

SensoTech Case Study

Boliden Harjavalta Smelter



Boliden Harjavalta production (Year 2019)

- Copper: 120,000 tonnes
- Nickel: 26,000 tonnes
- Sulphuric acid: 619,000 tonnes
- Silver: 62,000 kilograms
- Gold: 2,500 kilograms

Boliden Harjavalta is located in south west Finland, close to the port on the Baltic Sea. The smelter's main products are copper, nickel, gold and silver, as well as by-products such as sulphuric acid.

Traditionally Boliden has used conductivity analyzer for H_2SO_4 concentration measurements. At the new H_2SO_4 -plant, however, Boliden wanted to test something else to see if better accuracy and reliability could be achieved with some other technology.

The SensoTech analyzer was selected due its accuracy statement and robustness. The accuracy of the first LiquiSonic® measurement was proven to be acc. specification (0.05 wt%) over the whole measuring span.

NEW BOLIDEN



The first LiquiSonic® concentration analyzer was taken into operation at the new H_2SO_4 plant in Harjavalta in August 2018 to measure sulphuric acid concentration 90...100 wt% at the outlet of the plant to storage tank.

←
LiquiSonic® controller with plastic field housing



In year 2019 more units was purchased for the old H_2SO_4 plant to replace conductive analyzers. One at the outlet of plant to storage tanks, second one for feed line to drying tower and third one for return line of the final absorption tower.

←
LiquiSonic® inline sensor

“All the units installed have been working fine since commissioning. The Boliden laboratory is taking a control sample ones a day from each line and no claims on accuracy has been confirmed. With conductivity analyzers inaccuracies has led to many new calibrations. The reliability of the system was not on the level the operators required. Also the measuring result was almost useless when the acid concentration goes below 94%wt due the flat concentration curve of the conductive method.

LiquiSonic® is following the lab references and re-calibration is no longer needed.“

Jarkko Heikkilä
Maintenance Area Supervisor
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