

“MAID – results of a Nordic project towards harmonization of approval procedures for materials in contact with drinking water”

Olivier Rod, RISE

Olivier.rod@ri.se

The MaiD project “Material and product innovation through knowledge-based standardization in drinking water sector” was conducted 2014-2018 with participants from Norway, Denmark, Sweden and Finland. The main objective of MaiD was to identify the key components that should be included in the national approval procedures in the Nordic countries in order to safeguard

The project focused on regulations, drinking water composition and testing procedures.

The building regulation form in the Nordic countries regarding hygienic properties are different. In Denmark, the regulations are more performance based than in Sweden and Finland whereas it is entirely functional based in Norway. Furthermore, the Norwegian building rules are also covering outdoor water installations. The approval and certification practice also differ to a certain extent both for organic and metallic products. The project group recommended a number of measures, which may be easily processed in a continued Nordic network (e.g. synchronising limit values, updating old procedures etc.)

In relation to the relevance of the test waters used in the available leaching tests, a Nordic drinking water survey was conducted. It revealed that the water compositions vary between the Nordic countries, in particular regarding the alkalinity and hardness. Hence, the rig test for metallic materials (EN 15664) is a relevant test method since three different test water compositions are specified and at least one of the test waters is compatible with the Nordic conditions. However, a short-term leaching test for the final product initial surface is considered relevant for metallic products. In test methods where several conditions for the test water exists (test temperature, disinfection pre-treatment and chlorination), a clear guidance should be developed and provided.

The 4MS Common Approach was also evaluated in regard to the Nordic systems. This approach was initiated as the work on the European Acceptance Scheme (EAS) ceased. In general, the principles of the Common Approach are applicable in the Nordic countries as it is based on the same hygienic properties (taste and odour, leaching, microbial growth and leaching of unsusceptible substances) and assessed according to EN standards developed for the purpose. The assessment and approval schemes need to be designed and maintained in such a way that hygienic and mechanical properties are emphasised equally. For metallic, products corrosion failures can be developed several years after installation and during the propagation period increased leaching may happen without disclosing them. Hence, corrosion properties may be assessed on a more routine basis (e.g. part of continuous production control).

Finally, MaiD has established a unique network which consists of building and health authorities, manufacturing industry, professionals and industrial bodies, certification bodies and R&D institutions from Denmark, Finland, Norway and Sweden. To utilise the results of the MaiD project in a rational way, the network may be continued as a unique place for sharing the experiences and knowledge that will be gained in the future process. It is also considered to be a rational forum to discuss and process some of the recommendations given in MaiD.