



High pressure water transport for a gold mine.

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Mansfield Mine
Argentina | 2019
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Working Conditions:
Exposed pipe with repump systems
at 21 bar (305 PSI)

Pexgol Pipes:
Pexgol 225 mm (8"), class 24, 19,
15 & 12

Application:
Water transport

Length:
12.5 km

The Challenge

The engineering company SAXUM had the challenge of designing the main water supply line for Mansfield's "Lindero Gold Mine" project, which through heap leaching removes and processes mineral.

Given the differences in height (more than 300 meters in total) and the length, a pipe was required that would provide safety to work with high pressures and that can be exposed to the sun without the need to bury it. Due to the climatic conditions of the area, with low temperatures and strong winds, added to the height (above 4000 m above sea level), a simple and quick solution to install was sought, since otherwise the costs of assembly would be very high.

Pexgol Solution

It was decided to install Pexgol since it is supplied in coils, in this case up to 280 meters in length. Compared to steel and HDPE supplied in 12 or 14 meter lengths, this supply format kept labor and the possibility of failure to a minimum.

Approximately 1,400 meters were installed per day with only three operators and a backhoe. The connections were made by electrofusion couplings.



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HDPE vs Pexgol installation comparison

| PIPE | METERS | METERS INSTALLED PER DAY | AMOUNT OF JOINTS | DAILY JOINTS | INSTALLATION DAYS |
|---------------|--------|--------------------------|------------------|--------------|-------------------|
| 225 mm HDPE | 14 | 84 | 892 | 6 | 148 |
| 225 mm PEXGOL | 280 | 1400 | 44 | 5 | 9 |

| | PEXGOL 225 mm | HDPE 225 mm |
|--|---------------|-------------|
| TOTAL METERS | 12500 | 12500 |
| AVERAGE METERS SUPPLIED | 280 | 14 |
| NUMBER OF WELD JOINTS | 44 | 892 |
| METERS INSTALLED PER DAY | 1400 | 84 |
| DAYS NEEDED FOR LAYING PIPES ON SITE | 6 | 25 |
| WELDING NOMINAL DAILY PERFORMANCE | 5 | 6 |
| DAYS NEEDED FOR WELDING | 9 | 148 |
| MACHINE HOURS CONSIDERING 12-HOUR SHIFTS | 36 | 312 |
| NUMBER OF OPERATORS | 3 | 3 |



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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.

