

Safe Installation of a 355 mm Mine Dewatering Line



A flexible and durable solution designed to adapt to pit benches, operate outdoors, and minimize connection work in difficult-to-access areas.



MMG
Perú | 2024

• Working Conditions

Temperature: 27°C / 80.6° F
Pressure: 25 bar / 363 psi pumping pressure
Fluid: Mine water, 5% solids, pH 6

• Pexgol Pipe

Pexgol 355 mm

• Application

Mine dewatering

• Length

870 m / 2,854 ft

The Challenge

Las Bambas needed to install a dewatering line capable of transporting mine water at a pumping pressure of 25 bar in an environment characterized by steep slopes, benches, and mining conditions.

The pipeline had to adapt to the irregular terrain geometry and operate safely outdoors, exposed to solar radiation and low temperatures, without needing to be buried.

Another critical requirement was to minimize installation work on the pit slope. Conventional steel or HDPE pipes are typically supplied in sections approximately 12 or 14 m long, which would have required a greater number of field connections. This meant additional labor, longer installation times, and greater exposure of personnel to high-risk work. In addition, every additional joint represented a potential failure point in a location subject to high operating pressures.

The Solution

A 355 mm Pexgol pipe was selected and supplied in coils with continuous sections of up to 90 m.

The coiled format significantly reduced the number of connections required along the 870 m installation. Compared with the shorter sections commonly used in steel or HDPE systems, this solution reduced labor requirements and minimized potential pipeline failure points.

The inherent flexibility of Pexgol pipe allowed the line to follow changes in direction and adapt to the irregular terrain, making it easier to install along the pit benches without burying the pipeline.

Specialized equipment was used for the installation, including a vertical pay-off unit due to the size and weight of the coils. Connections were completed using electrofusion couplings, stub ends, and flanges installed at the pipe ends. The use of long sections also made it possible to complete numerous joints away from the pit slope, reducing the time personnel spent in difficult-to-access areas and improving overall installation safety.

As a result, Las Bambas obtained a flexible, high-pressure-resistant pipeline suitable for open-air mine operation, with fewer joints, faster installation, and reduced personnel exposure to high-risk work.



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.



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

