



## Standard Terminology Relating to Clay Products<sup>1</sup>

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### 1. Referenced Documents

#### 1.1 *ASTM Standards:*

C 301 Test Methods for Vitrified Clay Pipe<sup>2</sup>

C 700 Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated<sup>2</sup>

### 2. Terminology

**approving authority**—the individual official, board, department, or agency established and authorized by a state, county, city, or other political subdivision, created by law to administer and enforce specified requirements.

**backfill**—all the material used to fill the trench from bedding to finished surface.

**backfill, final**—material used to fill the trench from initial backfill to finished surface.

**backfill, initial**—material used to fill the trench from top of bedding to a designated height over the pipe.

**backfill, unconsolidated**—non-compacted material in place in the trench.

**barrel**—the cylindrical portion of a vitrified clay pipe exclusive of branches, spurs, joints, and handling rings or lugs.

**bearing strength**—the non-destructive limit of pipe load, as determined by 3-edge bearing test method, used to determine field supporting strength.

**bedding**—the materials, their placement, consolidation, and configuration, as designed to support, and to develop field supporting strength of vitrified clay pipe.

**bell**—the flared-end portion of a vitrified clay pipe or fitting, designed to function in the joining of other such pipe.

**beveled pipe**—a pipe with an end angled to mate with a complementary pipe end or adjust to another surface.

**blister**—a convex, raised area on the pipe surface indicating an internal separation.

**body**—See **pipe body**.

**chip**—a small piece of broken-off material, or the location where a small piece of the unit material has been broken off.

**clay**—an earthy or stony mineral aggregate consisting essentially of hydrous silicates of alumina, plastic when suffi-

ciently pulverized and wetted, rigid when dry, and vitreous when fired to a sufficiently high temperature.

**closure**—See **compression joint**.

**compaction**—mechanical or hydraulic consolidation of backfill to achieve stability.

**compression coupling**—See **compression joint**.

**compression disk**—a disk of compressible material placed between the ends of adjacent pipe for the purpose of distributing the jacking force.

**compression joint**—a joint designed so that a sealing action is obtained by compressing elastomeric components.

**conduit**—a pipe for conveying fluid.

**consolidation**—the gradual reduction in volume of backfill matter to achieve stability.

**constant weight**—the condition of a substance in which all volatile components have been vaporized, and repeated exposure to a specified temperature, for any period of time, causes no change in weight.

**controlled low strength material (CLSM)**—flowable low compressive strength cementitious material used in the pipe zone as a bedding material. Also referred to as controlled density fill, flowable fill, slurry, or lean concrete.

**crack**—an irregular separation with well-defined sharp edges visible on the surface of a pipe.

**deadload**—the load imposed on pipe, that is determined by depth and width of the trench at top of pipe, as well as unit weight and character of backfill material.

**drains**—a piping system used to collect and carry off surface and ground water.

**encasement**—special materials, their placement and configuration which are designed to fully surround the pipe, and develop a field supporting strength which exceeds that developed by other commonly used installation and bedding techniques.

**exfiltration**—the quality of water leaving the test section during a specified time period.

**face**—to cover with a new surface.

**filter block**—a cellular vitrified clay block unit, of proprietary configuration, designed to underbed the media in trickling filters.

**fire clay**—a sedimentary clay of low-flux content.

**fitting**—products such as wyes, tees, elbows, adapters, etc. used in the installation of vitrified clay pipelines.

**flooding**—a means of compacting trench backfill by the

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.05.



