

Transforming Tailings Transport: The Pexgol Advantage



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Lundin Mining Chile | 2021

• Working Conditions

Temperature: 10° to 25°C / 50° to 77°F
Pressure: Gravitational
Components: Tailings Sand - d50: 150 [µm]
Transport speed: 3 to 10 [m/s]

• Pexgol Pipe

Pexgol 355 mm, class 30

• Application

Sand tailings transportation

• Length

4700 m / 15420 ft

The Challenge

Minera Caserones, managed by Lundin Mining in Chile, previously utilized HDPE 14" PN20 SDR9 pipes for the transport of tailings sands. This application presented a significant issue; the HDPE pipes only had a lifespan of roughly 6 months, resulting in frequent replacements and potential operational downtimes. Working within a temperature range of 50°F to 77°F and depending primarily on gravitational pressure, the transportation of tailings sands, with a particle size median of d50: 150 [µm], at speeds varying between 3 to 10 [m/s] over different terrain slopes, necessitated a piping solution that was both durable and resistant to wear.

The Solution

Pexgol's proposal was clear - to provide a pipe that showcased superior wear resistance, estimated to be three times more durable than HDPE. This objective was not only achieved but exceeded. The Pexgol 355 mm class 30 pipe, installed on December 20th, 2021, continues to operate efficiently, demonstrating the product's significant longevity and the company's commitment to excellence.

Notable Benefits for Minera Caserones:

- **Rapid Installation:** With the capacity to unroll lengthy segments, Pexgol pipes can be set up swiftly, reducing setup times.
- **Extended Service Life:** As evidenced by the ongoing operation of the Pexgol line, these pipes provide a durable solution, drastically cutting down on frequent replacements.
- **Long Stretches:** The ability to deploy extended segments of piping reduces the need for numerous connection points, enhancing the efficiency of fluid transport.
- **High Wear Resistance:** Tailored for abrasive environments like tailings transport, Pexgol pipes offer heightened resistance to wear, ensuring reliable and uninterrupted operations.

To date, the Pexgol pipeline remains in active operation, fulfilling and surpassing the objectives set at the beginning of the project. This not only testifies to the quality of Pexgol pipes but also highlights the company's promise of delivering unmatched durability and operational efficiency.



The Advantages of Pexgol Pipe Systems

PEXGOL
X-LINKED PIPING SOLUTIONS



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.



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.



Excellent chemical and corrosion resistance

Pexgol pipes can resist a wide range of chemical agents, slurries, toxic and radioactive materials.



Long pipe sections

Pexgol pipes can be supplied in long coil lengths, reducing number of joints, installation time and risks.



High temperature resistance

Working temperatures can range from -50°C/-58°F up to 110°C/230°F.



Creep and impact resistance

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.

For more information please visit:
pexgol.com

