joined in different ways, to form the durable, thermosetting epoxy resins much used for varnishes and adhesives.

Eutectic, deformation. The composition within a system of two or more components which, on heating under specific conditions, develops sufficient liquid to cause deformation at minimum temperature. (ASTM C 242).

Eutectic equilibrium (eutectic). The composition within any system of two or more crystalline phases which melts completely at minimum temperature, or temperature at which such a composition melts. (ASTM C 242).

Epoxy Adhesive: A two-part adhesive system employing epoxy resin and epoxy hardener. It is used for bonding of ceramic tile to backup materials.

Epoxy Grout: A two-part grout system consisting of epoxy resin and epoxy hardener, specially formulated to have impervious qualities, stain, and chemical resistance. It is used to fill joints between tile units.

Epoxy Joint: A visible joint filled with epoxy resin adhesive in place of mortar or caulking.

Epoxy Mortar: A two-part mortar system consisting of epoxy resin and epoxy hardener. It is used to bond tile to backup material where chemical resistance of high bond strength is a consideration.

Epoxy Resin: An epoxy composition used as a chemical-resistant setting adhesive or chemical-resistant grout.

Equilibrium Eutectic: See *Eutectic, Equilibrium*.

Estimator: See *Take-off Person*.

Eutectic, Deformation: A composition within a system of two or more components. When heated under specified conditions, the composition develops sufficient liquid to cause deformation at the lowest temperature possible.

Eutectic, Equilibrium : A composition within any system of two or more crystalline phases. The composition melts completely at the lowest temperature possible.

European Tile Standards (Group A, Group B): Used by European Manufacturers in compliance with the European Tile Standards (CEN). Group "A" tiles are made by the extrusion process. Group "B" tiles are made by the dust pressed method. These letters are preceded by Roman numerals which indicate water absorption. I = 0-3%, IIa = 3-6%, IIb = 6-10% and III = over 10%

Expansion Joint: A joint through the tile, mortar, and reinforcing wire down to the substrate. Also called *Control Joint*.

Extra-duty Tile: See *Special-purpose Tile*.

Extruded Tile: A tile or trim unit that is formed when plastic clay mixtures are forced through a pug mill opening (die) of suitable configuration, resulting in a continuous ribbon of formed clay. A wire cutter or similar device is then used to cut the ribbon into appropriate lengths and widths of tile.

F

Face: The exposed surface of a unit.

Face-mounted Tile: See *Mounted Tile*.

Facial Defect: That portion of the facial surface of the tile which is readily observed to be nonconforming and which detracts from the aesthetic appearance or serviceability of the installed tile.

Faience Mosaics: Faience tiles that are less than 6 square inches (39 centimeters) in facial area, usually 5/16 to 3/8 inch (0.8 to 1 centimeter) thick and mounted to facilitate installation.

Faience Tile: Glazed or unglazed tile, generally made by the plastic process, showing characteristic variations in the face, edges, and glaze. These variations produce a handcrafted, non-mechanical, decorative effect. The tiles range in size from 6 by 6 inches (15.2 by 15.2 centimeters) to 12 by 12 inches (30.5 by 30.5 centimeters).

Faience Ware: Formerly, a decorated earthenware with an opaque glaze. This term now designates decorated earthenware with a transparent glaze.

False Screeds: Plaster or mortar laid or spread fair to a grade plane in strips 2" to 3" wide and 4' to 6' apart, of any length used in place of screed strips as a ground when screeding or rodding to an even surface. Spot tile is used for the same purpose.

Fan or Fanning: Spacing tile joints to widen certain areas so they will conform to a section that is not parallel.

Featheredging Tile: Mitering. The method of chipping away the body from beneath a facial edge of a tile in order to form a miter. Also called *Backing Off*.

Fascia. A flat member or band at the surface of a building or the edge beam of a bridge; exposed eave of a building; often inappropriately called *facia*.

Feature Strip (decorated liner): A narrow strip of tile that has a contrasting color texture, or design.

Field Tile: An area of tile covering a wall or floor. The field is bordered by tile trim.

Fifty-fifty: See *Spacing Mix*.

Filler: See *Spacing Mix*.

Filling In: Laying the center of a wall.

Fineness modulus. A factor obtained by adding the total percentages by weight of an aggregate sample retained on each of a specified series of sieves, and dividing the sum by 100. In the United States the standard sieve sizes are No. 100 (150 μ m), No. 30 (600 Wm), No. 16 (1.18 mm), No. 8 (2.36 mm) and No. 4 (4.75 mm), and 3/e in. (9.5 mm), 3/a in. (19 mm), 1 1/s in. (38,1 mm), 3 in. (75 mm), and 6 in. (150 mm).

Page 8 of 22

Finishes: Textural or visual characteristics of a tile surface. For glazed tile this may be bright or high gloss, satin or matte. For glazed or unglazed tiles , finish can be flashed, textured, polished, raised, embossed, dimpled, etched, scored, ribbed, etc.

Fire: See *Fire, Bisque; Fire, Decorating; Fire, Glost; Fire, Single*.

Fire, Bisque: The process of kiln-firing ceramic ware prior to glazing.

Fire, Decorating: The process of firing ceramic or metallic decorations on the surface of glazed ceramic ware.

Fire, Glost: The process of kiln-firing bisque ware to which glaze has been applied.

Fire, Single: The process of maturing an unfired ceramic body and its glaze in one firing operation.

Firing: The controlled heat treatment of ceramic ware in a kiln or furnace, during the process of manufacture, to develop the desired properties.

Firing Range: The range of firing temperatures within which a ceramic composition develops properties that render it commercially useful.

Flagstone: Thin slabs of stone used for paving walks, driveways, patios, etc. They are generally fine-grained bluestone, other quartz-based stone or slate. Thin slabs of other stones may also be used.

Flakes: Irregularities left on the edge of the tile mainly due to the use of machine cutting tools. Such tile is described as flaked.

Flat Trowel: A rectangular-shaped trowel with smooth edges on all four sides used to apply mud (mortar) to float mud walls and floors; also used to underlay floors and tone walls prior to tiling.

Flexural strength. A property of a material or structural member that indicates its ability to resist failure in bending.

Float Coat: The final mortar coat over which the neat coat, pure coat, or skim coat is applied.

Float Strip: A strip of wood about 1/4 inch (0.6 centimeter) thick and 1-1/4 inches (3.2 centimeters) wide. It is used as a guide to align mortar surfaces.

Floating: A method of using a straightedge to align mortar with the float strips or screeds. This technique also is called *Dragging, Pulling, Rodding, or Rodding Off*.

Floor Tile: Glazed, or unglazed tiles of sufficient strength, impact and abrasion resistance to withstand the weight and wear of foot traffic.

Fluorite (Ca F₂) (fluorspar). An inorganic mineral of the isometric form, used as a source of fluorine for fluxing of glasses, and glazes.

Flux: A substance that promotes fusion in a given ceramic mixture.

Fog curing. 1. Storage of concrete in a moist room in which the desired high humidity is achieved by the atomization of fresh water.

Forming: The shaping or molding of ceramic ware.

Forsterite Porcelain: A vitreous ceramic whiteware for technical application in which forsterite is the essential crystalline phase.

Four-inch Grinder Saw: An electric saw with a four-inch diamond blade used for cutting ceramic tile; also referred to as a dry-saw or sidewinder. *Note: This saw is not recommended due to silica dust created by its use, which is harmful to the health and safety of the craftworker.*

Freehand Floating: The application of wall mortar without the use of guide screeds. Specialists use this technique when they are setting glass mosaic murals.

Frit: A glass that contains fluxing material and is employed as a constituent in a glaze, body, or other ceramic composition.

