

BURIED SERVICES



THE WORLD LEADER IN PIPE JOINING SOLUTIONS

 **victaulic**[®]

THE FAST, EASY, AND ECONOMICAL SYSTEM FOR JOINING UNDERGROUND PIPING.



Since 1919, Victaulic has led the industry by developing innovative pipe joining solutions that improve safety, reduce risk and compress schedules; delivering real value to the owners, engineers, contractors and maintenance personnel who have come to depend on them. Underground piping is one of the original applications for Victaulic couplings, dating back to the 1920's.

The primary advantages of Victaulic flexible couplings are the expansion, contraction and deflection capabilities available in combination with a self-restrained joint. The deflection characteristic serves to minimize the stress, which results from ground and system thermal changes (i.e. freezing and thawing causing ground shift), settlement and seismic effects.

To counteract the effects of soil damage on buried systems, Victaulic products can be designed in with special coatings and/or cathodic protection to ensure the longevity of the system.



DIRECT BURIAL:

Victaulic grooved, HDPE, ring type, and bolted sleeve type couplings can be direct buried following the same guidelines as welded and split sleeve systems as shown in AWWA C604. Direct burial of grooved and bolted sleeve couplings will not adversely affect joint performance or reliability. Mechanical joining systems provide a fully restrained pipe joint while also allowing for flexibility at the joint.



COATINGS, COVERINGS, AND HARDWARE



Underground water line
circa 1920's London.

Victaulic Piping Joining Solutions for Buried Services

Victaulic couplings can be directly coated both prior to installation and/or post installation for the purpose of corrosion protection. Optional factory applied coatings include, paints, galvanizing, coal tar epoxy, organic zinc primer, bituminous, epoxy, etc. These coatings may also be applied in the field directly onto installed couplings.

External coverings such as, heat shrink coverings, mastics, wax and asphaltic tapes may also be applied directly over Victaulic couplings. These coverings will provide the same corrosion protection to Victaulic couplings as they do with other traditional joining methods and can be installed in the same manner. The coating manufacturer's instructions should be followed to ensure proper performance.

For added performance, stainless steel bolting is also offered as an alternative to steel for direct burial.



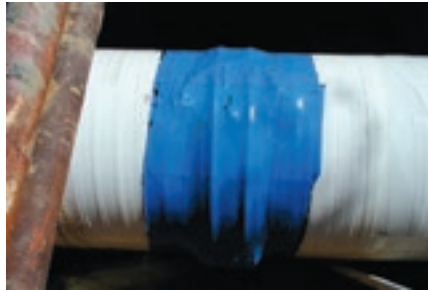
Fusion Bonded Epoxy and Other Coatings

Designed specifically for use on water and waste water treatment systems where buried pipe is required.



Petrolatum Tape Wrap and Mastic

Economical corrosion protection for exposed couplings and plated bolts and nuts.



Thermal Shrink Wrap

This economical and easy to apply shrink wrap offers corrosion protection and can be used in conjunction with coatings or on uncoated pipe couplings.



Pre-insulation

For buried chilled water (i.e. district cooling) lines where insulation is required. The coupling is insulated with a preformed wrap that is specifically designed for use with Victaulic couplings.



Bitumen Tape Wrap

This traditional, economical method for corrosion protection works well with Victaulic grooved couplings and fittings in buried services.



Other Coatings

Protective coatings can be applied for potable water supply systems to prevent internal and external corrosion protection.

UNDERGROUND PIPING SOLUTIONS



GROUNDING:

Grounding of buried systems is necessary to ensure proper protection of a piping system from outside sources of electrical activity such as lightning strikes, power line breaks, and stray currents. Grounding is also necessary to ensure static electricity within a pipeline does not build to a potentially dangerous level. Stainless steel, bare, painted, or galvanized Victaulic grooved, ringed and bolted sleeve type couplings, when installed on uncoated, galvanized, or painted pipe ends will provide continuity across the pipe joint through the coupling housing.

BONDING:

Bonding of buried systems may be necessary to ensure continuity through pipe joints and/or continuity with adjacent piping systems. Bonding is achieved by direct connection of the two materials to be bonded together through the use of jumper wires, continuity clips, or some other means of providing continuity between the two materials. Systems incorporating imposed current cathodic protection may require bonding to adjacent pipelines to ensure even protection to adjacent systems.

CATHODIC PROTECTION:

Cathodic protection of a piping system can be done in many ways. By definition, cathodic protection is a technique used to control the corrosion of a material by making it the cathode of an electrochemical cell.

In areas where pipeline longevity is required, and where pipeline integrity must be monitored, the use of imposed current cathodic protection is applied. This method of protection utilizes localized sacrificial anodes or a remote anode bed along with an imposed current to ensure protection is even along the length of the pipe line. This method is often used in conjunction with pipeline coatings. As with grounding, continuity of the pipeline is required to ensure the imposed current can freely travel the length of the protected area.

Couplings installed in an area protected by cathodic protection must be in direct contact metal-to-metal or bonded to the pipe to ensure continuity through the connection and even protection of the joint.



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