Transporting brine at high pressure

Case Study | N°100

Installation of Pexgol pipe to transport brine at high pressure in a borehole.

Mekorot
Israel | 2020

Working Conditions:

Pressure: 36 bar
Flow rate: 120 m^3/hr
Chloride concentration: 10,100 mg/l

Pexgol Pipe:

Pexgol 250 mm (10") Class 43

Application:

Brine transport at a Borehole

Length:

300 m / 984 ft

The Challenge

Mekorot, the national water company of Israel and the country's top agency for water management, required a corrosion resistant pipe that could hold very high pressure in a deep borehole (300 m). Furthermore, the pipe needed to be able to resist Chloride concentration of 10,100 mg/l.

Pexgol Solution

A custom-made Pexgol pipe was installed (pipe 250 mm, class 43). The Pexgol pipe was provided in two coils of 150 m each. The two coils were connected by a special coupler that can hold the weight and the high pressure.
The other option that Mekorot considered was a pipe made of super duplex. Since installation of super duplex would take around 3 weeks and cost (approximately) 3,000,000 NIS ($9.3K) while installation of a Pexgol pipe is 3 days and cost about half. Pexgol pipe was the obvious choice.

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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.