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# Konsekvens av Dricksvattendirektivet i Finland - §11 hygiene requirements

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# Finnish regulation for products in water installations

Example

Decree of the Ministry of the Environment on **Essential Technical Requirements** of Brass and Copper Pipe Fittings Intended for Water Supply Systems of Buildings (480/2019)

→ *Suitability for conducting household water (section 3)*

→ *Corrosion resistance (section 4)*

Similar decrees on essential technical requirements regarding brass products i.e., valves, taps, joints, copper pipes and PEX and PE pipes/systems (455/2018, 47572018, 476/2018, 477/2019, 480/2019, 481/2019, 482/2019, 497/2019, 499/2019, 500/2019, 1044/2020, 1112/2020)

# Type approval for construction products

- A voluntary approval procedure for construction products
- Widely used in drinking water applications as CE marking is not available
- Currently, it includes both **essential technical requirements** for construction products and **hygiene requirements** for drinking water use

# Finnish regulation for brass products in water installations, an example

No list of accepted metal alloys. Type approval for products

**Fitness for contact with drinking water**

- Leaching of lead:
- No testing if lead content at most 0.2%
- Alternative test methods
  1. Long-term rig test SFS-EN 15664 for material (26 weeks)
  2. Short-term test NKB4 for final products (10 d)

**Corrosion resistance**

- The brass parts that are subjected to water pressure have to be made of dezincification resistant material (valves, connections, joints and water taps)

# DWD material approval

Timeline

# During transitional provision

- “31.12.2032 End of transition period for substances which have been approved by Member States in the period 13.7.2021- 31.12.2026”
  - Type approval is for products and this mentions substances → Will type approval remain valid during the transition period?
  - Type approval valid for max 5 years → is type approval valid until the end of the transition period?

# Construction products

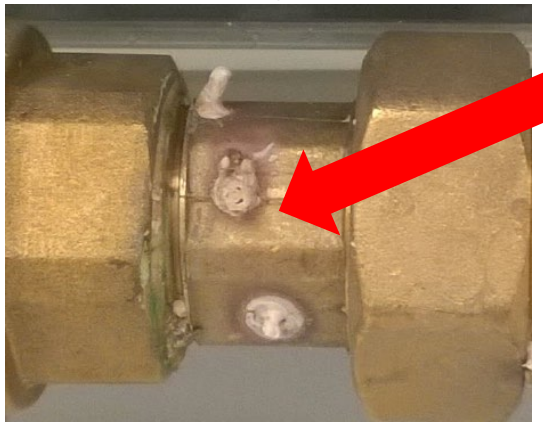
- Type approval will remain as a voluntary approval procedure for construction products
- Difficulty if the legislation is not updated and type approval cannot be granted → limited methods to show the fitness for use as construction product for new products and materials?
- As the products have DWD marking, will the users remember that they should also be fit to be used as construction product?
- Dezincification as an example

# Dezincification of brass

Type of selective corrosion were zinc dissolves.

It causes leakages, blockages and fractures caused by loss of mechanical strength and tightness → water damages

