Testing of technical water

– avoid operating disturbances

What is technical water?

Technical water is water used in technical systems such as boiler systems, circulation systems and production plants, e.g. feed water, circulating water, boiler water, condensates or cooling water.

Why test technical water?

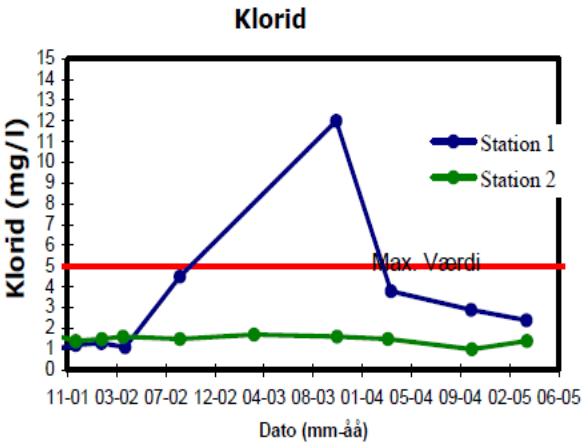
Regular testing of technical water to check system specific requirement values is important to avoid operating disturbances and system damages such as:

- Increased corrosion
- Deposits formation
- Carryover.

Such events increase operating costs in the plant and therefore also the ongoing production.

Daily check of the water quality is performed by the operating personnel at the plants. Here, the most important parameters such as e.g. pH, conductivity and hardness are checked.

Aside from the daily check the water should be checked regularly by an independent laboratory in order to document the water quality. Such external control should include both the parameters checked daily and supplementary parameters for further information of the current water quality.



Example of control sequences for two circulation water systems

Chloride analysis in the laboratory

FORCE Technology's subscription agreement

FORCE Technology provides a subscription agreement under which the water quality is checked at agreed intervals on samples taken by the plant personnel themselves as:

- The extent of analysis is designed to the individual plant
- FORCE Technology's laboratory submits test bottles at the agreed intervals
- The agreement may include a specialist evaluation of the obtained results. Here advise will be given to restore the water quality, should the requirement values laid down not be met.

Naturally it is possible to carry out a test and/or an evaluation of a water quality anytime. This might be in connection with:

- Occurring operating disturbances
- System project planning or systems alterations
- Documentation of warranty requirements from plant supplier.

Analyses

A test includes a number of standard analyses, depending on the water type. Boiler and circulating water will usually be examined as regards pH, conductivity, alkalinity, hardness, silicic acid, salt content, permanganate number (as a measure for oxidising components) and for surplus of added chemicals such as phosphate and sulphite. In some cases, e.g. when projecting water treatment systems, it is relevant to determine the content of the individual salt components such as e.g. calcium, magnesium, iron, carbonate, chloride and sulphate in the water.

If special analyses are needed, e.g. microbiological examinations to assess presence of legionella bacterium in cooling systems, FORCE Technology cooperates with specialist laboratories.

Additional services

FORCE Technology offers a wide range of examinations and consultancy in connection with operating problems, e.g.:

- Chemical composition of deposits by use of X-ray techniques such as ED-XRF and SEM/EDX or traditional wet chemical analysis
- Metallurgical and metallographic examinations
- Consultancy by experienced materials specialists within metallurgy, corrosion and polymers.

Competences

FORCE Technology is an impartial, approved technological service company, accredited for testing technical water according to DANAK registration no. 65.

FORCE Technology has long standing experience within testing of technical water and as regards problems in connection with water treatment and corrosion.

Further information
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