



CASE STUDY

The customer expressed **strong satisfaction** with the performance of the SDM ECO. Beyond **measurement quality**, they highlighted the ease of use

CASE STUDY - GRUPO MEXICO

Introduction

Grupo México operates a mining and mineral processing plant in Charcas, Mexico, where copper, lead, and zinc ores are mined and processed. The primary objective for applying the Rhosonics SDM ECO is to regulate the slurry density in the underflow of a tailings thickener. Accurate density measurements are needed to evaluate and improve the pumping performance.

Challenges

The challenge was to test the SDM ECO's capabilities and accuracy when continuously reading both water and slurry. The installation of the SDM ECO is at the thickener underflow whereby the process is driven by a piston pump and the slurry is directed to a tailings dam.

Measuring task

Measure slurry density in real-time. The density meter is combined with a flow meter to calculate mass flow.

Instrument used

The Rhosonics SDM ECO ultrasonic density meter was selected for this application. The instrument uses non-intrusive ultrasonic measurement technology to determine slurry density without direct contact with the process medium. This makes it particularly suitable for abrasive and high-solids applications commonly found in mining and mineral processing.

The clamp-in process integration system is used for installation onto the existing 8-inch pipe. The sensor is positioned at a 39° angle from the bottom of the horizontal pipe, approximately 6 meters away from the pump.



Our solution

Controlling and understanding the density of the thickener underflow is a key factor in achieving stable and efficient tailings transport. The Rhosonics SDM ECO was installed on the underflow pipeline to provide continuous, real-time density measurements of both slurry and water.

Thanks to its ultrasonic measuring principle, the SDM ECO is not affected by wear, coatings, or changes in slurry composition. The instrument delivers consistent density readings under varying process conditions, supporting reliable monitoring of the thickening and pumping process.



Results

After installation, the SDM ECO was tested under operational conditions to verify its performance. The instrument successfully measured both water and slurry density with high reliability. During operation, it demonstrated stable and repeatable readings, even in the presence of pump-induced flow variations.

An important outcome of the test was the SDM ECO's ability to seamlessly transition between measuring slurry and water without requiring recalibration or manual intervention. After slurry pumping cycles, the system consistently returned to accurate water density readings, confirming its robustness and suitability for continuous process monitoring.

The reliable density data provided valuable insight into the behavior of the thickener underflow and pumping system, supporting improved process understanding and evaluation.

For further information

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