Chemical Disinfection

CHEMICAL AND THERMAL DISINFECTION

of aquatherm drinking water systems made of polypropylene

a) Chemical disinfection of the system

Contrary to the disinfection of drinking water, the disinfection of a system is a discontinuous measure, comprising a drinking water system from the area of contamination to the tapping point of the consumer. In general, a disinfection is to be applied temporarily only in case of a proven contamination.

In case of discontinuous disinfections, it is allowed to load aquatherm pipes and the corresponding fittings twice a year with a content of free chlorine of 50 mg/l for not more than 12 hours.

Alternatively, 150 mg/l hydrogen peroxide (H_2O_2) can be used for 24 hours. A temperature of 30 °C must not be exceeded during the disinfection process. The use of a disinfection process, especially with chlorinated waters can have a direct influence on the lifetime of the drinking water system. Under no circumstances should chlorine dioxide be used.

b) Chemical disinfection of drinking water

In case of continuous disinfection with chlorinated drinking water, it can be used with a content of free chlorine of up to 0.3 mg/l (limit according to 2001 drinking water ordinance). The maximum temperature of 70°C should not be exceeded.

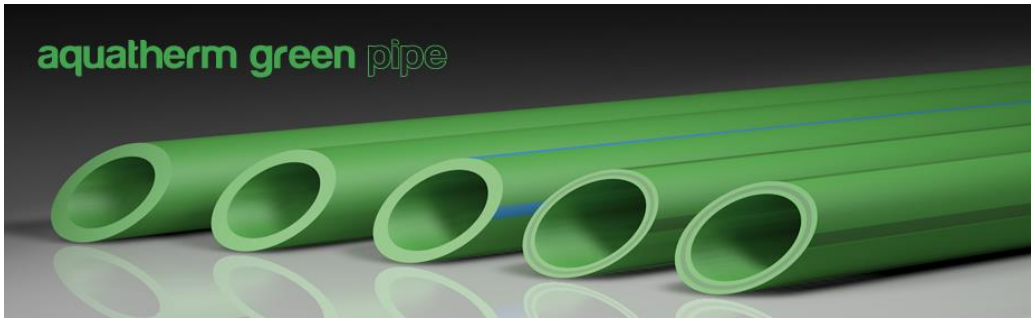
Under no circumstances should chlorine dioxide be used.

Recommendation of the World Health Organization – Guidelines for Drinking-water Quality, Fourth Edition

For effective disinfection, there should be a residual concentration of free chlorine of ≥ 0.5 mg/l after at least 30 min contact time at pH < 8.0. A chlorine residual should be maintained throughout the distribution system. At the point of delivery, the minimum residual concentration of free chlorine should be 0.2 mg/l.

c) Thermal disinfection of the system

In general, a thermal disinfection according to DVGW W551 is possible.In case of the thermal disinfection for the prevention of legionella bacteria according to DVGW worksheet W 551, the water temperature will be adjusted in such a way that it amounts to 70°C for at least 3 minutes at all points of the drinking water system. The maximum admissible limits of use regarding the service temperature and pressure are to be observed.



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