- introduction of water by gravity.
- flue lining**—a manufactured tubular non-load bearing fired clay unit, normally used for conveying hot gases in chimneys.
- fracture**—that portion of a vitrified clay pipe from which a fragment has been broken. It is distinguished by well-defined fracture faces and sharp edges where the fracture faces meet the surface of the pipe.
- glaze**—a hard glassy fused coating.
- haunch**—that portion of the pipe barrel extending from bottom to springline.
- haunching**—the act of placing bedding material around the haunch of the pipe.
- inch-pound units**—the units of length, area, volume, weight, and temperature in common use in the United States at the present time. These include, but are not limited to: (1) length—feet, inches, and fractional inches, (2) area—square feet and square inches, (3) volume—cubic feet, cubic inches, gallons, and ounces, (4) weight—pounds and ounces, and (5) temperature—degrees Fahrenheit.
- industrial waste**—the water-conveyed residues resulting from manufacturing or processing operations.
- infiltration**—the quality of ground water entering the test section during a specified time period.
- initial backfill**—location for placement of selected material, native or import, extending from the top of the bedding material to an elevation 1 ft above top of pipe.
- jacking**—a method of installing pipe by the trenchless method using equipment and pipe designed for this purpose.
- jacking force**—the force applied to the pipe along the longitudinal axis of the pipeline by the pipe jacking equipment.
- jetting**—a means of compacting trench backfill by the introduction of water under pressure through a nozzle.
- joint**—an individual length of pipe, or the means of closure to form a pipeline.
- lamination**—a stratification of the material in the plane of the wall of a unit.
- leachate**—liquid drainage normally associated with contaminated soils and solid waste landfills.
- live load**—the portion of the load transmitted to pipe from wheel or tread impacts.
- lot**—specific group of clay products having characteristics of sufficient similarity that individual specimens selected from that group may be considered representative of the whole group.
- microtunneling**—trenchless installation of pipe by jacking the pipe behind a remotely controlled, steerable, laser guided, microtunnel boring machine that provides continuous support to the excavated face under various geotechnical conditions including the presence of groundwater.
- mitered fittings**—fittings manufactured by using beveled pipe segments.
- mitered pipe*—See **beveled pipe**.
- nominal diameter**—references the internal diameter in name only to the nearest unit dimension.
- pimple**—a small solid bump or protrusion on the pipe surface.
- pipe*—See **vitrified clay pipe**.
- pipe body**—the clay material or mixture of clay materials from which vitrified clay pipe is made.
- pipe bursting**—process by which existing pipelines are broken by mechanical fracturing from either inside or outside with the remains being pushed into the surrounding soil while simultaneously inserting a new pipeline of equal or larger diameter.
- pipeline**—pipes joined to provide a conduit through which fluids flow.
- puddling**—soil consolidation by agitating by means of poles, a mixture of soil and sufficient water to leave a puddle on the surface.
- reach**—the section of a sewer between structures.
- sample**—each piece or group of pieces selected from a lot and used to determine whether the product complies with the specification criteria.
- sampling**—process of selecting samples from a lot for use in testing.
- sealing element**—a separate or bonded material between the sleeve and the pipe that forms a seal.
- segmental testing**—a method of isolating and testing portions of an installed pipeline to determine the location of an air loss in excess of the standard.
- segmented testing**—a method of testing vitrified clay pipe using segmented bearings as detailed in Test Method C 301.
- selected material**—finely divided material free of debris, organic material, and large stones.
- sewage**—waste matter carried off by sewers.
- sewer**—generally, an underground conduit usually carrying waste matter in a liquid medium.
- sewer line*—See **sewer**.
- sewer pipe**—vitrified clay pipe as described in Specification C 700.
- sewerage**—system for collection, treatment, and disposal of sewage.
- shale**—a thinly stratified, consolidated, sedimentary clay with well-marked cleavage parallel to the bedding.
- shovel slicing**—mechanical action of causing bedding material to uniformly contact the pipe haunches.
- slant**—a piece of vitrified clay pipe made so that one end has a plane of approximately 45° or 60° to its longitudinal axis. The end may be made with a contoured surface to fit another pipe.
- sleeve**—a coupling which contains or compresses the sealing element and meets the requirements of the standard. The sleeve may be affixed to one end of the pipe at the factory.
- sliplining**—a method of inserting new pipe into an existing pipeline.
- socket**—the portion of a jointing system that is designed to accept a plain-end pipe or a spigot-end pipe.
- spading**—see **shovel slicing**.
- specifying agency**—the individual engineer, firm, or political subdivision charged with and having the responsibility for the design of a facility, product, equipment, or material requirements.
- specimen**—sample, or portion thereof, which is to be tested and the test results to be reported.
- spigot**—that portion of a vitrified clay pipe that fits into the bell or socket of the preceding pipe.

**spring line**—the line of maximum horizontal dimension of the transverse cross section.

**superimposed load**—load imposed by travel over, or by material brought and placed over the trench area, after pipe installation.

**surface clay**—an unconsolidated, unstratified clay, occurring on the surface.

**test section**—the portion of pipeline under test.

**test specimen**—specimen, or portion thereof, which is to be tested and the test results reported, or which is to be prepared for further testing, and the test results reported.

**trickling filter**—a facility for the waste waters which utilizes

a flow of liquid over fixed-media.

**unaided eye**—visual inspection, without the use of special equipment or enhancement excepting the use of corrective lenses.

**vitrified clay pipe**—a pipe made from various clays or combinations thereof which are shaped, dried, and fired to a point where the glass-forming components fuse to form a bond between the crystalline grains.

**walls**—exterior vertical sides of vitrified clay filter block.

**webs**—interior supports separating channels of vitrified clay filter block.

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