

Operator Quiz Corner
Does Your Water Main Pass the Test?
(Dan Laprade, Training Coordinator)

Once a water main has been properly installed there are a series of important procedures that must be performed prior to placing it into service. These tests include leak and pressure testing, disinfection and bacteria testing. Pressure testing procedures can be found in AWWA Standard C600 and disinfection procedures can be found in AWWA Standard C651. Distribution operators should be familiar with these procedures and the following questions are typical of what might be found on the state license examination.

Answers to the following questions can be found by going to the MWWA website and clicking on the "Education" tab and click the link under the heading "Answer to Water Main Testing Practice Problems".

- 1) Which of the following must be kept in mind when filling a water main for the purpose of conducting a pressure test?
 - a) Fill slowly so as not to dislodge dichlorination tablets.
 - b) Make sure all air is allowed to completely escape the pipe.
 - c) Do not completely backfill the trench so joints and fittings are visible for signs of movement or leakage.
 - d) All of the above

- 2) When a pipe is initially filled with water, the pressure test should not commence for at least 24 hours. This is called the period of
 - a) Stagnation
 - b) Haunching
 - c) Saturation
 - d) Flushing

- 3) Prior to pressure testing thrust blocks must be allowed to cure for at least....
 - a) 24 hours
 - b) 2 days
 - c) 5 days
 - d) 7 days

- 4) In accordance with AWWA Standard 651 the three acceptable methods of disinfecting a water main are:
 - a) Gas chlorine, sodium hypochlorite, calcium hypochlorite
 - b) Tablet, continuous feed, slug
 - c) Isolation, Saturation, Breakpoint
 - d) Fill & purge, fill and saturate, fill and test.

- 5) According to Table 2 of AWWA Standard C651 it takes four calcium hypochlorite tablets (5 grams per tablet) to provide a 25 mg/L chlorine dose in each 18-foot section of 12-inch diameter pipe. How many tablets are needed to disinfect a newly installed 630-foot section of 12-inch diameter pipe if the desired dose is 50 mg/L?
 - a) 35
 - b) 140

- c) 280
- d) 630

Solution: Calculate # of sections of 12" diameter pipe being disinfected: $630/18 = 35$
Each section requires 4 tablets to achieve a 25mg/dose so it would take 8 tablets per section to achieve the desired 50 mg/L dose.
#Tables = 35 sections X 8 tablets/section = **280 tablets**