

CONCRETE PIPE TERMS AND DEFINITIONS

Every product has certain terms and definitions that are unique to that particular product. Listed below are various terms and definitions that relate to concrete pipe. A good understanding of these definitions is essential to understanding concrete pipe and future Info Series. ASTM C 822 defines additional terms relating to concrete pipe.

AASHTO - American Association of State Highway and Transportation Officials

ABSORPTION - Amount (%) of water that penetrates into the concrete.

ACI - American Concrete Institute

AGGREGATE - Granular material of mineral composition such as sand, gravel or crushed stone.

ANNULAR SPACE - The space between the inner surface of the spigot and the outer surface of the bell end of an assembled pipe joint.

ASTM - American Society for Testing and Materials

AWWA - American Waterworks Association

BACKFILL - Material used to refill a trench or excavation above the bedding zone.

BEDDING - The soil or other material on which a pipe is supported.

BEDDING FACTOR - Ratio between the supporting strength of buried pipe to the strength of the pipe as determined in the three-edge bearing test.

COMPRESSIVE STRENGTH - Maximum resistance of a concrete specimen to axial compressive loading.

CORE - Cylinder of concrete obtained from the finished pipe by means of a core drill.

CROWN - The top or highest point of the internal surface (inside top of the pipe).

DESIGN STRENGTH - The minimum acceptable 0.01-in. crack D-Load.

D-LOAD - The load applied a pipe under three-edge bearing tests conditions expressed in pounds per linear foot per foot of inside diameter.

EARTH LOAD - The weight of the earth to be carried by the pipe.

ELLIPTICAL REINFORCEMENT - A line of reinforcement in the approximate shape of an ellipse.

EXFILTRATION - The volume of pipeline flow loss through the pipe, joints, connections and appurtenances.

FLOWLINE - A line formed by the invert of pipes.

GRADATION - The distribution of particle sizes usually expressed in terms of cumulative percentages larger than a series of standard size sieve openings.

HYDROSTATIC PRESSURE - The pressure exerted by the water.

HYDROSTATIC TEST - A test of the ability of a pipe or its joints to withstand internal hydrostatic pressure. Test may be performed in the plant or field.

INFILTRATION - The volume of groundwater entering a line through the pipe, joints, connections or appurtenances.

INVERT - The bottom or lowest point of the internal surface.

LIVE LOAD - The load to be carried by the pipe that is exerted by trucks, airplanes, trains, etc.

MOMENT - The product of (the bending) effects of loads causing a force and the distance to a particular axis or point.

0.01 in. CRACK - Any continuous crack having a surface width of 0.01 in. and depth of 1/16" and extending for a continuous length of 12 inches.

PERMEABILITY - That property which permits movement of a liquid through the pores and interstices of the concrete.

QUADRANT MAT - Additional tension zone circumferential reinforcement secured to a layer of reinforcement in the concrete pipe wall.

REINFORCEMENT - Steel embedded in concrete in such a manner that the two materials act together to resist forces.

RCP - Reinforced Concrete Pipe.

SLOPE - The inclination measured in feet of vertical change over a given distance expressed as horizontal length from the horizontal line.

SPRINGLINE - The horizontal centerline of the pipe or in box section, the mid-height of the vertical wall.

ULTIMATE STRENGTH - The maximum three-edge bearing test load supported by a pipe.