Case Study #178

Greater Efficiency and Safety in Leaching with Pexgol Pipes

Pexgol's chemical resistance and flexibility outperform HDPE in demanding leach pad operations.

Barrick Gold Corp.
Argentina | 2025

- **Working Conditions**
  Temperature: -25°C to +35°C
  Pressure: 1–2 bar
  Flow Rate: 25 m³/h per branch (50 m³/h per pad)
  Fluid: Cyanide solution (pH 10)

- **Pexgol Pipe**
  Pexgol 110 mm, class 10

- **Application**
  Cyanide leaching pads for gold and silver recovery

- **Length**
  300 m / 984 ft

The Challenge

Barrick Gold Corp., one of the world's leading producers of gold and silver, operates under extreme environmental conditions at its Veladero project in Argentina. For its cyanide leaching pads, the company traditionally used 8" HDPE pipelines to transport cyanide solutions (pH 10) across wide temperature ranges, from -25°C to +35°C.
The biggest operational challenge stemmed from the irrigation method: after each leaching cycle, the pipelines were dragged manually to the next cell. This caused significant wear and mechanical fatigue, with HDPE pipes failing after just 4–5 uses. Their weight made handling difficult, increasing safety risks for personnel. Additionally, HDPE's rigidity required a large number of fittings, particularly to navigate the 90x60-meter leaching pads, leading to higher costs and longer installation times.
Barrick sought a lighter, more flexible, and chemically resistant solution capable of withstanding extreme conditions and improving overall efficiency.

The Solution

To address these issues, Barrick replaced the HDPE system with 300 meters of 110 mm Pexgol Class 10 pipe. Pexgol's exceptional chemical resistance to cyanide solution and its ability to operate at sub-zero temperatures ensured optimal performance under extreme conditions.

The entire system was installed within a single workday, including staff training, on-site transport, and uncoiling in three stages. Thanks to Pexgol's natural flexibility, bends and changes in direction were made without fittings, which reduced installation time and material costs. Its light weight allowed for easier and safer handling, even during pipe dragging across leach pads.

With fast deployment, high corrosion resistance, and easy roll transport, Pexgol enabled Barrick to improve operational efficiency. The pipe's long lifespan—even under frequent dragging—made it a superior alternative to HDPE for cyanide leaching in mining applications.

Pexgol

The Advantages of Pexgol Pipe Systems

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
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