Commissioning of domestic water supply systems: prevention is better than cure

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Topics: Drinking Water

When water enters a new plumbing system for the first time, microorganisms will immediately start to colonize the pipes. Depending on the source of supplies, the density of bacteria in water ranges from 1000 to 100,000 cells per millilitre, with up to 2000 different species. Although these include pathogenic organisms, they normally occur in such low concentrations that there is no risk of infection. It is, however, crucial that appropriate preventive measures are taken when plumbing systems are commissioned. According to a study carried out by Eawag and Lucerne University of Applied Sciences, contamination can be prevented by a number of straightforward measures. Firstly, an inert gas rather than water should be used for integrity testing. Pressure testing with water should be performed shortly before the system is commissioned. The researchers recommend that a microbiological filter should be used for the first filling of the system, which should subsequently be disinfected. It should then be flushed with cold water from the mains. To avoid prolonged stagnation, the system should be regularly flushed before the building is occupied. These precautions can help to avoid the need for costly remedial measures.

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Article in Aqua & Gas (in German, with French summary) [pdf, 981 KB]

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