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Technical Rule

Code of Practice W 551 | April 2004

Drinking water heating and drinking water piping systems;
technical measures to reduce *Legionella* growth; design,
construction, operation and rehabilitation of drinking wa-
ter installations

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Warning

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Preamble

Pathogens can be transmitted along different paths. One of the transmission paths is water. The largest health risks by waterborne pathogens emanate from pathogens that are transmitted by faecal-oral route. Cholera and typhus are two typical pathogens transmitted by faecal-oral route, which in the past have time and again led to heavy outbreaks of waterborne diseases on account of drinking water.

However, there is yet another group of pathogens that can be transmitted with the water. These pathogens typically multiply in water and can thus lead to a health risk. This group also includes *Legionellae*. As a rule, they cause symptoms similar to pneumonia. *Legionella* is an ubiquitous organism, however, in a natural environment it occurs in such marginal quantities that it does not entail a health risk for humans. However, in heated water at temperatures between 30 °C and 45 °C, *Legionellae* can multiply strongly and thus cause a health risk if they are inhaled in small respirable droplets (aerosol) with the air. A health risk may arise in connection with the drinking water if the *Legionellae* grow in the drinking water installation's hot water system and are then for instance inhaled during showering. The *Legionella* problem is aggravated by the fact that the *Legionellae* are characterised by massively multiplying intracellularly inside protozoa such as amoeba.

This Code of Practice describes the measures that are necessary to prevent multiplication of the *Legionellae* in drinking water installations hot water systems on a massive scale or to eliminate them from such systems where they have already multiplied. This Code of Practice summarises the requirements which have already been stipulated beforehand in the two Codes of Practice W 551 and W 552 of 1993 or 1996. The requirements have been adapted to the latest knowledge in the field of combating *Legionellae* in hot water systems.

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