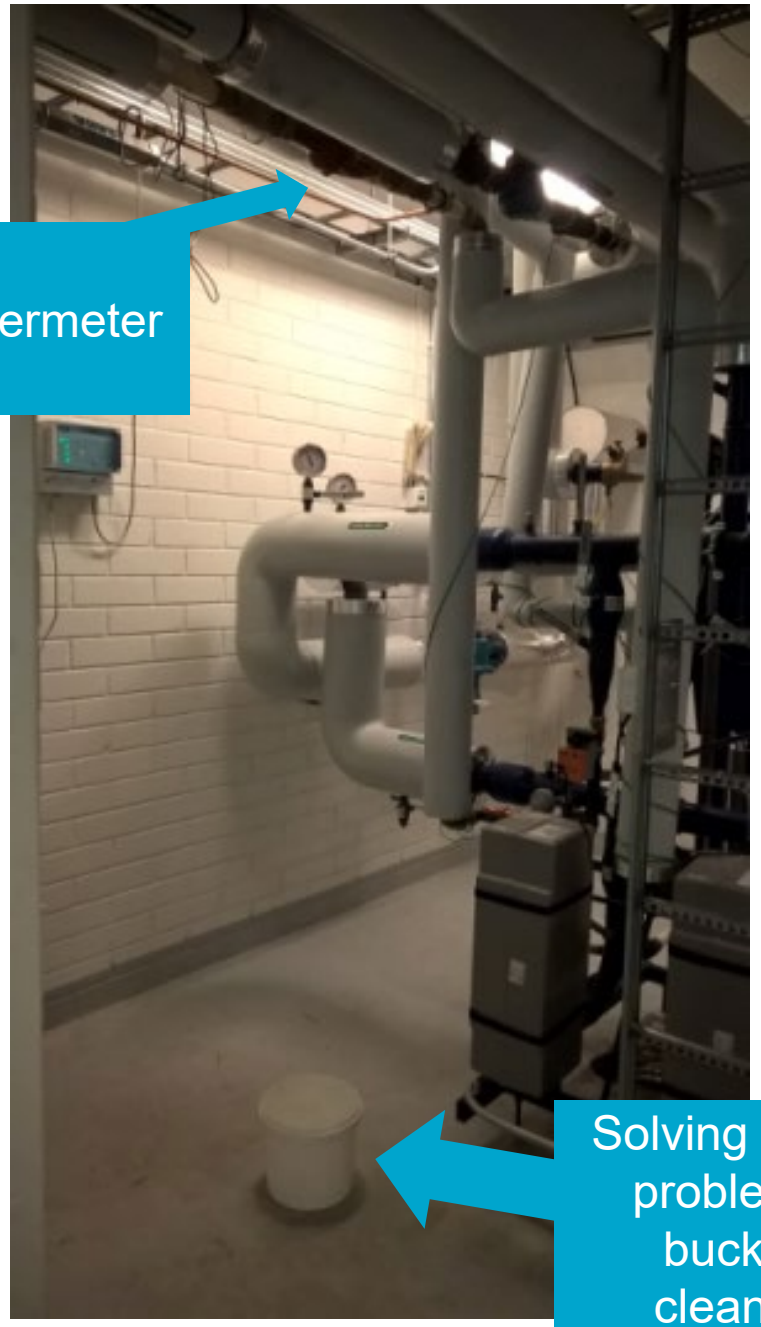
This is typical for soft waters with low alkalinity

