



Installation of Pexgol pipe for a intake line to transport hot abrasive brine slurries.

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Fertilizer company
Canada | 2017
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Working conditions:
Temperature: 96°C / 204°F

Pexgol pipes:
Pexgol 450 mm (18"), class 24
Pexgol 400 mm (16"), class 15

Application:
Hot Ore and Brine Processing

Length:
400 m / 1312.34 ft

The Challenge

A Canadian fertilizer company, and the largest producer of potash and the third largest producer of nitrogen fertilizer in the world, required to transport hot ore and brine in their facility in Saskatoon, Saskatchewan. This was a new intake line. The facility traditionally used FRP and rubber-lined steel pipes. The FRP stress cracking issues and failure mechanism were a concern, and the client wanted to move away from it, but the conditions made material selection challenging.

The new line required to be able to transport saturated chloride brine at elevated temperatures with high resistance to abrasive slurries.

Pexgol Solution

The design of the line was carried out by the engineering company Wood Plc (then AMEC-FW) and Pexgol was selected. Pexgol went through several verification stages to ensure material suitability and verify design parameters:

- Temperature and pressure suitability.
- Abrasion resistance comparison with FRP, PP-RCT and other materials.
- Expansion restraining forces analysis.
- Support Distance Verification.

The system required a variety of nonstandards elbows, which were made by Golan's Application Team.



Hot & Abrasive Potash Brine Processing

Case Study | N°87

PEXGOL
X-LINKED PIPING SOLUTIONS

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The reliability of Pexgol during the last years has motivated the client to continue with their material reliability improvements in other parts of the facility, and other sites.





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Advantages

- **High resistance to wear:**
Pexgol is the preferred solution for abrasive materials transportation. Typically resists three times more than HDPE and twice more than steel.
- **Excellent chemical and corrosion resistance:**
Pexgol pipes can resist a wide range of chemical agents, slurries, toxic and radioactive materials.
- **High temperature resistance:**
Working temperatures can range from -50°C/-58°F up to 110°C/230°F.
- **Superb internal and external corrosion resistance:**
Our pipes are proven to withstand decades of exposure to corrosive environments, with nonstop performance in some of the world's harshest environments.
- **Long pipe sections:**
Pexgol pipes can be supplied in long coil lengths, reducing number of joints, installation time and risks.
- **Creep and impact resistance:**
Crosslinked Pexgol pipes can withstand high amounts of axial and radial stresses and are highly resistant to impact, fracture and fatigue. Furthermore, Pexgol pipes are completely resistant to cracks even when dragged over sharp rocky terrain and coagulated salt crystals.

