

STANDARD SPECIFICATIONS

SECTION 15041

**CHLORINATION OF DOMESTIC WATER MAINS
AND SERVICES FOR DISINFECTION**

PART 1 - GENERAL

A. Description

This section describes requirements for disinfection of domestic water mains, services, appurtenances and connections by chlorination. and all requirements for bacterial testing of the facilities, and obtaining subsequent clearances for operations issued by the District and all state and local health agencies having jurisdiction.

B. Related Work Specified Elsewhere

All related work specified elsewhere, or in other codes or standards, will be as last revised, unless a specific date of issuance is called out in opposition to later revision date(s).

Other sections of the technical specifications, not referenced below, shall also apply to the extent required for proper performance of this work.

Hydrostatic Testing of Pressure Pipelines: 15042

C. Referenced Standard

All domestic water mains, water services, attached appurtenances, and connections, if any, shall be disinfected in accordance with AWWA C651 and as specified herein.

D. Application

Before being placed in service or connected to existing facilities, all facilities shall be chlorinated. Chlorine may be applied by either direct chlorine gas feed or calcium hypochlorite tablets for lines up to 10-inch in diameter with a total length less than 100-feet. Disinfection of pipe segments over 100 feet in length or larger than 10-inch diameter shall be by chlorine gas only.

E. Retesting

Retesting of the system may be required if 90 days have passed between the date of testing and acceptance by the District.

PART 2 - MATERIALS

A. Chlorine Gas.

Chlorine gas shall be supplied and converted from its liquid form to a gas as detailed in AWWA C651 Sections 2.1 and 5.2.

B. Calcium Hypochlorite Tablets

Calcium hypochlorite tablets shall have an average weight of 0.009 pounds each and shall contain not less than 70% of available chlorine.

PART 3 - EXECUTION

A. Procedure

1. Contractor shall notify the District two (2) working days prior to chlorination of facilities.
2. All required corporation stops and other plumbing materials necessary for chlorination or flushing of the main shall be installed by and at the expense of the contractor.
3. All mains shall be thoroughly flushed prior to disinfection. Only the direct chlorine gas fuel method shall be used if contaminating material has entered the line.
4. Every service connection served by a main being disinfected shall be tightly shutoff at the curb stop before water is turned into the main. Care shall be taken to expel all air from the main and services during the filling operation.
5. Water shall be fed slowly into the pipeline with chlorine applied in amounts to produce a dosage of not less than 50 ppm nor more than 100 ppm in all sections of the pipeline and appurtenances.
6. Treated water shall be retained in the system for a minimum of 24 hours and shall contain a chlorine residual of not less than 25 ppm at the end of the retention period in all sections being disinfected.

B. Concurrent Testing

Disinfecting the mains and appurtenances, hydrostatic testing, and preliminary retention may run concurrently for the required 24-hour period, but in the event there is leakage and repairs are necessary, additional disinfection shall be made by injection of chlorine solution into the line as provided hereinafter.

C. Additional Disinfection

If the tests are not satisfactory the contractor shall provide additional disinfection as required.

D. Flushing

After chlorination, the water shall be flushed from the line, in accordance with AWWA C651, at its extremities until the replacement water tests are equal chemically and bacteriologically to those of the permanent source of supply. The chlorinated water may be used later for testing other lines, or if not so used, shall be disposed of by the contractor, as designated in AWWA C651, Section 6.2. The contractor shall be responsible for all costs to dechlorinate the water before it enters any storm drain or watercourse. The District will not be responsible for loss or damage resulting from such disposal.

E. Bacteriological Testing

Samples from the newly disinfected facilities will be collected by a District representative and tested by District laboratory staff. All mains must successfully pass bacteriological tests prior to connecting to the existing system.

F. Cutting Into Existing Mains

Following the opening of an existing domestic water main, the interior of all accessible pipes and fittings shall be swabbed with a hypochlorite solution. The drained portion of the existing line and any new section shall be flushed from two directions toward the cut-in, if possible.

END OF SECTION