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PipeLine



HOBAS® Industrial Pipe Systems

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Taking the HOBAS® Motto “Make things happen” at Face Value - Escondida Copper Mine in Chile Equipped with HOBAS® Pipes



Beginning of December 2011, 18 workers from HOBAS Kunststofftechnik installed roughly 800 meters of HOBAS GRP Pipe with CPVC liner in the world's biggest copper mine. The line has been completed within four days only and under extremely challenging working conditions in the Chilean Atacama desert 3200 m above sea level.

3200 meters above sea level in the middle of the Chilean Atacama desert lies Minera Escondida, the world's biggest copper mine. Atacama is the driest desert as well as one of the regions with the most mineral reserves around the world. It makes Chile the richest country for copper on earth, with almost a quarter of the global reserves. This is why Chile is also the internationally leading copper producer – 5.42 million tons in 2010. As the copper prices multiplied by four and due to Asia's great demand it seems that copper mining in Chile will be profitable also in the future.

Copper is won by various methods. One of those applied at Minera Escondida is the oxide method in which large areas of crushed rocks are treated with sulfuric acid. Pipes then transport the extracted copper sulfate to electrolysis that produces plates of pure copper. A total of one million tons of rock are daily moved and 20,000 people work at the mine. This and the long distances that need to be overcome over the vast terrain pose great challenges to logistics.

Material Choice

The medium, a high concentration of sulfuric acid and other chemicals at temperatures around 50°C and above, makes high demands on the piping material. The client had initially filed a tender for pure CPVC-Schedule-80 pipes. However, 600 mm in diameter CPVC pipes installed on supports would have been very difficult to work on. Barbara Prommegger, Sales Director of HOBAS Latin America seized the opportunity and

convinced the client that HOBAS Pipes would clearly be the better choice. After a comparison of materials with comprehensive documentation in Spanish as well as a presentation of and tests on the material, that was new to the mine, HOBAS and the local partner Buildtek were assigned for the job in February 2011. HOBAS delivered a total of 800 m of pipe with CPVC liner.

“Purely CPVC pipes would have weighed 97 kg per meter whereas HOBAS Pipes merely weigh 38. The wall thickness of CPVC would measure 31 mm which is difficult to weld and the design for HOBAS Pipes only requires 12 mm”, summarizes Barbara Prommegger. The GRP Pipes delivered by HOBAS have an internal chlorinated PVC layer and therefore withstand temperatures up to 80°C. Moreover, the outside pipe surface is extremely resistant; an important factor regarding the high concentration of acid in the fog prevailing in the hall during the process.

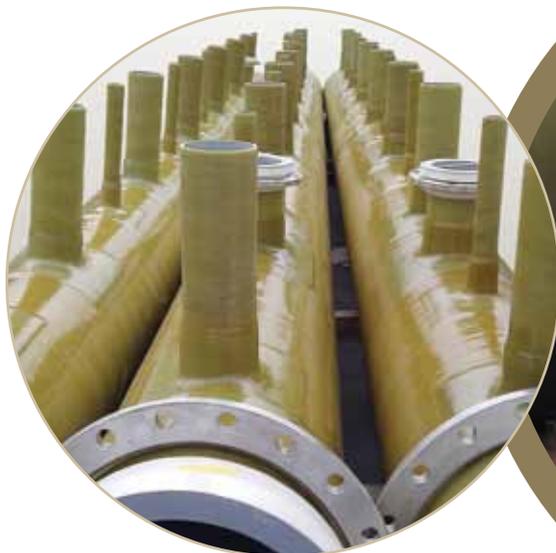
Production and Installation

The pipes for the mine were produced at the German production sites in Stade and Goslar and then transported to Antofagasta in Chile. Here a team of HOBAS Kunststofftechnik and Buildtek prepared as long as possible spools to be transported into the mine to minimize works in the mine. A standstill in the mine costs 1.5 million US-Dollars per day and the available installation time was therefore accordingly short.

The starting signal for the works was given beginning of December 2011. In record time of merely 4 days 18 welders and laminators of HOBAS Kunststofftechnik installed 800 m of HOBAS Pipe welding and laminating almost 60 joints. The result is even more impressive in regard of the difficult conditions in the dessert. Neither the great variations in temperature nor the altitude, wind, dry air or the for safety reasons very detailed paper work could stop the HOBAS Team. On the contrary: the job was finalized ahead of schedule and the project was a great success. “The client, partner as well as all third-party companies involved are impressed. The installation of a second section is already being planned”, says Barbara Prommegger rightly pleased with the first job from Chile. HOBAS. Make things happen.

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Year of construction

2011

Scope of products

**800 m HOBAS GRP Pipes
with CPVC liner**

Diameter

DN 600

Pressure class

PN 6

Application

**Pipes for the transporta-
tion of copper sulfate**

Medium

concentrated sulfuric acid

Temperature of

the medium

up to 50°C

Installation method

above ground, on supports

Client

Minera Escondida

Installation team

HOBAS Kunststofftechnik

Advantages

low weight, compact wall

thickness, resistance to

high temperatures under

exposure to sulfuric acid

even up to 80°C, chemical

resistance to sulfuric acid,

competent advice from

HOBAS Experts, profes-

sional and fast installation

by HOBAS Laminators

and Welders