Fritted Glaze: A glaze in which a part or all of the fluxing constituents are pre-fused.

Frost-proof Tile: Tile produced for use where freezing and thawing conditions occur.

Freeze-thaw Stability: The ability of a tile to withstand the cycle of freezing and thawing without cracking.

FS: Federal Specification.

FTI: Facing Tile Institute.

Furan Grout: An intimate mixture of a furan resin, selected fillers and an acid catalyst. Fillers are generally carbon, silica or combination thereof into which the acid catalyst, or setting agent, may be incorporated. When combined, the components form a trowelable material for buttering or pointing tile.

Furan Mortar: A two-part mortar system of furan resin and furan hardener used for bonding tile to backup material where chemical resistance of floors is important.

Furan Resin: A furan resin composition used as a chemical-resistant setting adhesive or chemical-resistant grout.

Furring: Striping used to build out a surface, such as a studded wall where strips of suitable size are added to the studs to accommodate vent pipes or other fixtures.

Fusion: The process of melting; usually the result of interaction of two or more materials.

G

Gauging Trowel: A trowel that is larger than the pointing trowel but smaller than the buttering trowel. Tile setters prefer the 3-1/4 by 7 inch (8.2 by 17.8 centimeter) size.

Glass Mesh Mortar Unit / Cementitious Backer Unit: A backer board designed for use with ceramic tile in wet areas. It can be used in place of metal lath, Portland cement scratch coat and mortar bed.

Glass Mosaic Tiles: Tiles made of glass, usually in sizes not over 2 inches (5.1 centimeters) square and 1/4 inch (0.6 centimeter) thick, mounted on sheets of paper. The sheets usually are 12 inches (30.5 centimeters) square.

Glaze: A ceramic coating matured to the glassy state on a formed ceramic article. The term glaze also refers to the material or mixture from which the coating is made.

Bright Glaze: A high-gloss coating with or without color.

Clear Glaze: A transparent glaze with or without color.

Crystalline Glaze: A glaze that contains microscopic crystals.

Fritted Glaze: A glaze in which a part or all of the fluxing constituents are pre-fused.

Matte Glaze: A low-gloss ceramic glaze with or without color.

Opaque Glaze: A nontransparent glaze with or without color.

Raw Glaze: A glaze compounded primarily from raw constituents. It contains no pre-fused materials.

Semi-matte Glaze: A medium-gloss ceramic glaze with or without color.

Speckled Glaze: A glaze containing granules of oxides or ceramic stains that are of contrasting colors.

Glaze Fit: The stress relationship between the glaze and body of a fired ceramic product.

Glazed Ceramic Mosaic Tile: Ceramic mosaic tile with glazed faces.

Glazed Interior Tile: A glazed tile with a body that is suitable for interior use and which is usually non-vitreous, and is not required or expected to withstand excessive impact or be subject to freezing and thawing conditions.

Glazed Paver Tile: See *Paver Tile*.

Glazed Quarry Tile: See *Quarry Tile*.

Glazed Tile: Tile with a fused impervious facial finish composed of ceramic materials, fused into the body of the tile. The body may be non-vitreous semi-vitreous, vitreous, or impervious. The glazed surface may be clear, white, or colored.

Glazed Tile, Extra-duty Glaze: Tile with a durable glaze that is suitable for light-duty floors and all other surfaces on interiors where no excessive abrasion or impact occurs.

Glost Fire: See *Fire, Glost*.

Grade: A predetermined degree of slope that a finished floor should have.

Grade Sorting: Process in the production cycle when tiles are sorted to eliminate defective tiles, to separate higher quality tiles from lower, and to group tiles according to work size and shade.

Grades: Grades of tile recognized in ANSI standard specifications for ceramic tile.

Granite: A very hard, crystalline, igneous rock, composed of feldspar, quartz and lesser amounts of dark ferromagnesium materials. Gneiss and black “granites” are similar to true granites in structure and texture, but are composed of different materials and type of rock.

Gres: Unglazed, red body, heavy-duty tile. Usually low water absorption with a textured pattern on its face.

Grout: A rich or strong cementitious or chemically setting mix used for filling joints.

Grout, Colored: See *Colored Grout*.

Grout Saw: A saw-toothed carbide steel blade mounted on a wooden handle. It is used to remove old grout. It also is used in patching work. Care should be taken to prevent damage to adjacent tiles. The carbide steel blade is brittle, and it will shatter if it is dropped or abused. On the front of the saw blade is a spring steel tip. This is used for scraping grout out of corners where the saw blade cannot reach.

Grouting: The process of filling the tile joints with grout.

H

Half and Half: See *Spacing Mix*.

Hard Screed: A mortar screed that has become firm.

Hard Tile. A term used in the tile trade to designate types of tile, such as ceramic, glass mosaic, marble tile, etc., over which the tile trade has jurisdiction.

Hawk: Device used for carrying mortar. Hawks range in size from 10 to 14 inches (25.4 to 35.6 centimeters) square, but tile setters generally prefer the 11-inch (27.9 centimeter) square. Most hawks are made of aluminum with a wooden handle at the center. A rubber pad fits over the handle and covers that portion of the metal hawk that would come in contact with the hand. The hawk should not be held with a hand that is wet or covered with lime or mortar.

Healing Power: The ability of a glaze to heal surface blemishes during firing.

Heavy-duty Tile: Tile suitable for areas of heavy pedestrian traffic. Tile can be specified to meet higher test values as determined by job requirements, but a minimum heavy-duty tile test requirement is necessary.

Hollow Casting: See *Casting, Drain*.

Hopped-up Mud: Mortar mixed with an accelerator.

Horizontal Broken Joints: A style of laying tile with each course offset one-half its length. Also called *Running Bond* or *Brick Joint*.

Hot-mopped Pan: A type of shower pan made of alternating layers of hot asphalt and tarpaper.

Hot Mud or Hot Stuff: Mortar mixed with an accelerator.

Hot Pressing: See *Pressing, Hot*.

I

Idiot Stick: See *Layout Stick*.

Ilmenite. A mineral having the theoretical composition FeO Ti O₂ used principally in the production of titanium oxide. (ASTM C 21)

IMI: International Masonry Institute.

Impact Resistance: Ability of ceramic tile to resist breakage- either throughout the body or as surface chipping- as the result of a heavy blow. In general, ceramic tile is not a resilient material, and care should be taken to avoid dropping heavy or sharp objects on its surface. Glazed tiles are more susceptible to surface chipping than unglazed tiles. International Standards are established for the impact resistance of ceramic tiles by measuring their coefficient of restitution (ISO 105455). NO US STANDARD.

Impervious: Not allowing entrance or passage through.

Impervious Tile: Tile with water absorption of 0.5 percent or less.

In/out Corners: Trim tile for turning a right-angle inside or outside a wall corner.

Incised: Decorated by cutting or indenting the ware surface.

Inglaze Decoration: See *Decoration, Inglaze*.

Installation: See *Erection*.

Ironstone Ware: Historic terms for a durable English earthenware. Also called *Stone China* or *White Granite Ware*.

ISO Standards: Standards established by the International Standards Organization to unify product standards and testing methods for ceramic tiles worldwide.

J

Jagged Edges: Irregularities left on the edges of the tile when hand cutting tools are used.

Jamb: Side of an opening in a wall.

Jasperware: A vitreous, opaque, colored unglazed ceramic ware having white or contrasting relief decorations and containing a substantial amount of barite. Originally developed by Josiah Wedgwood.

Jiggering: Forming ceramic ware from a plastic body by differential rotation of a profile tool and mold, the mold having the contour of one surface of the ware and the profile tool that of the other surface.

