

**Corrosion- and
maintenance-free solution for marine**

**Thermoplastic piping systems
ensure a hygienic and reliable
water supply on a hospital ship**

Customer reference: Mercy Ships

GLOBAL MERCY

**The international healthcare charity Mercy Ships
has outfitted its ship Global Mercy with
flow solutions by GF Piping Systems.**

Hygiene and reliability thanks to thermoplastic solutions by GF Piping Systems

Piping systems are often hidden behind walls and ceilings, yet they are an essential part of every ship. This is especially true in the case of the Global Mercy, a floating hospital that provides free medical and surgical care for people in Sub-Saharan Africa. For maximum hygiene and operational safety, the international charity Mercy Ships selected ecoFIT, INSTAFLEX, and PVC solutions for various water applications on board. In addition to providing vital components, GF Piping Systems also offered full project support.

Project background

Mercy Ships has been providing high-quality and professional healthcare to developing countries for over 45 years. The Global Mercy, the charity's latest ship, is 174 meters long and provides space for 600 volunteers, 199 beds for patients, as well as extensive facilities for medical training. As a result, the ship requires large amounts of water with daily usage averaging 60.000 liters. This water needs to reliably reach areas such as cabins, surgeries, hospital wards or the canteen before it is then transported to the engine room or a water treatment plant. During construction of the water installation, Mercy Ships decided to forego the frequently used copper pipes in favor of thermoplastic solutions by GF Piping Systems.

Selected technical solution

Mercy Ships had varied requirements for the piping systems on board the Global Mercy. Therefore, the decision was made to install two solutions by GF Piping Systems. INSTAFLEX, a polybutene system specially designed for building technology applications, was selected for the hot and cold water installation, PVC-U for the onboard water treatment system. At the same time, ecoFIT, a polyethylene system for use in a wide range of industrial applications, was installed for the transport of wastewater. In total, around 13.000 piping components were installed, including ball valves, butterfly valves, and actuators.

Achieved improvement

The water installation, which has a total length of around five kilometers, is corrosion-free and does not release any taste or pollutants, while smooth inner surfaces prevent issues such as limescale deposits. At the same time, the lower weight of plastic has reduced the fuel consumption of the Global Mercy. Despite the challenges of the COVID-19 pandemic during which the ship was constructed, GF Piping Systems was able to offer technical support as well as on-site installation training. As a result, the many facilities onboard the Global Mercy have reliable access to clean and hygienic water which allows the healthcare professionals to focus on providing urgent healthcare wherever it is most needed.

Where next?



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Around five kilometers of thermoplastic pipes are installed on the Global Mercy.



The onboard water treatment plant supplies the 174m long ship with hygienically pure water.

Customer benefits

- **Hygiene and Reliability:** GF Piping Systems' solutions ensure maximum hygiene and operational safety, enabling healthcare professionals to focus on essential care.
- **Operational Safety:** Thermoplastic piping systems are corrosion-free, prevent limescale deposits, and guarantee a safe, clean, and reliable water supply onboard.
- **Fuel Efficiency:** The lighter plastic piping components reduce fuel consumption on the Global Mercy.
- **GF Piping Systems provided support and training for proper system setup and staff skills enhancement during the installation process.**