

Light at the End of the Pipe

After many years of steady growth, the use of large-diameter glassfiber-reinforced polymer (GRP) pipe for water and sewage projects is increasing dramatically around the world.

According to a global market analysis developed earlier this year by Owens Corning, the combined market for pipe and tanks consumed more than 400,000 metric tons of glass fiber in 2007. The two markets are expected to have a global growth rate between 15 and 20 percent in 2008.

The largest GRP pipeline project in the years 2006 to 2008 is the 265 kilometer Oguz-Gabala-Baku water project in the Republic of Azerbaijan. Last November, the Amiantit Group of Saudi Arabia reported orders from just three counties that totaled more than €34.5 million (US \$54.8 million).

Other infrastructure projects include:

- A \$9 billion recycled water project in Queensland, Australia
- PROINFA legislation in Brazil funding wind energy and pipe for power plants

With the increase in activity, several large-diameter composite pipe companies are experiencing phenomenal growth.

Amiantit and Flowtite™ Pipe

The Amiantit Group, Saudi Arabia, is an enterprise with many facilities. The company already operates 30 manufacturing plants around the globe and is setting up additional lines as you read this. It also operates six technology companies to support the factories.



Amiantit (Saudi Arabia) is able to produce pipe that is four meters in diameter with highly robust flexible joints for high pressure applications.

Amiantit was a business and joint venture partner with Owens Corning beginning in 1977. The relationship included the ownership and operation of several pipe facilities in the Owens Corning Engineered Pipe Systems business. Amiantit acquired most of the business and its Flowtite™ technology in 2001.

Flowtite technology is the world's leading GRP pipe technology with some 20 manufacturing licensees and more than a quarter century of materials technology and design experience in fluid handling systems. A cornerstone is the continuous winding process that evolved from equipment developed in the 1970s by Danish inventor Frede Hilmar Drostholm.

Since acquiring the technology, Amiantit has improved the process and extended its use globally. In recent years, Amiantit announced the production of pipe that is 4 meters in diameter and a breakthrough with its joint for high pressure applications.

When announcing successful tests of the joint in July 2006, Eng. Fareed Al-Khalawi, former Amiantit President and CEO, said it was a groundbreaking event.

"Passing this test proves the robustness of our flexible joint and demonstrates Amiantit's ability to design and manufacture GRP products for high pressure applications" he said. "This development now enables us to bring forward pending projects in the Middle East, North Africa and Latin America, and paves the way for further expansion of the Group."

<http://www.amiantit.com/>

Fibrelogic Grows in Dry Australian Climate

The growth of Fibrelogic near Adelaide in South Australia is another interesting story. It begins a little more than six years ago when Martyn Manuel was the sales manager for a company making discontinuous filament-wound glassfiber-reinforced polymer (GRP) pipe. The business experienced financial problems and was headed for the dustbin when Manuel and his wife opted to buy the assets and start a new business named Fibrelogic Pipe Systems Pty Ltd. Employees totaled 10.

By the time the first fiscal year ended in mid-2003, Fibrelogic had surpassed all of the former company's sales records with more than US \$5 million in revenue.

Growth continued for the next few years and in 2005, Manuel made a fateful decision to license the use of Flowtite technology and acquire a large-diameter continuous winding machines from Amiantit.

This immediately opened the door to a new range of projects. The company now has more than 140 employees who have made in excess of 200 kilometers of FRP pipe. It is now the largest composite manufacturing firm in Australia.

The largest project to date for Fibrelogic was the Western Corridor Recycled Water Project in Queensland. Fibrelogic finished its part of the project this year, providing 86 kilometers of pipe and fittings. The pipe was 1 to 1.2 meters in diameter and rated for 16 to 25 bar pressures.

"That was a dream project," says Manuel. "We finished ahead of schedule with no quality problems."

Manuel's dream project also included a few logistical nightmares as he faced the challenge of getting product to a project

2,500 to 3,000 kilometers from his factory near Adelaide. The solution was a combination truck-and-rail system that put loaded truck trailers onto rail cars near the factory. Thousands of kilometers away in Brisbane, the trailers were taken off and moved to the job site.

"We have a dry climate and the population is growing so water recycling and desalination projects will continue."

Manuel and his team are looking at a few projects now that will require 200 to 300 kilometers of large-diameter pipe. And then there are some 10 kilometer projects close to home that cause him to chuckle.

"It is amazing how our thinking has changed in the past few years," he explains. "What we consider a small project today was unthinkable large before we got the continuous machine."

<http://www.fibrelogic.com/>
+61 8 8329 1111



Fibrelogic (Australia) faced the challenge of moving product to a project 2,500 to 3,000 km from its factory.