Jitterbug. A grate tamper for pushing coarse, aggregate slightly below the surface of a slab to facilitate finishing.

Joint: The surface at which two members join or butt. If they are bonded by mortar, the mortar filled aperture is the joint.

Joint Filler: Another term for sanded floor grout. Can also be a compressible material used to prevent the infiltration of debris or used to provide support for sealants.

Jointing Scheme: Architectural drawing detailing dimensions, location and configuration of stone units and joints as related to structure.

Journeyworker: A qualified craftworker in one of the skilled trade classifications represented by the International Union of Bricklayers and Allied Craftworkers.

K

Kaolin: A refractory clay that consists essentially of minerals of the kaolin group and that fires to a white or nearly white color. Also called *china clay*.

Keene's cement. A cement composed of finely ground, anhydrous, calcined gypsum, the set of which is accelerated by the addition of other materials.

Keying In: The flat troweling of a substrate prior to using the notched side. (See *Burn In*).

Knockings: The oversize residue obtained in the screening of a ceramic slip.

Kyanite (Al₂O₃ · SiO₂). The most abundant of the mineral polymorphs that include andalusite and sillimanite. Kyanite is used as a source of mullite in ceramics. (ASTM C 21)

L

L-cut: A piece of tile cut or shaped to the letter L.

Laitance: A layer of weak and non-durable material containing cement and fines from aggregates, brought by bleeding water to the top of overly wet concrete, the amount of which is generally increased by overworking or over manipulating concrete at the surface by improper finishing or by job traffic.

Latex: A liquid water emulsion of a polymers used to impart special properties such as adhesion and flexibility.

Latex-Portland Cement Grout: A Portland cement grout with a special latex additive which results in a less rigid, less permeable grout than regular Portland cement grout.

Latex-Portland Cement Mortar: A mixture of Portland cement, sand, and special latex additives. This mortar is used for bonding tile to backup material. It is less rigid than Portland cement mortar.

Lath: A wood strip or metal mesh, which acts as a background or reinforcing agent for the scratch coat or mortar coat.

Layout Lines: Lines chalked on a substrate to guide in accurately setting tile.

Layout Stick: A long strip of wood marked at the appropriate joint intervals for the tile to be used. It is used to check the length, width, or height of the tilework. Also called *Idiot Stick* or *Story Pole*.

Leg: A tile wall running alongside a bathtub or abutment. This term sometimes is used to describe a narrow strip of tile floor.

Level: 1) A surface or line with all points at the same elevation. 2) See *Plumb Rule*.

Leveling Coat: See *Plumb Scratch*.

Light-duty Tile: Tile suitable for areas of light pedestrian traffic; e.g., entryways in single family residence.

Lime. Specifically, calcium oxide (CaO); also, loosely, a general term for the various chemical and physical forms of quicklime, hydrated lime and hydraulic hydrated lime.

Limestone. A sedimentary carbonate rock, composed chiefly of calcite (Ca CO₃), but sometimes containing appreciable dolomite. (ASTM C 21)

Live load. Any load that is not permanently applied to a structure.

Lippage: A condition where the edges of adjacent tiles when installed are not at the same level.

Load-bearing wall. A wall designed and built to carry superimposed vertical and shear loads as opposed to nonload-bearing walls.

Loss on ignition. The percentage loss in weight of a sample ignited to constant weight at a specified temperature, usually 900-1000 C.

Lugs: Protuberances attached to tiles to maintain even spacing for grout lines.

Luster: An iridescent decorative surface appearance on glazes, usually produced by application of a very thin metal film, such as, gold, silver, platinum or copper, over the coating surface.

M

Majolica: Formerly an earthenware with an opaque luster glaze and overglaze colored decorations, but currently designating any decorated earthenware with an opaque glaze.

Marble: 1) In geology, a metamorphic rock made up largely of calcite or dolomite. 2) In dimension stone, a rock that will polish and that is composed mainly of calcite, dolomite or, rarely, serpentine.

Art Marble: Artificial marble, pre-cast terrazzo.

Broken Marble: Fractured slabs of marble (not crushed by machines into chips).

Cultured Marble: An artificial, man-made product.

Marble Mosaic Tile: Tile made of small marble tesserae that vary slightly in size, usually about 1/2 inch (1.3 centimeters) square and mounted on sheets of paper to facilitate installation.

Marble Tile: Marble cut into tile sizes 12 inches (30.5 centimeters) square or less, usually 1/2 to 3/4 inch (1.3 to 1.9 centimeters) thick. The finishes may be polished, honed, split-faced, and so forth.

Masking Power: The ability of a fired glaze to mask visually the body on which it is applied.

Mason's Scaffold: Besides being totally self-supporting, the true mason's scaffold must also carry the load of unusually heavy materials. It may be braced on a building already erected.

Master Grade Certificate: A certificate that states that the tiles listed in the shipment and described on the certificate are made in accordance with ANSI 137.1.

Mastic: Organic tile adhesive.

Mastic Grout: A chemical mixture of organic and inorganic ingredients forming a one-part grouting composition that is used directly from the manufacturer's container. This grout is more flexible and stain resistant than cement grout.

Mat Glaze: A colorless or colored ceramic glaze having low gloss.

Maturing Range: The time-temperature range within which a ceramic body, glaze, or other composition may be fired to yield specified properties.

Medium-duty Tile: Tile suitable for areas of medium pedestrian traffic; e.g., entryways in multiple dwellings.

Melt: To change a solid into a liquid by the application of heat; or the liquid that results from such action.

Mesh Tape: A fiberglass reinforced tape used in place of traditional paper tape when taping mortar board (cement board) and preparing cracks in concrete for application of membranes.

Metal Quarry Tile Rack: Metal pattern used in tile layout. The rack is used to maintain the correct width between quarry tiles. They can be made to order for special patterns.

Mexican Paver Tile: Terra cotta-like tiles that are used mainly for floors. These handmade tiles vary in color, texture, and appearance from tile to tile. They are available in squares up to 12 inches (30.5 centimeters), hexagons, octagons, and other shapes. These tiles are coated with various types of sealers because of their soft absorptive characteristics. The sealers protect the surface against wear.

Miter: The junction of two units at an angle. The junction line usually bisects on a 45 degree angle.

Mill scale. The oxide layer formed during the hot rolling of metals, such as that formed on hot-rolled reinforcing bars.

Mineral aggregate. Aggregate consisting essentially of inorganic nonmetallic materials.

MMSA: Materials & Methods Standards Association.

Modulus of deformation. A concept of modulus of elasticity

expressed as a function of two time variables;
strain in loaded concrete as a function of the age at
which the load is initially applied and of the length of
time the load is sustained.

Modulus of elasticity. The ratio of normal stress to corresponding strain for tensile or compressive stresses below the proportional limit of the material; referred to as "elastic modulus of elasticity"; "Young's modulus," and "Young's modulus of elasticity"; denoted by the symbol E.

Moisture Expansion: An increase in the dimension or bulk volume of a ceramic article caused by reaction with water or water vapor.

Monochrome Decoration: A single color decoration.

Monocottura: A single-fired tile that usually has a matte glaze and is available in solid colors and designs.

Monoporosa Tile: Single fired tiles with higher porosity and water absorption levels than traditional monocottura tiles.

Mortar Bed: The layer of mortar on which tile is set. The final coat of mortar on a wall, floor or ceiling is called a mortar bed.

Mortarboard: A board used as a table to hold mortar. It is usually 30 inches (76.2 centimeters) square.