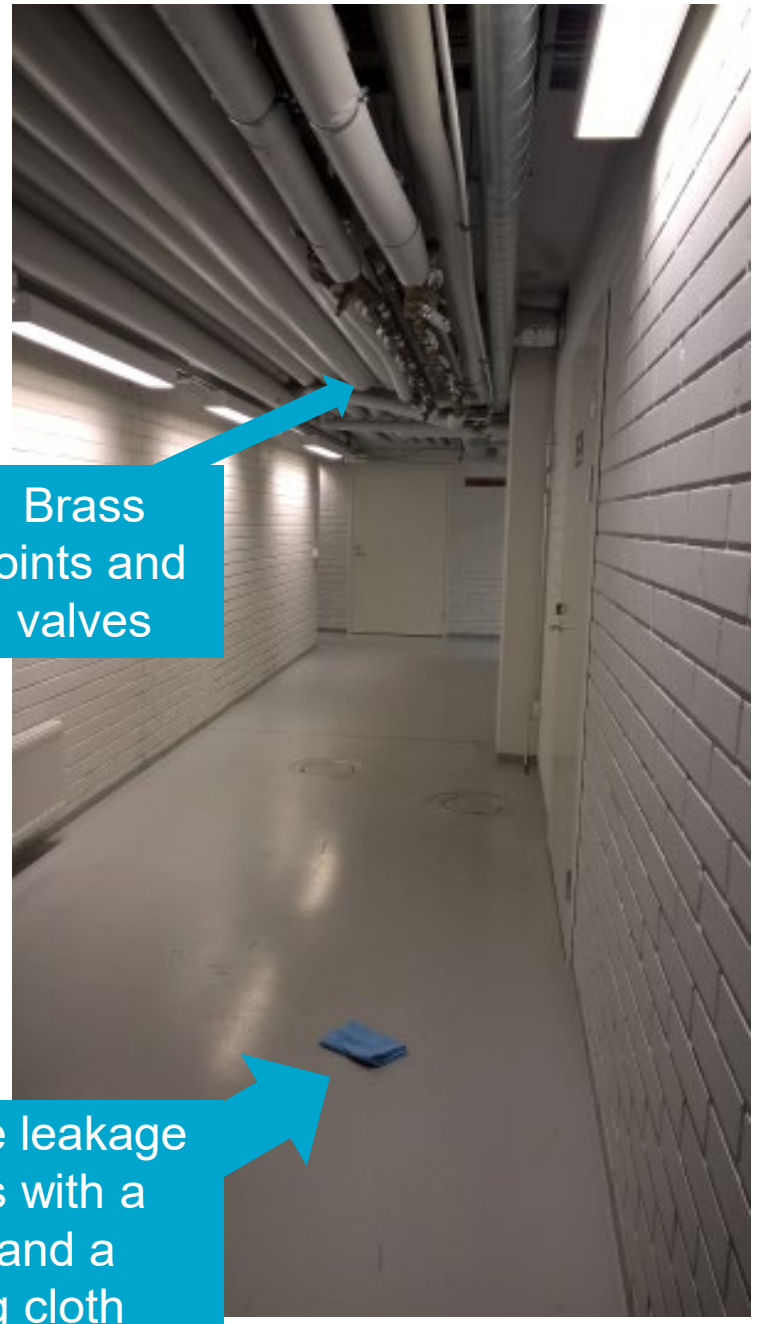


CW617N Signs of dezinfication after three and five years of use

Pictures ©Aino Pelto-Huikko

Latva, Kaunisto, Pelto-Huikko, *Durability of the non-dezincification resistant CuZn40Pb2 brass in Scandinavian waters*, Eng. Failure An., 74, 2017,p. 133-141, doi.org/10.1016/j.engfailanal.2017.01.011.




Solving the leakage problems with a bucket and a cleaning cloth

Pictures ©Aino Pelto-Huikko

# October 2016

# After 5 years of use of non-dezincification resistant brass CW617N

# in a Finnish office building

References:
Latva, M., Kaunisto, T. & Pelto-Huikko, A. (2017). Durability of the non-dezincification resistant CuZn40Pb2 brass in Scandinavian waters, Engineering Failure Analysis, Volume 74, Pages 133-141, ISSN 1350-6307. https://doi.org/10.1016/j.engfailanal.2017.01.011.

The dezincification of brass products in Finnish waters (the report in Finnish). Messinkituotteiden sinkinkadonkestävyys erilaisissa vesissä. Tuija Kaunisto, Aino Pelto-Huikko, Noora Salonen, Riika Mäkinen ja Martti Latva. Satakunnan ammattikorkeakoulu, Pori. 2021. https://urn.fi/URN:NBN:fi-fe2021121560738

Kiinteistöjen vesijärjestelmien messinkiosien vauriot vesivahinkojen aiheuttajana. Mäkinen, Riika; Pelto-Huikko, Aino (2017). https://urn.fi/URN:NBN:fi:amk-2017121120533

# Conclusion

- Confusion on what is DWD approval and what is construction product approval
- What approval methods are available during the transitional period?
- Dezincification in brass products?
  - DWD approval for all → difficult-to-detect DZR products?
  - Knowledge → are the users aware that products should have both DWD approval AND be fit for purpose as a construction product (type approval)
- What is the awareness in water supply sector?