

Maran Athena, Crude Oil Tanker

Retrofit Scrubber System

Maran Athena is a very large crude oil tanker currently sailing under the Greek Flag. The vessel's overall length is 336 m and width is 60 m.

Problem

The International Maritime Organization (IMO) 2020 regulation limits the sulphur content of the fuel oil used onboard ships, or otherwise required owners to lower the SOx contents of the exhaust emitting to the atmosphere through the use of equipment or systems such as a scrubber system.

Our client's priority was to adhere to the IMO regulation in a timely manner and chose to install the Exhaust Gas Cleaning System.

Solution

We provided spools that were designed, engineered in advance of the vessel's arrival at the yard, and delivered Bondstrand™ glass-reinforced epoxy (GRE) piping from our plants in Malaysia to Sembcorp Marine in Singapore. GRE piping is resistant to corrosion from seawater as well as acids formed from the scrubbing processes. We worked with Maran to ensure their vessel's compliance to the IMO 2020 regulation and this all done within the time stipulated for the retrofit.

The on-time delivery of the prefabricated spools and the on-site Field Service team who helped with the final adjustments, ensured that the installation was completed on time.

Weight Savings

Bondstrand piping weight is approximately 8T

Steel equivalent is approximately 39T

Total 75% weight savings!

Supply Details

Applications

- SOx Scrubber
- Seawater intake and discharge effluent

Design Specifications

- IMO Standard

DNV Class Rules

Quantity

- 242m Bondstrand piping
- 173 Fittings
- 111 Flanges

Size Range

- 3" to 20"

Timeframe

- April - May 2019

CAPEX Benefits

- Lightweight, typically 75% lighter than steel
- Fast installation
- High strength

OPEX Benefits

- Minimal maintenance
- Excellent corrosion resistance
- Non-sparking, no earthing
- Proven durability
- Enhanced safety