Mortar Hoe: A hoe used for hand-mixing mortar. The best type has a perforated blade and a handle about 66 inches (165 centimeters) in length. The hoe should be kept clean and free of all mortar so it can be pushed and pulled easily through a box of mortar.

Mortar Pumping Machine: A mortar pumping machine used with the mortar mixer. Mixed mortar is poured into the hopper, and a pneumatic gun forces the mortar through a hose. The mortar can be delivered through the hose to tile setters working as high as 13 stories above the street. The plastering gun can be used on the hose, and the hose can be used as a hoist.

Mosaics: Small tiles or bits of tile, stone or glass which are used to form a surface design or an intricate pattern.

Mounted Tile: Tile assembled into units or sheets by suitable material to facilitate handling and installation. Tile may be face-mounted, back-mounted, or edge-mounted. **Face-mounted Tile Assemblies** may have paper or other suitable

material applied to the face of each tile, usually by water-soluble adhesives so that the paper can easily be removed after installation but prior to grouting of the joints. **Back-mounted Tile Assemblies** may have perforated paper, fiber mesh, resin, or other suitable material bonded to the back or edges of each tile. **Back-mounted** and **Edge-mounted Tile Assemblies** must have a sufficient exposure of tile and joints surrounding each tile to comply with bond strength requirements. Tiles manufacturers must specify whether back-mounted and edge-mounted tile assemblies are suitable for installation in swimming pools, on exteriors, or in wet areas. Also called *Back-mounted Tile*.

Movement Joints: Essential for the success of most tile installations. Various methods require proper design and location of expansion joints. Also known as Expansion Joints.

MSDS: Material Safety Data Sheet.

Mud: A slang term for mortar.

Mullite Porcelain: A vitreous ceramic whiteware for technical application in which mullite is the essential crystalline phase.

Mullite Whiteware: Any ceramic whiteware in which mullite is the essential crystalline phase.

Murals: Tile installed in a precise area of a wall or floor to provide a decorative design or picture. Glass or marble mosaic tiles (tesserae) are made to form a picture or design. Ceramic tiles are painted and fired to form a picture or design. See *Decorated* and *Decoration*.

Muriatic acid. Hydrochloric acid (30% HCL), commercial grade.

N

Natural Clay Tile: A tile made by either the dust-pressed method or the plastic method, from clays that produce a dense body having a distinctive, slightly textured appearance.

Natural Stone Tile: Material taken from a quarry and processed into various size, thickness and finish.

Neat Cement: Portland cement mixed with water to a desired creamy consistency.

Nepheline Syenite: A mineral aggregate consisting chiefly of albite, microcline, and nephelite.

Net Cross-sectional Area: Average gross cross-sectional area of the masonry unit minus the area of non-grouted cores.

Net Section: Minimum cross-section of the member under consideration.

Nominal Dimension: A dimension greater than a specified masonry dimension by the thickness of a mortar joint.

Nominal Sizes: The approximate facial size or thickness of tile, expressed in inches or fractions of an inch, for general reference.

Noncombustible: Any material that will neither ignite nor actively support combustion in air at a temperature of 1,200 degrees Fahrenheit when exposed to fire.

Non-slip Tile: Tile having greater non-slip characteristics due to an abrasive admixture, abrasive particles in the surface, grooves or patterns in the surface, or natural nonskid surface characteristics.

Non-staining Mortar: A mortar with low free-alkali content to avoid efflorescence to staining of adjacent stones by migration of soluble materials.

Non-vitreous: That degree of vitrification evidenced by relatively high water absorption. Also called Non-vitrified.

Non-vitreous Tile: Tile with water absorption of more than 7.0 percent.

Notched Trowels: Trowels used to apply all of the various kinds of bonding materials for ceramic tile. They are available in the serrated and square-tooth design. The teeth are made in various sizes. The correct tooth size and depth must be used to apply the thickness of bonding mortar specified. When the teeth become worn, the trowel has to be sharpened or replaced.

NTCA: National Tile Contractors Association, Inc.

O

Occupational Safety and Health Administration (OSHA): U.S. government safety regulations establishing guidelines for construction trades and other industries.

Offset: A course that sets in from the course directly under it; the opposite of a corbel.

Opaque Glass: Glass that is impervious to light; not translucent or transparent.

Opaque Glaze: A nontransparent colored or colorless glaze.

Open Time: The period of time during which the bond coat retains its ability to adhere to the tile and bond the tile to the substrate.

Orange Peel: A pitted texture of a fired glaze resembling the surface of rough orange peel.

Organic Adhesive: A prepared organic material, ready to use with no further addition of liquid or powder, used for bonding tile to backup material by the thin-set method. The material cures or sets by evaporation.

Out Corner: See *Bullnose Corner*.

Oven Ware: Ceramic whiteware for culinary oven use.

Overglaze, Decoration: See *Decoration, Overglaze*.

P

Palletized: Material such as brick, block or stone that is stacked on wooden platforms to permit mechanized handling.

Paper and Wire: Tarpaper and wire mesh (or metal lath) that are used as a backing for the installation of tile.

Paper-mounted Ceramic Mosaics: Ceramic mosaic tiles mounted on paper. Paper is applied to face of tile in sheets approximately 12 inches (30 centimeters) wide and 24 inches (61 centimeters) long.

Parapet: A low wall around the perimeter of a building at roof level or around balconies.

Parapet Wall: The part of a wall that extends above the intersection of the wall with the roof.

Parquetry: A flat pattern assembled of closely fitted pieces, usually geometrical. Many patterns consist of two or more colors or materials.

Partition: An interior wall one-story or less in height. It is generally non-loadbearing. In Canada, *partition* means an interior wall of one-story or part-story height that is never loadbearing.

Pate Dure (hard paste): A French term designating ceramic whiteware fired at relatively high temperatures.

Pate Tendre (soft paste): A French term designating ceramic whiteware fired at relatively low temperatures.

Paver: 1) A paving stone, brick, or quarry tile. 2) A paving stone more than six inches square. 3) Glazed or unglazed porcelain or natural clay tile formed by the dust-pressed method and having six square inches or more of facial area.

Paving Stone: A block or chunk of stone shaped or selected by shape for surfacing a yard or traffic surface.

Paver Tile: Unglazed porcelain or natural clay tile formed by the dust-pressed method and similar to ceramic mosaics in composition and physical properties but relatively thicker with 6 square inches (38.7 square centimeters) or more of facial area.

PCA: Portland Cement Association.

Peeling: See *Shivering*.

Pencil Rod: A reinforcing steel rod with a diameter of 1/4-inch used in mortar and stone work.

Petalite. A lithium mineral of theoretical composition $\text{Li}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 8\text{SiO}_2$ which transforms on heating to a beta spodumene-silica solid solution product of very low or nil thermal expansion.

Physical Properties of Ceramic Tile: Those properties as measured by ASTM tests.

Pinholes: Imperfections in the surface of a ceramic body or glaze resembling pinpricks.

Pitch: The slope from a high point to a low point in a floor, measured in vertical distance over horizontal distance.

Pitted: Indentations in the finished surface of individual tiles other than at the corners and edges. The indentations are caused by sharp corners on trowels and other tools. See *Chipped*.

Plain Joint: See *Joint*.

Plaster: A cementitious material or combination of cementitious materials and aggregate that, when mixed with a suitable amount of water, forms a plastic mass or paste which when applied to a surface, adheres to it and subsequently hardens, preserving in a rigid state the form or texture imposed during the period of plasticity. Also, the placed and hardened mixture.

Plastic Method: See Extruded Tile.

Plastic Pressing: See *Pressing, Wet*.

Plumb: Perpendicular to a true level.

Plumb Bob: A shaped metal weight that is suspended from the lower end of a line to determine the vertical.

