

Profest proficiency tests

Sample type	Measurements
Inner and estuary waters	Alkalinity, BOD ₇ , COD _{Mn} , chlorophyll a, N _{tot} , N _{NH4} , N _{NO2+NO3} , P _{tot} , P _{PO4} , turbidity, colour, TOC, pH, oxygen, SiO ₂ , salinity, conductivity
Ground and drinking water	Alkalinity, COD _{Mn} , F, hardness, Cl, pH, N _{NO2} , N _{NO3} , N _{NH4} , Ca, K, Mg, Na, SO ₄ , conductivity, Fe, Mn (spectrophotometer), radon
Industry and municipal effluents	Alkalinity, AOX, P _{PO4} , P _{tot} , N _{NO2+NO3} , N _{NH4} , N _{tot} , pH, conductivity, Cl, SO ₄ , BOD ₇ , COD _{Cr} , COD _{Mn} , suspended solids, Na, TOC
Swimming pool water	Chlorine, urea, turbidity, NO ₃ , pH, KMnO ₄ index
Natural waters, industry and municipal effluents, soil, sludge, sediment	Al, As, B, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sb, Se, Sn, V, Zn, U, Hg, pH, N _{tot} , P _{tot} , S _{tot} , TOC, TC
Soil, sediment, ground and surface waters	VOC compounds, mineral oils, PAH compounds*, organotins (sed)*, PCBs, PBPDEs*, PCCDs/PCDFs (sed)*
Solid fuels	Calorific value
Phytoplankton taxa in lake and brackish waters	Virtual identification of phytoplankton species
Benthic fauna of rivers, lakes and brackish waters	Identification of benthic fauna*
Water, sediment	Luminescence bacteria*
Polluted soil, polluted soil of service station	Sampling of polluted soils (mineral oils, metals)* Sampling of polluted soils (in-situ, mineral oil, VOC compounds)*
Solid wastes	Leaching test

* not included within the scope of accreditation

Additionally, we give proficiency testing expert services for the national institutes of public administration.

International guides for testing work

EN ISO/IEC 17043 Conformity assessment – general requirements for proficiency testing.

EN ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories.

Thompson, M., Ellison, S. L. R., Wood, R.:
The International Harmonized Protocol for the Proficiency Testing of Analytical Chemistry Laboratories (IUPAC Technical Report, TR).

www.syke.fi/proftest/en

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Proficiency test

External quality assessment
of your work!



Proficiency testing (PT)?

Interlaboratory comparison and proficiency testing comprises a comparison, based on the evaluation of measurements of the same or similar items by two or more laboratories in accordance with predetermined conditions.



- Through regular participation in proficiency testing, a laboratory obtains an external quality assessment of its performance and comparability of results.
- Proficiency test results yield comparable information on the differences between methods and practices as well as possible problems. Shelf-life test samples can also be used for a longer period, as a reference material for intralaboratory quality assurance.
- A proficiency test is a tool for continuous improvement in laboratory operations and staff training and orientation. In addition, the results provide information on the validation of analytical methods and an assessment of measurement uncertainties.

SYKE is a provider of PTs

SYKE is designated by the Ministry of the Environment as the national reference laboratory in the environmental field, whose main tasks include the organisation of proficiency tests. Experience in organising comparisons has been accumulated since the 1960s.



- SYKE has been accredited for analytical work as testing laboratory T003 by the Finnish Accreditation Services, FINAS (EN ISO/IEC 17025 www.finas.fi/sites/en) since 1992.
- Profest SYKE has been accredited as proficiency test provider PT01 by the Finnish Accreditation Services, FINAS (EN ISO/IEC 17043 www.finas.fi/sites/en) since 2006.
- Proficiency tests are provided for physico-chemical measurements and bioassays conducted in various waters, sediment, sludge and soil. A wide range of national and international environmental sectors participate in Profest SYKE proficiency tests.
- In addition, activities are developed through comparisons of environmental sampling and assessments of the reliability of biological analyses.

Proficiency test result demonstrates competence!

Laboratories can use proficiency test results to resolve any errors in, and evaluate the effectiveness and development of, quality control activities. In addition, for end users of the analytical data produced by laboratories, the proficiency test results provide an overview of analytical laboratories' quality.



- Customers of laboratories, accreditation bodies and regulators increasingly use proficiency test results. In this way, as end users of analytical data, they can improve their decision-making.
- Proficiency testing results are frequently used in international method standardisation work and research. In addition, the results provide information on the quality of analyses in different regions and countries.
- Proficiency tests provide an effective external way of assessing whether laboratory procedures are fit for purpose. The confidence of staff, management and external customers in laboratory results is confirmed by proficiency test results.