

# Don't Let Slurry Wear You Down

Lifetime extension of slurry pipes with RoCoat 3000

# Case Study

Slurry pipelines are particularly susceptible to abrasive wear due to the amount of solid particles within the product.

## THE CHALLENGE

This was also true in the case of a 14" pipeline at a cement manufacturing plant in Colombia. The asset made from carbon steel with a wall thickness of 12.7 millimeters (0.5 inch) transported a water-based slurry consisting of 50 percent water and 50 percent Limestone, Kaolin, and Bauxite. The average size of the solid particles was five millimeters, which, at a flowrate of 240 m<sup>3</sup> per hour, caused extensive abrasion of more than five millimeters per month. As a consequence, the pipeline required frequent maintenance, and replacement every three months.

## OUR SOLUTION

An internal coating was considered for protecting the pipe from the wear caused by the slurry. To this end, the experts from ROSEN Intelligent Plastic Solutions have designed RoCoat™ 3000, a polyurethane coating tailored specifically to the requirements of slurry pipelines. In order to test its effectiveness in this particular pipeline, it was applied to a test pipe of 4.529 meters' (14.86 feet) length, which was installed in the most critical area where the highest wear was expected.



## YOUR BENEFITS

After a year, wear measurement indicated a loss in wall thickness of only one millimeter with no maintenance in the meantime. Compared to a wall loss of over five millimeters per month and numerous repairs without the coating, that meant a significant lifetime extension and substantial cost savings.

Thus, the application of the extremely robust RoCoat™ 3000 offered compelling benefits to the operator:

- Major decrease in wear-rate, extending the expected lifetime of the pipeline to exceed five years, which is more than 20 times longer than that of carbon steel pipes
- Considerably less downtime resulting in higher and more stable production
- Significant reduction of maintenance costs
- Lower scale due to less surface friction, resulting in higher flowrates and increase in production rate by 3.5 %
- Enhanced reliability and safety of operation

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