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Farrukh Shaikh, Senior Design Engineer at Amiantit Fiberglass

PRODUCT INDEX

CAESAR II

INDUSTRIES SERVED

• Petrochemical

FEATURED RESELLER

Compusoft
Saudi Arabia

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Amiantit Fiberglass enhances productivity using CAESAR II on Yansab project

Amiantit Fiberglass, a global FRP pipe manufacturer

Established in 1977 in Dammam City, Saudi Arabia, Amiantit Fiberglass Industries Ltd (Amiantit Fiberglass) is part of the Amiantit Group, a worldwide company comprised of 30 pipe system manufacturing plants, six technology companies, four materials suppliers, and eight supply and engineering subsidiaries located around the globe and serving customers in more than 70 countries.

Amiantit Fiberglass is one of the world's largest thermosetting fiberglass reinforced plastic (FRP) pipe manufacturers, having produced more than ten million meters (32.8 million feet) of FRP piping to date for customers in Asia, the Middle East, northern Africa and the Pacific region. They use the Flowtite® FRP pipe production technology which offers high production efficiencies.

Yansab project

Yanbu National Petrochemical Company (YANSAB) is the largest petrochemical complex in Saudi Basic Industries Corporation's (SABIC) affiliate in Yanbu city, Saudi Arabia.

Upon completion, the eight plants will add a total annual capacity of more than four million metric tons of petrochemical products, including ethylene, propylene, polyethylene (LLDPE, HDPE), polypropylene, ethylene glycol, benzene, xylene, toluene, butane 1, butane 2, and MTBE.

The Amiantit Fiberglass project for YANSAB involved design, engineering, manufacturing and fabrication, inspections and testing, marking and packing of the FRP piping system for seawater and cooling water piping systems in the petrochemical complex, including elbows, tees, nozzles, reducers and flanges. The project included developing spooled isometrics and shop fabrication drawings; designing FRP pipes, fittings and flanges; and performing stress analysis and finite element analysis calculations.

Project challenges

Amiantit Fiberglass identified two major project challenges. One was the detailed stress analysis calculations required for huge seawater and cooling water piping systems and the other was the strict and tight schedule for manufacturing and fabricating the FRP piping. To solve these project challenges, they chose the CAESAR II Pipe Stress Analysis software, citing its ease of use and wide acceptance.

Benefits from choosing CAESAR II

Among the many positives that the team reported with CAESAR II, one was the software's built-in capabilities for FRP macro level analysis that proved a great help in simulation and analysis. "We also appreciated the superb graphical user interface that really simplified visualization and the excellent CAESAR II technical support," said Farrukh Shaikh, senior design engineer at Amiantit Fiberglass. "They resolved our challenges in the modeling and simulation of FRP piping systems, which kept us productive" Shaikh explained.

At completion, Amiantit Fiberglass supplied around 20,000 meters (65.61 thousand feet) of FRP piping including elbows, tees, nozzles, reducers and flanges. Piping diameters ranged from DN100 mm to diameter 4000 mm.

Saving time and achieving overall productivity enhancement

"With CAESAR II for piping analysis, we solved our project challenges, avoided confusion and increased our accuracy in integrating FRP piping with interconnecting metallic piping in the seawater and cooling water systems," added Shaikh. "The technical reference of CAESAR II and its wide usage combined with quick and comprehensive support saved us time and enhanced our overall productivity."