



PERMASTORE[®]

TANKS & SILOS

GUIDANCE NOTES FOR THE DISINFECTION OF PERMASTORE GLASS-FUSED-TO-STEEL WATER STORAGE TANKS

These are guidance notes that cover the mechanics of the various tasks detailed. They only refer to issues directly connected with the execution of the works. Only authorised persons/contractors adequately supervised, correctly equipped and trained in all aspects of the risks involved and the equipment to be used should be employed to carry out this work. They must also be familiar with the safety data sheets of all products used. It is the responsibility of the person/contractor undertaking these works to consider each particular installation, its environment and the specific risks involved.

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SECTION 1

1 INTRODUCTION

- 1.1 The purpose of these guide notes is to provide helpful information for Distributors, Customers and End Users where they are required to undertake the Disinfection of a Permastore Glass-Fused-to-Steel, Water Storage Tank.
- 1.2 As an over-riding principle the procedures for undertaking the Disinfection of a Permastore Glass-Fused-to-Steel, Water Storage Tank are the same as those stated within ANSI/AWWA C652-02 (Method 3). There are however some areas of this standard that benefit from additional detail and clarification when utilised for bolted construction tanks.

SECTION 2

2 PREPARATION

- 2.1 Following the completion of construction the Water Storage Tank must be left undisturbed until the tank sealant is fully cured. This would normally be achieved within a period of 10 to 12 days, assuming a constant temperature of approximately 20° Celsius (70°F) and 50% Relative Humidity.
- 2.2 During this period the installation of all necessary pipe-work, valves and other ancillary equipment should be completed. The interior floor of the Water Storage Tank should be swept clean to ensure that all debris is removed from the storage facility prior to disinfection. Roof hatches should be left open as a precautionary measure during the disinfection/initial filling operation.
- 2.3 The person responsible for completing the disinfection process should be familiar with the design of the Water Storage Tank and in particular they should familiarise themselves with the location of the safety overflow facility. The Water Storage Tank must not be filled beyond its design overflow level.

SECTION 3

3 DISINFECTION

3.1 In accordance with ANSI/AWWA C652-02, Method 3 (Qualified), clause 4.3.3 is amended as follows:

3.2 '*Chlorination method 3.* Water and chlorine should be added to the storage facility in amounts such that the solution will initially contain 50 mg/l available chlorine and will fill approximately 5 percent of the total storage volume. This solution must be held in the storage tank for a period not less than 6 hours and not greater than 8 hours. Immediately following this initial containment period, the storage facility shall then be filled to the overflow level by flowing potable water into the highly chlorinated water. Water should be introduced at a rate such that at least 25 percent of the total storage volume is filled within 12 hours. Subsequently the remaining capacity should ideally be filled within a maximum period of 48 hours. It shall be held full for a period of not less than 24 hr. All highly chlorinated water shall then be purged from the drain piping. Following this procedure and subject to satisfactory bacteriological testing and acceptable aesthetic quality, the remaining water may be delivered to the distribution system.

Adding chlorine. Chlorine shall be added to the storage facility by the method described in Sec. 4.3.1.1, 4.3.1.2, or 4.3.1.3. The actual volume of the 50 mg/l chlorine solution shall be such that, after the solution is mixed with filling water and the storage facility is held full for 24 hr, there will be a free-chlorine residual of not less than 2 mg/l.'