

Pioneering Space Launches with Ground-breaking Piping Solutions

Delivering Durability and Flexibility for a Sustainable Approach to Space Access.



SpinLaunch USA | 2021

• Working Conditions

Temperature: 70°C / 158°F
Flow: 300 gpm, 150 gpm, 100 gpm respectively
Pressure: 80 psi, 90 psi and 120 psi respectively
Components of the fluid: Water

• Pipe

Pexgol 90, 110 & 160 mm, class 15

• Application

Water Brake Cooling, Oil Heat Exchanger Cooling, Vacuum System Cooling

• Length

750 m / 2460 ft

The Challenge

SpinLaunch, an avant-garde space technology firm, introduced a radical departure from conventional fuel-based rockets with their electricity-powered kinetic launch system. This inventive approach to space access required not just a sustainable space solution but also a parallel ground-based system that could match its efficiency and robustness. In the high desert conditions, SpinLaunch aimed for a piping solution that was resilient, could be laid both above and below ground, and would survive freezing temperatures without sustaining damage.

The Solution

Pexgol, with its state-of-the-art PE-X piping solutions, stepped in to address SpinLaunch's unique requirements. The company's 90, 110, and 160 mm class 15 pipes, spanning a total of 750 meters, were introduced for water brake cooling, oil heat exchanger cooling, and vacuum system cooling. The pipes, able to endure a temperature of 70°C (158°F) and different flow rates and pressures, primarily carried water as the fluid component. The easy-to-install system offered flexibility, allowing for both subterranean and above-ground installation with minimal elbows.

The Pexgol pipes, known for their durability, ensured that even in freezing desert temperatures, the contained liquid wouldn't damage the structure. The efficient design and collaboration between Pexgol and SpinLaunch resulted in a fast, flexible, and long-lasting solution, fitting perfectly with the client's revolutionary space access approach.



The Advantages of Pexgol Pipe Systems

PEXGOL
X-LINKED PIPING SOLUTIONS



High wear resistance

Pexgol is the preferred solution for abrasive materials transportation. Typically resists three times more than HDPE and twice more than steel.



Superior external corrosion resistance

Pexgol withstands 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 endure 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 range from $-50^{\circ}\text{C}/-58^{\circ}\text{F}$ up to $110^{\circ}\text{C}/230^{\circ}\text{F}$.



Creep and impact resistance

Pexgol pipes tolerate abnormal 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

