

PROGEF PP and PVC-U

# Withstanding a highly-corrosive environment

Apateq installs PROGEF PP and PVC-U for closed-loop scrubber

Non-corrosive solution for exhaust gas scrubber project from a one-stop shop.

# Exhaust gas scrub water



Increasingly stricter legislation on emissions of ships limits the sulphur content of marine fuel. As an alternative to switching to low sulphur fuel, shipping companies can install scrubber systems for the purification of exhaust gases resulting from heavy bunker oil usage. Scrubbers produce scrub water as by-product. IMO (International Maritime Organization) has foreseen limiting values in terms of pH, PAH and turbidity before discharging it to the sea. This makes a certain treatment necessary.

## Project Background

APATEQ was awarded an onshore scrub water treatment system for a Danish shipping company, that launched two new ferries that are driven by a hybrid propulsion system, combining traditional fuel with electric battery power. The ferries have also both been fitted with an exhaust gas cleaner, a so-called closed-loop scrubber, producing scrub water.

## Chosen technical solution

The solution for the shipping company was to implement a centralized, onshore scrub water treatment facility, treating the scrub water from both ferries to an effluent quality suitable for direct discharge into the harbour according to the most stringent international legislation that goes far beyond IMO requirements. They chose APATEQ's "MarinePaq" as green and cost-efficient one-stop solution for scrub water treatment. MarinePaq is constructed for a long service life and continuous operation by meeting the most stringent standards in a highly corrosive environment. Corrosion-resistant, weight-saving GF piping is used for the entire installation to ensure a failure-free, long-lifetime operation of the MarinePaq system, performing under toughest conditions, i.e. salty seawater with a very high load of contaminants.

## System and product selection\*

- Main piping system made of PROGEF PP d40-d250 and dosing pipes for chemicals made of PVC-U
- PP manual and pneumatic operated ball valves type 546 / 230
- PP manual and pneumatic operated butterfly valve type 567 / 240
- Pressure sensors type 2450

\* Depending on the specific application other plastic material choices are possible

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Containerized MarinePaq onshore installation at the port in Denmark.

## Main benefits for the customer

- One-stop shop for all required items of a complete thermoplastic piping system
- High-quality products
- Reliable service
- Suitable solutions for a long-lasting, reliable operation in highly-corrosive environments

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