

### Drinking water systems in stainless steel

Stainless steel pipes for drinking water systems facilitate the job of keeping water clean and quality standards high. The longevity and strength of this material guarantees lasting hygiene and corrosion-resistance. Stainless steel pipes are media-neutral and largely prevent the formation of any nutritive medium upon which bacteria can grow.

In a new extension to the accident and emergency clinic in Murnau in southern Germany, the highest standards of hygiene and safety were a priority in the design of the drinking water system. It was therefore decided to construct it largely in stainless steel. The system is divided into four sections, each capable of functioning independently, thus facilitating maintenance and repair work on the separate sections. Isolating valves and valve taps were fitted to the pipes, to enable individual cleaning and disinfection without interrupting the supply.

Thermal disinfection avoids the risk of Legionnaires' disease spreading by means of the water system. Cold water is heated to over 70°C and kept at this temperature for a certain period. Galvanised steel is unsuited for use in drinking water systems as the galvanised coating cannot withstand the high temperatures on the outside of the pipes.



Client: Berufsgenossenschaftlicher Verein für Heilbehandlung Murnau e.V., Munich, Germany  
Architects: Köhler & Brinkmann, Munich, Germany  
Sanitary engineering, design and construction: IBG – Ingenieurbüro Gangl, Munich, Germany  
Photos: Medien- und Konferenztechnik BGU-Murnau, Germany (top)  
Geberit Mapress GmbH, Langenfeld/Marc Frankenhauser, Düsseldorf, Germany (bottom)

Also unsuitable was copper, as due to the high levels of other minerals shown up in an analysis of the water in Murnau, there would have been a risk of perforation due to corrosion.

At the accident and emergency clinic stainless steel was used not only for the pipework, but also for the drinking water storage system, comprising a water tank, a reaction tank and a plate heat exchanger for heating hot water. The combination of a storage charging system and a continuous-flow water heater caters for periods of peak demand.



*A total of 12,900 running metres of stainless steel (DN 15-150, grade 1.4401) was used in the accident and emergency clinic in Murnau.*