Plumb Rule: A narrow board with parallel edges having a straight line drawn through the middle and a string attached at the upper end of the line for determining a vertical plane. Also called *Level* or *Whiskey Stick*.

Plumb Scratch: An additional scratch coat that has been applied to obtain a uniform setting bed on a plumb vertical plane. Also called *Leveling coat*.

Point: A wedge-shaped or pyramidal chisel.

Pointing Trowel: Probably the most essential tool in the trade. This trowel comes in sizes ranging from 4 to 7 inches (10.2 to 17.8 centimeters) in length, but the 6-inch (15.2-centimeter) trowel is the most popular. The tile setter uses this trowel in every phase of the work, especially for straightening tiles on walls and floors, marking floated surfaces, filling small depressions on float coats, buttering tiles and trim work, and placing mortar in areas that are too small for the flat trowel. The butt of the handle is used for tapping in tiles that are not on a true plane with the rest of the tile work. The trowel's flat working surface must be protected. The tile setter should not use it to pry or chip hardened materials, such as concrete or plaster.

Poisson's ratio. The ratio of transverse (lateral) strain to the corresponding axial (longitudinal) strain resulting from uniformly distributed axial stress below the proportional limit of the material; the value will average about 0.2 for concrete and 0.25 for most metals.

Polyethylene. A thermoplastic high-molecular-weight organic compound used in formulating protective coatings or, in sheet form, as a protective cover for concrete surfaces during the curing period, or to provide a temporary enclosure for construction operations.

Polychrome Decoration: A multicolor decoration.

Porcelain: A glazed or unglazed vitreous ceramic whiteware used for technical purposes. This term designates such products as electrical, chemical, mechanical, structural, and thermal wares when they are vitreous. See *Alumina porcelain*, *Cordierite porcelain*, *Forsterite porcelain*, *Steatite porcelain*, *Titania porcelain*, and *Zircon porcelain*.

Porcelain Process: The method of producing glazed ware by which a ceramic body and glaze are matured together in the same firing operation.

Porcelain Tile: A ceramic mosaic tile or paver that is generally made by the dust-pressed method. The tile is dense, fine-grained, and smooth, with a sharply formed face that is usually impervious. Colors of the porcelain type are usually of a clear, luminous type or granular blend thereof.

Porosity, Apparent: The relationship of the open pore space to the bulk volume, expressed in percent.

Portland Cement: Unmixed cement used in concrete or mortar, originally from Portland, England.

Post-Tension Concrete: A method of pre-stressing reinforcement concrete in which tendons are tensioned after concrete has hardened.

Pot Life: The period of time during which a material maintains its workable properties after it has been mixed.

Pottery: All fired ceramic wares that contain clay when formed, except technical, structural, and refractory products.

Pozzolan. A siliceous or siliceous and aluminous material, which in itself possesses little or no cementitious value but will, in finely divided form and in the presence of moisture, chemically react with calcium hydroxide at ordinary temperatures to form compounds possessing cementitious properties.

Precast. A concrete member that is cast and cured in other than its final position; the process of placing and finishing precast concrete.

Prefabricated Masonry: Masonry fabricated in a location other than its final location in the structure. Also known as pre-assembled, panelized, and sectionalized masonry.

Pre-float: The term used to describe mortar that has been placed and allowed to harden prior to bonding tile to it with thin-set materials.

Pre-grouted Tile: A surface unit consisting of an assembly of ceramic tiles bonded together at the edges by a material, generally elastomeric, which seals the joints completely. Such material (grout) may fill the joint completely or partially and may cover all or part of the back surfaces of the tiles in the sheets. The perimeter of these factory pre-grouted sheets may include all or part of the joint between the sheets or none at all. The term *edge-bonded tile* is sometimes used to designate a particular type of pre-grouted tile sheets having the front and back surfaces completely exposed.

Prestressed concrete. Concrete in which internal stresses of such magnitude and distribution are introduced that the tensile stresses resulting from the service loads are counteracted to a desired degree; in reinforced concrete the prestress is commonly introduced by tensioning the tendons.

Pressing: See *Pressing, Dry; Pressing, Hot; Pressing, Wet*.

Pressing, Dry: Forming ceramic ware in dies from powdered or granular material by direct pressure. Also called *Dry Pressing*.

Pressing, Hot: A jiggering process wherein a heated profile tool or plunger is employed.

Pressing, Wet: Forming ceramic ware in dies from a plastic body by direct pressure. Also called *Plastic Pressing*.

Pretensioning. A method of prestressing reinforced concrete in which the tendons are tensioned before the concrete has hardened.

Primary Clay: A clay which remains geologically at its site of formation. Also called *residual clay*.

Process: See *Process, Dry; Process, Wet*.

Process, Dry: The method of preparing a ceramic body wherein the constituents are blended dry. Liquid may be added as required for subsequent processing. Also called *Dry Mix*.

Process, Wet: The method of preparing a ceramic body wherein the constituents are blended in sufficient liquid to produce a fluid suspension for use as such or for subsequent processing. Also called *Slip Process*.

Promenade Roofs: See *Promenade Walks*.

Promenade Walks: A walk for amusement or exercise, or as part of a formal or social entertainment.

Psi: Pounds per square inch.

Pulling: See *Floating*.

Pure: See *Neat Cement*.

Pure Coat: A thin coat of pure Portland cement which is used to bond tile to mortar.

Push Box: A box made with an adjustable blade which is normally set 3 mm above the thickness of the tile. Tile is pushed through the box creating a 3 mm thickness of mortar applied to the back of the tile.

Pyrophyllite. A hydrated aluminum silicate mineral of the theoretical composition $Al_2O_3 \cdot 4SiO_2 \cdot H_2O$, having physical properties in the raw state resembling mineral talc. (ASTM C 21)

Q

Quarry Tile: Unglazed tile, usually 6 square inches (38.7 square centimeters) or more in surface area and 1/2 to 1-1/4 inches (1.3 to 3.2 centimeters) in thickness, made by the extrusion process from natural clay or shales.

Quartering. A method of obtaining a representative sample by dividing a circular pile of a larger sample into four equal parts and discarding opposite quarters successively until the desired size of sample is obtained.

Quartzite Stone Tile: Metamorphic (re-crystallized) sandstone. ASTM-C616, classification 3. Hard-dense, non-skid, indoor and outdoor use, cut into 3/8" – 7/8" thick, available in natural cleft or textured honed finish.

R

Rack: A metal grid that is used to space and align floor tiles.

Racking: Stepping back successive courses of masonry.

Rake or Rake Line: 1) The inclination from a horizontal direction. 2) An angular cut on the face of stone.

Random Courses: Masonry set in courses of variable height.

Random Slates: Slate shingles installed in an irregular pattern using varying sizes.

Raw Glaze: A glaze compounded primarily from raw constituents. It contains no pre-fused materials.

Receptor: A metallic or nonmetallic waterproof support for a shower stall.

Red Body Tile: Tile made from red-colored raw materials. The tile is coated with an opaque layer to conceal its natural coloration before glazes are applied.

Recess: A depth of some inches in the thickness of a wall such as a niche.

Reducer: A trim unit used to reduce the radius of a bullnose or a cover to another radius or to a square.

Reference Lines: A pair of lines chalked on a substrate that intersect at a 90 degree angle and establish the starting point for plotting a grid of layout lines to guide in accurately setting tile.

Retarding Agent: A chemical added to mortar in hot weather to slow down the hydration process.

Retempering: Moistening and re-mixing mortar after its original mixing to a proper working consistency.

Return: The ending of a small splash wall or a wainscot at a right angle to the major wall. Also see *Head*.

