

KGHM Improves Plant Efficiency and Safety with Rosemount™ 3D Solids Scanner

RESULTS

- Increased safety
- Improved plant efficiency
- Reduced maintenance



APPLICATION

Underground copper ore mining

CUSTOMER

KGHM, Canada

CHALLENGE

KGHM is a large mining company involved in mining copper ore underground. During the mining process, five different types of ore are crushed and fed into one ore pass.

The raw ore is passed through a crusher and the crushed ore is stored in the ore pass/underground silo. KGHM was experiencing problems with the amount of wear and tear experienced by the ore pass during daily use, which resulted in excessive maintenance.

The damage to the ore pass is caused by the ore falling directly onto the trap door at the bottom of the pass, known as a press frame. This press frame is coated with a rubber liner to reduce the force of impact from the falling rocks but they were wearing away the liner very quickly and damaging the press frame. The cost to replace the line and frame exceeded \$100k, and would cause downtime for days at a time, resulting in loss of throughput. The falling rock could also escape the ore pass and damage nearby lighting, posing a risk to worker safety.

KGHM needed to source a level measurement that would measure down to the bottom of the ore pass which is 225 feet deep. Different level technologies had been tried in the hope of producing a buffer of stationary rock to act as a cushion, but those instruments were not able to measure the level due to dust and the area dimensions. In addition, the buffer of rock meant there was too much ore in the pass and different grades of ore would be unintentionally mixed causing inefficiencies during processing.

“Using the Rosemount 5708 we achieved success where all others failed.”

**Adam Savignac, Automation Team Leader
Sudbury Operations, KGHM**



Dusty underground conditions

SOLUTION

The customer installed a Rosemount 5708 3D Solids Scanner on the top of the 225-ft ore pass. The transmitter was not only able to penetrate the dust, but the sensor was able to measure right down to the bottom of the ore pass, avoiding the trap running empty and meeting the accuracy requirements.

The ability of the Rosemount 5708 to measure the lowest point ensured that neither the line nor the press frame were exposed to the falling rocks. This resulted in a substantial cost saving since both the required manpower and downtime related to the degrading door liner were drastically reduced.

The result was greatly reduced maintenance, mixing of different ores eliminated and risk to worker safety removed.

RESOURCES

Rosemount 5708 3D Solids Scanner

www2.emersonprocess.com/en-us/brands/rosemount/level/solids-measurement/3d-solids-scanners/pages/index.aspx

Emerson Process Management Metals & Mining Industry

www2.emersonprocess.com/en-US/industries/metals-mining/Pages/index.aspx






“By installing the scanner we minimized the mixing of different ore grades and increased safety.”

**Adam Savignac, Automation Team Leader
Sudbury Operations, KGHM**



Rosemount 5708 3D Solids Scanner

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Global Headquarters Emerson Process Management

6021 Innovation Blvd
Shakopee, MN 55379 USA
 +1 800 999 9307 or +1 952 906 8888
 +1 952 949 7001
 RFQ.RMD-RCC@EmersonProcess.com



Europe Regional Office Emerson Process Management Europe GmbH

Neuhofstrasse 19a P.O. Box 1046,
CH 6340 Baar, Switzerland
 +41 (0) 41 768 6111
 +41 (0) 41 768 6300
 RFQ.RMD-RCC@EmersonProcess.com

Middle East & Africa Regional Office Emerson Process Management

Emerson FZE P.O. Box 17033
Jebel Ali Free Zone - South 2
Dubai, United Arab Emirates
 +971 4 811 8100
 +971 4 886 5465
 RFQ.RMDMEA@EmersonProcess.com

Asia Pacific Regional Office Emerson Process Management Asia Pacific Pte Ltd

1 Pandan Crescent
Singapore 128461
 +65 6777 8211
 +65 6777 0947
 Enquiries@AP.EmersonProcess.com

00830-0100-4570, Rev AA