

Nitrogen Transport in a Complex Industrial Environment



Pexgol enabled a safe and efficient installation across a highly constrained refinery layout.



YPF
Argentina | 2025

• Working Conditions

Temperature: 20°C
Pressure: 8 kg/cm²
Fluid: Gaseous nitrogen

• Pexgol Pipe

Pexgol 110 mm (4"), Class 15

• Application

Nitrogen transport

• Length

2.2 km

The Challenge

YPF, Argentina's leading energy company with integrated operations in exploration, production, refining, and commercialization of hydrocarbons, required the development of a new pipeline to transport nitrogen from Petroquímica Cuyo to its industrial operations at the Luján de Cuyo Refinery in Mendoza, Argentina. The project demanded a reliable solution capable of operating with gaseous nitrogen at 20°C and 8 kg/cm² within a highly demanding industrial environment. The main challenge was the pipeline routing. The line needed to cross the refinery from west to east, a complex task due to numerous existing interferences and strict safety protocols inherent to an active industrial facility. Additionally, the total length of the project—2.2 km—required an efficient execution strategy to minimize intervention times and ensure a safe installation without disrupting ongoing refinery operations.

The Solution

For this project, Pexgol 110 mm Class 15 was selected as the optimal piping solution. Key advantages included fast installation, high chemical and corrosion resistance, long service life, and material flexibility. The lightweight nature of the pipe, combined with the ability to supply it in long continuous coils, significantly reduced the number of joints required on site. This allowed the pipeline to be adapted efficiently to the refinery's complex layout, optimizing maneuverability and minimizing interference during installation.

The system incorporated electrofusion couplers, loose flanges, and flared ends / stub ends, ensuring a reliable and secure connection throughout the pipeline.

Thanks to careful planning and the operational advantages of the Pexgol system, the full 2.2 km pipeline was installed in just 10 days.

As a final stage, a pneumatic integrity test at 3.5 kg/cm² was successfully performed, ensuring complete tightness of the system prior to commissioning.

The result was a safe, efficient, and reliable solution for nitrogen transport within one of Argentina's main refineries, once again demonstrating Pexgol's capability to perform in applications where installation speed, flexibility, and operational safety are critical.



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