Reveal: In the side of a door or window opening that is rebated for a frame, the surface extending from the slot (or frame) to the outer surface of the wall.

Rockingham Ware: A semi-vitreous ware or earthenware having a brown or mottled brown bright glaze. Originated in England on the estate of the Marquis of Rockingham.

Rodding: See *Floating* or *Reinforcement*.

Rod Saw: It is a steel rod approximately 1/8 inch (0.3 centimeter) in diameter. The rod has tungsten carbide particles embedded in the surface. The rod saw is used to cut circles or irregular curves in tile.

Roughing In: The act of preparing a surface by applying tar paper and metal lath (or wire mesh). Also called *Wiring*.

Rubber Spacers: Cross and tee-shaped objects used to space tile on floors or walls. They are manufactured in thickness of 1/16, 1/8, 1/4, 3/8, and 1/2 inch (0.2, 0.3, 0.6, 1.0, and 1.3 centimeters).

Rubber Trowel: A nonporous synthetic-rubber-faced float that is mounted on an aluminum back with a wood handle. This trowel is used to force grout deep into tile joints and to remove excess material for a perfect finish.

Rubbing Stone: A Carborundum stone that is used to smooth the rough edges of tile.

Running Bond: Stretchers overlapping one another by one-half unit, with vertical joint in alternate courses. See *Horizontal Broken Joint*.

Rutile. A mineral form of titanium oxide (TiO₂) (tetragonal crystallization), but usually produced chemically for use in ceramics and other products. (ASTM C 21)

S

Saddle: See *Threshold*.

Sag: 1) A depression in a horizontal line, meaning there is a slight fall below the level. Referring to a bricklayer's line. 2) When a wall surface has developed a slide.

Salt Glaze: A glaze produced by the reaction, at elevated temperature, between the ceramic body surface and salt fumes produced in the kiln atmosphere.

Saltillo Tile: Adobe type tile made of clay and other natural raw materials, molded and allowed to dry. Not a fired clay product.

Sampling: The method of obtaining tiles for testing from an agreed-upon lot.

Sandblasting: A method of scarifying the surface of concrete or masonry to provide a bondable surface. Compressed air is used to propel a stream of wet or dry sand onto the surface.

Sand-Portland Cement Grout: An on-the-job mixture of Portland cement, fine graded sand, lime and water.

Scarify: A mechanical means of roughing a surface to obtain a better bond.

Scarifier: Any serrated or sharply tined object that is used to roughen the surface of one coat of mortar to provide a mechanical key for the next coat. A scarifier also can be used to roughen the surface of concrete. Also called *Scratcher*.

SCPI: Structural Clay Products Institute.

Scratch: A mixture of Portland cement, lime, sand, and water.

Scratch Coat: The first coat of mortar on a wall or ceiling. Its surface usually is scratched or roughened so it will bond correctly with subsequent coats of mortar.

Scratched Tiles: Tiles that have surface scratches caused by sand or tools during installation.

Scratcher: See *Scarifier*.

Scratching: The application of a scratch coat and its combing with a *scratcher*.

Screed or Screed Strip: Strips of wood, metal, mortar or other material used as guides on which a straightedge is worked to obtain a true mortar surface.

Scribe: A tool used for working tiles for irregular cuts. It is made of steel and weighs approximately 1 ounce (28 grams).

Sculptured Tile: Tile with a decorative design of high and low areas molded into the finished face.

Sealant: An elastomeric material (*caulk*) that is used to fill and seal the expansion joint. This material prevents the passage of moisture and allows horizontal and lateral movement at the expansion joint.

Sealing: 1) To make a veneer joint water-tight or leakproof with an elastic adhesive compound. See *Caulking*. 2) Application of a surface treatment to retard staining.

Secondary Clay: A clay which has been geologically transported from its place of formation. Also called *Sedimentary Clay*.

Second-grade Ceramic Tile: Ceramic tile with appearance defects that do not affect wearing or sanitary qualities.

Sedimentary Clay: See *Secondary Clay*.

Self-spacing Tile: Tile with lugs, spacers, or protuberances on the side. These devices automatically space the tile of the grout joints.

Semi-mat Glaze: A colorless or colored glaze having moderate gloss.

Semi-porcelain: A trade term designating semi-vitreous dinnerware.

Semi-vitreous: That degree of vitrification evidenced by a moderate or intermediate water absorption.

Semi-vitreous Tile: Tile with water absorption of more than 3.0 percent, but not more than 7.0 percent.

Set: Solidified.

Set-up Time: The time adhesive or mortar, spread on a surface takes to cure or harden.

Setting Bed: The layer of mortar on which the tile is set. The final coat of mortar on a wall or ceiling also may be called a setting bed.

Shear Bond: The force it takes to shear a tile from a substrate.

Shearwall. A wall portion of a structural frame intended to resist lateral forces, such as earthquake, wind, and blast, acting in or parallel to the plane of the wall.

Shelf Life: The period of time that an item can be stored before it is used.

Shim: A piece of plastic or other non-corrosive, non-staining material used to hold joints to size.

Ship and Galley Tile: A special quarry tile having an indented pattern on the face of the tile to produce an anti-slip effect.

Shivering: The splintering which occurs in fired glazes or other ceramic coating due to critical compressive stresses. Also called *Peeling*.

Shower Floor Waterproof Membrane: See *Waterproof Membrane*.

Shower Pan: Terminology used in some areas for *Waterproof membrane*.

Shower Receptor: The floor and side walls of the shower up to and including the curb of the shower.

Silicone Grout: An engineered elastomeric grout system for interior use.

Sill: A horizontal unit used at the base of an exterior opening in a structure

Simulated Stone: An artificial man-made product.

Single Fire: See *Fire, Single*.

Sink Angle: Trim shape used on a drainboard at the corners of the kitchen sink. This trim shape, which is AU 106, also is called a *Butterfly*.

Sinter: A ceramic material or mixture fired to less than complete fusion, resulting in a coherent mass.

Skim Coat: Thin layer of Portland cement, dry set Portland cement mortar, latex type Portland cement, etc. used to flatten out uneven substrate to accept tile, marble and terrazzo. See *Bond Coat*.

Slake: Allowing the mixtures of mortar, thinset mortar or grout to stand for a brief period of time after the ingredients have been thoroughly combined and before the final mixing occurs. Slaking enables the moisture in the mix to penetrate lumps in the dry components, making it easier to complete the mixing procedure.

Slate: A very fine-grained metamorphic rock derived from sedimentary rock shale. Characterized by an excellent parallel cleavage entirely independent of original bedding, by which cleavage the slate may be split easily into relatively thin slabs.

Slate Tile: A fine-grained metamorphic stone cut to uniform tile units, generally used as flooring units.

Slide: A fresh tile wall that has buckled or sagged. This condition may be caused by excessive mortar, insufficient lime in the mortar, or excessive moisture in the scratch coat. A slide also may result if the surface is slick or the mortar is too soft.

Slip: A suspension of ceramic material in liquid. Also called *Slurry*.

Slip Coating: A ceramic material or mixture other than a glaze, applied to a ceramic body and fired to the maturity required to develop specified characteristics.

Slip Glaze: A glaze consisting primarily of a readily fusible clay or silt.

Slip Process: See *Process, Wet*.

Slip-resistant Tile: Tile that has greater slip-resistant characteristics due to an abrasive admixture, abrasive particles in the surface, or grooves or patterns in the surface.

Slip Sheet: A sheet that allows for independent movement of a mortar bed.

Slot Cut: Description of a tile that has been cut to fit around pipes or switch boxes. This tile is usually in the shape of the letter *H* or the letter *L*.

