

Materials in contact with drinking water: Testing of metallic materials and components



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Issue:

Metallic materials in contact with drinking water can release heavy metals which can lead to an unacceptable deterioration of the drinking water quality. The consequence is the noncompliance with the definitions (limiting values) of the drinking water directive. Therefore – according to § 17 of the German drinking water directive – all materials have to be listed in a positive list. Prerequisite is the verification of the drinking water applicability by testing.

Clients:

Manufacturers of pipes, fittings, taps, pumps, water heaters etc.

Our Services:

Material testing according to EN 15664: Influence of metallic materials on water intended for human consumption – Dynamic rig test for assessment of metal release

Part 1: Design and operation

Part 2: Test waters

Test rigs according to EN 15664 are available at IWW, which can be used for the testing of materials in local drinking waters as well as in the three test waters according to EN 15664-2.

The procedure is based on the operation of test pieces or test pipes made of a material with defined geometry and given surface characteristics installed in a test rig which is operated for a certain time period with

controlled water composition and temperature and an adjusted flow scheme. Water samples are taken over the whole testing period after given operating times and each of them after a defined stagnation period. The samples are then analysed for the respective metals. The evaluation of the results is usually conducted according to DIN 50930-6. The control of the test rig is ensured by remote monitoring. The analysis of the water samples and the water composition are also conducted by IWW.

Additional material testings can also be conducted by request, for example testing for selective corrosion, pitting corrosion etc.

Additional Services:

- Testing the effectiveness of corrosion inhibitors (e.g. DIN 50934/EN 15664-1)
- Testing of surface coatings with nickel layers (EN 16058)
- Testing of the passive behaviour of stainless steels (EN 16056)
- Testing of the dezincification resistance of copper alloys with zinc according to DIN EN ISO 6509 or ISO 6509

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Test rig according to EN 15664-1