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Standard Terminology Relating to Clay Products[1]

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1. Referenced Documents

1.1 *ASTM Standards:*

[1] This terminology is under the jurisdiction of ASTM Committee ~~C-4~~ C04 on Vitrified Clay Pipe and is the direct responsibility of Subcommittee C04.10 on Editorial. Current edition approved ~~April~~ Jan. 10, ~~1999.~~ 2002. Published ~~July 1999.~~ March 2002. Originally published as C 896 – 78. Last previous edition C 896 – 9~~8a~~9.

C 301 Test Methods for Vitrified Clay Pipe[2]
C 700 Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated[2]

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 complimentary 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 sufficiently 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 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.

[2] *Annual Book of ASTM Standards*, Vol 04.05.

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.