Slurry Coat: A pure coat of a very soft consistency. Also called *Slush Coat*.

Slush Coat: See *Slurry Coat*.

Soap, Neutral: A soap recommended for cleaning tiled surfaces. It should be neither acidic nor alkaline.

Soaping Tile: The method of applying a soapy film to newly tiled walls to protect them from paint and plaster during construction.

Soffit: The finished stone covering the underside of a lintel, beam or overhead member.

Soldier Course: Oblong tile laid with the long side vertical and all joints in alignment.

Spacers: Plastic, rubber, wood or rope used in wall or floor installations to separate tiles. Manufactured spacers are available in thickness from 1/16 inch to 1/2 inch.

Spacing Mix: A dry or dampened mixture of one part Portland cement and one part extra-fine sand. This mix is used as filler in the joints of mounted ceramic mosaic tiles to keep them evenly spaced during installation. Also called *Fifty-Fifty*, *Half and Half*, or *Filler*.

Spandrel: That part of a wall between the head of a window and the sill of the window above it.

Special Purpose Tile: A tile, either glazed or unglazed, made to have specific physical design or appearance characteristics, such as size, thickness, shape, color, or decoration; keys or lugs on backs or sides; and special resistance to staining, frost, alkalis, acids, thermal shock, physical impact, high coefficient of friction, or electrical properties. Also called *Extra-duty Tile*.

Spitout: A glaze defect of the pinhole type developed in the decorating kiln, due to evolution of minute gas bubbles from the body or glaze.

Splash Walls: The walls of a tile drainboard or bathtub.

Split L Cut: An improper L cut that is made by splitting a tile instead of cutting it.

Spots: Small pieces of tile placed on a wall or floor surface to align the screeds or setting bed. Spots of casting plaster also may be used.

Stacking Tile: A method of installation whereby glazed tiles are placed on the wall so that they are in direct contact with the adjacent tiles. The width of the joints is not maintained by the use of string or other means. The tiles may be set with either straight or broken joints.

Standards for Ceramic Tiles: Grading procedures for dimensional, structural and chemical characteristics of ceramic tiles. In the United States, standards are established by ANSI (American National Standards Institute). In Europe, the CEN (Comite' Europe'en de Normalisation) standards are used. ISO (International Standard Organization) standards have now been approved by member organizations to unify standards worldwide.

Standard Grade Ceramic Tile: Highest grade of all types of ceramic tile.

Static Coefficient of Friction (C.O.F.): *Slip Resistance.* The degree of slip resistance presented in a quantitative number that expresses the degree of slip resistance. Slip resistance is evaluated by the horizontal pull method (ASTM C1028). There is no current ANSI requirement, a coefficient of friction of 0.5 and above is the recognized industry standard for a slip resistant flooring surface.

Steatite Porcelain: A vitreous ceramic whiteware for technical application in which magnesium metasilicate is the essential crystalline phase.

Steatite Whiteware: Any ceramic whiteware in which magnesium metasilicate is the essential crystalline phase.

Steel Square: One of the most important tile setting tools. The large arm of the square is 2 inches (5.1 centimeters) wide and 24 inches (61 centimeters) long and is called the body or blade. The smaller arm is at a 90-degree angle to the blade and is 1-1/2 inches (3.8 centimeters) wide and 16 inches (40.6 centimeters) long and is called the tongue. The point where the outside edges of the blade and tongue join is called the heel. The surface with the manufacturer's name is called the face; the opposite surface is called the back.

Stoned: Use of a Carborundum stone to eliminate the jagged and flaked edges, which result from cutting.

Stoneware: A vitreous or semi-vitreous ceramic ware of fine texture, made primarily from non-refractory fire clay.

Stool: A flat unit of stone often referred to as an interior window sill.

Story Pole: See *Layout Stick*.

Straightedge: A straight piece of lumber (generally) that is used to rod mortar and to align tile.

Straight Joint: The usual style of laying tile where all the joints are in alignment.

Stretcher: Trim shapes of tile between trim angles.

Striking Joints: A process of removing excessive grout from the joints by wiping with a sponge or cloth or scraping with a curved instrument.

Strips: 1) Strips of wood used to plumb walls for mud applications. 2) Billets of stone that are long in relation to the height of the exposed face.

Structural Defects: Cracks or laminations in the body of the tile which detract from the aesthetic appearances and/or the structural soundness of the tile installation.

Stucco. A cement plaster used for coating exterior walls and other exterior surfaces of buildings. (See also Plaster.)

Stud. Vertical member of appropriate size (2x4 to 4x10 in.) (50x100 to 100x250 mm) and spacing (16 to 30 in.) (400 to 750 mm) to support sheathing of concrete forms; also a headed steel device used to anchor steel plates or shapes to concrete members.

Subfloor: A rough floor – plywood or boards – laid over joists and on which an underlayment or substrate is installed.

Substrate: 1) The underlying support for the ceramic tile installation. 2) Any material used as a base over which a finished material is to be installed. Also called *Backing*.

T

Tablet: 1) A stone, metal plate or bounded surface to carry words, letters, emblems, or carvings. 2) A coping stone set flat.

Take-off Person: Someone who can read blueprints and is familiar with the specifications. This person makes tracings of special details concerning the tile work after gathering the necessary information and then estimates the labor, materials, tile quantities, and special trim shapes needed to complete the job. Also called *Estimator*.

Tapping Tile: An inspection technique whereby a coin, key, or other small metallic object is tapped against an installed tile to determine by sound whether the tile is completely bonded to its backing. Tile setters often tap the tile with a pointing trowel to determine that a good bond has been achieved.

TCA: Tile Council of America.

TCAA: Tile Contractors Association of America.

Terracotta: Hard baked clayware, including tile, of variable color, averaging reddish red-yellow hue and of high saturation. Usually unglazed, this product requires a sealer to prevent staining. Used mainly on interior floors. Also called *Terracotto*.

Terra Sigillata: A porous, red clayware characterized by embossed decorations of the same color and a satin-like unglazed surface. Originated on the Island of Samos.

Terrazzo Tile: 1) Decorative tile made of marble-aggregate concrete that is pre-cast and ground smooth. 2) A cementitious product containing graded colored chips of marble, granite or other composition chips of various sizes. Usually each tile is individually cast in molds, mechanically vibrated and hydraulically compressed during manufacture. Tile may be pre-finished or ground in place.

Testing of Ceramic Tile: The act of determining whether ceramic tiles are acceptable. See *Physical Properties of Ceramic Tile*.

Thick-bed Mortar: A thick layer of mortar (more than 1/2 inch) that is used for leveling.

Thin-set: The term used to describe the installation of tile with all materials except Portland cement mortar, which is the only recognized thick-bed method.

3-4-5 triangle: 1) In geometry; the Pythagorean Theorem. 2) A triangle with sides in the proportion of 3:4:5, which produces one 90 degree corner. Plotting a 3-4-5 triangle is a method used to establish a pair of square reference lines on a large surface. These lines can be used to determine if the installation site is square and to create a grid of layout lines for setting tile.

Threshold: A term to describe the piece of stone under a door. Also called *Saddle*.

Tie Wire: The 18-gauge galvanized wire used in construction work.

Tile: A ceramic surfacing unit, usually relatively thin in relation to facial area and made from clay or a mixture of clay and other ceramic materials. The body of the tile has either a glazed or unglazed face and is fired above red heat in the course of manufacture to a temperature sufficiently high to produce specific physical properties and characteristics.

Tile Adhesive: Organic adhesives of several types, such as rubber solvents, resin base and rubber emulsions, used for bonding tile to a surface.

