



## **ADDENDUM TO TECHNEWS ISSUE NO. 1 2013 CHLORINE DIOXIDE AS DISINFECTANT**

The use of chlorine dioxide as disinfectant in the drinking water supply was increasing in some countries over the last years. Reasons for that are the easy and low-priced production and dosing of chlorine dioxide, compared to chlorine. In addition the chemical reactivity, and thus the disinfecting effect, is about three times higher than in case of chlorine.

Materials in the drinking water system are however affected due to this high oxidation potential, too. Along with sealing materials, piping components are damaged, regardless of whether these are made of plastic or metal.

Therefore, we cannot recommend using chlorine dioxide with our system components.

## **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 the discontinuous disinfection aquatherm pipes and the corresponding system components and fittings may be charged with a disinfectant solution having a free chlorine content up to 50 mg/l over a maximum of 12 hours twice a year.**

Alternatively, 150 mg/l hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) 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. It is not recommended using chlorine dioxide.

### **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.

The use of chlorine dioxide is not recommended.

A prophylactic and permanent disinfection is contradictory to the requirement of minimization of the drinking water ordinance and is consequently not to be carried out.

### **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.