Tile Assemblies: See *Mounted Tile*.

Tile Cutter: One of the most efficient and economical tools in the tile setting trade. A popular model is the hand-drawn tile cutting board that is adjustable.

Tile Finisher/Helper: One who assists a Tile Setter.

Tile Layer: See *Tile Setter*.

Tile, Mounted: Tiles assembled into units or sheets and bonded together to facilitate handling.

Back-mounted Tile: Mounted tile with perforated paper, fiber mesh, or other suitable bonding material applied to the backs or edges of the tile so that a relatively large proportion of tile area is exposed to the setting bed.

Face-mounted Tile: Mounted tile with paper applied to the faces of the tile. The water-soluble adhesive can be removed easily prior to grouting of the joints.

Tile Nipper: Special pliers that nibble away little bits of ceramic tile to create small, irregular or curved cuts. Also called *Biters*.

Tile Sealer/Joint Sealer: A clear sealer, often silicone-based, used to seal tile floors and grout joints to prevent staining and/or discoloration.

Tile Setter: One who sets tile. Also called *Tile Layer*.

Tile Setting: Setting of tile into an adhesive or mortar bed by a tile setter.

Titania Porcelain: A vitreous ceramic whiteware for technical application in which titania is the essential crystalline phase.

Titania Whiteware: Any ceramic whiteware in which titania is the essential crystalline phase.

Trammel Bar: An easily constructed accurate layout tool. It is used to erect perpendicular lines and to bisect angles. The tile setter can make a trammel bar from a stick of a size that is suitable for the particular job.

Travertine: 1) A variety of limestone deposited by hot or cold water as cavern fillings, including stalactites and stalagmites, or as accumulations at springs. 2) Sedimentary limestone with small cavities that are usually filled with Portland cement, colored epoxy or polyester resins prior to polishing. Available polished or honed in many sizes.

Tread: 1) The horizontal component of a stairstep. (Compare *riser*) 2) The fore-to-aft dimension of a stairstep. 3) The upper surface of a step.

Trim: In building stone, that stone used as decorative members on a structure built or faced largely with other masonry material such as brick, tile, block, or terracotta. Trim items include sills, jambs, lintels, coping, cornices, quoins, and others. Also called *Trimstone*.

Trimmers: Units of various shapes consisting of such items as bases caps, corners, moldings, and angles. These units are used to complete an installation.

Trimstone: See *Trim*.

Trim Units: Units of various shapes consisting of items such as bases, caps, corners, moldings, and angles necessary to achieve installations of the desired sanitary and architectural design.

Truncated Dome Tile: Tile units with tactile, raised bumps on the face, used on floors to warn visually impaired that an edge or break in the floor is forthcoming. Also called *Warning Detectable Tile*.

U

Unglazed Paver Tile: See *Paver Tile*.

Unglazed Quarry Tile: See *Quarry Tile*.

Unglazed Tile: A hard, dense tile of homogeneous composition throughout, deriving color and texture from the materials that make up the body. The colors and characteristics of the tile are determined by the materials used in the body, the method of manufacture, and the thermal treatment.

Urethane: An elastomeric polymer with excellent chemical and water resistance. Single component (moisture cure) and 2-part (chemical cure) systems are available. Both types may be applied in a fluid state and cure (polymerize) after

installation. Typical tile industry applications include sealants, caulks, waterproofing membranes and high performance flexible adhesives.

V

V-cap Trim: V-shaped trim tile used on the front edge of a countertop. The tile's top surface is gently curved upward at the front edge to prevent water from running onto the floor.

Vellum Glaze: A semi-mat glaze with a satin like appearance.

Verde Antique: Dark-green serpentine rock marked with white veins of calcite.

Vertical Broken Joint: Style of laying tile with each vertical row of tile offset for half its length.

Vitreous: 1) That degree of vitrification evidenced by low water absorption. 2) Glassy in appearance. A fired clay that has been fused together. Commonly used on the face of terra cotta units. See *Impervious; Non-vitreous; and Semi-vitreous*.

Vitreous Slip: A slip coating matured on a ceramic body, producing a vitrified surface.

Vitreous Tile: Tile with water absorption of more than 0.5 percent, but not more than 3.0 percent.

Vitrification: The progressive reduction in porosity of a ceramic composition as a result of heat treatment.

Vitrification Range: The maturing range of a vitreous body.

W

Wainscot: An interior veneer of stone less than full wall height.

Wall Tile: A glazed tile with a body that is suitable for interior use and that is usually non-vitreous. The tile is not expected to withstand excessive impact or be subjected to freezing and thawing conditions.

Warning Detectable Tile: See *Truncated Dome Tile*.

Water Level: A piece of clear plastic hose 3/8 to 1/2 inch (1.0 to 1.3 centimeters) in diameter and usually about 50 feet (15 meters) in length. It is filled with water,

from which all air must be removed. Air bubbles in the hose compress when the level is used.

Waterproofing Membrane: A membrane, usually made of built-up roofing, to provide a positive waterproof floor over the substrate, which is to receive a tile installation using a wire-reinforced mortar bed. Also called *Shower Pan*.

Wearing course. A topping or surface treatment to increase the resistance of a concrete pavement or slab to abrasion.

Weathering. Changes in color, texture, strength, chemical composition or other properties of a natural or artificial material due to the action of the weather.

Weep Holes: Openings for drainage in veneer joints or in the structural components supporting the veneer.

Wet Areas: Interior or exterior tiled areas subject to periodic or constant wetting. Examples: showers, sunken tubs, pools, exterior walls, roofs, exterior paving, and interior floors.

Wet Pressing: See *Pressing, Wet*.

Wet Process: See *Process, Wet*.

Whiskey Stick: See *Plumb rule*.

White-Body Earthenware Tiles: Tiles composed of raw materials producing a white body that can be coated with a transparent glaze and takes color easily. Normally used in wall tiles.

Wiring: See *Roughing In*.

Wood Float: A tool that can be used in place of the flat trowel for floating mortar. It is good for smoothing small irregularities set on the mortar bed, working the surface of the mortar before troweling on the pure coat, or compacting floor and deck mortar.

Wrinkled Sheets: Pertaining to ceramic mosaics mounted on paper. This condition results from rough handling in shipment.

X

Y

Yellow Ware: A yellow semi-vitreous ware or an earthenware with a colorless clear glaze.

Z

Zircon Porcelain: A vitreous ceramic whiteware for technical application in which zircon is the essential crystalline phase.

Zircon Whiteware: Any ceramic whiteware in which zircon is the essential crystalline phase.

BIBLIOGRAPHY

Brick Institute of America. Bricklaying: Brick and Block Masonry. Brick Institute of America. Reston, VA. 1988.

California State Department of Education. Tile Setting Workbook. Bureau of Publications. Sacramento, CA. 1986.

Ceramic Tile Institute of America, INC. Glossary

International Masonry Institute. Glossary.

Marble Institute of America. Dimension Stone Design Manual IV; 1991.

National Terrazzo and Mosaic Association. Terrazzo Information Guide.

Nickey, J.M. Masonry Construction: The Trowel Worker's Bible. Tab Books, 1982.

Terrazzo, Tile and Marble Association of Canada. 1998 Specification Guide 09300: Tile Installation Manual. TTMAC. Concord, Ontario. 1998

Tile Contractors Association of America (TCAA).

Tile, Marble, Terrazzo Craft Committee Members of the International Union of Bricklayers and Allied Craftworkers.

Tile Magazine

Ceramic Tile of Italy

The Chicago Tile Institute

Laticrete International

The National Tile Contractors Association

Tiles of Spain

Ceramic Tile Education Foundation

Tile Council of North America.