

# Recommendations for Material Selection and Welding for Optimum Corrosion Resistance in Washwater Discharge Stub Pipe in Marine Exhaust Gas Cleaning Systems (Scrubbers)

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## Document History:

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## Foreword

This AMPP standard practice provides information for the material selection and welding procedures needed for optimum corrosion resistance of washwater discharge stub pipe in marine exhaust gas cleaning systems (EGCS, also known as scrubbers). The intended audience of the standard is shipyards, scrubber system manufacturers, installers, marine engineering firms, classification societies, flag state representatives (e.g., U.S. Coast Guard), ship owners, and ship operators.

A failure of a ship's scrubber can pose a risk to the health and safety of the public and personnel on the ship and to the marine environment. In AMPP Technical Report TR21448-2021, the coated carbon steel discharge stub pipe component located between the scrubber overboard valve and the ship's hull was identified as the most common type of corrosion failure in the scrubber system. This mode of failure can result in seawater flooding the engine room and shutting down the ship's engines. The engine room flooding problem has been reported recently for three ships with corroded EGCS.

Only in sections containing information about which there is general agreement among users are specific recommendations made. This standard is intended to assist engineers and operations and maintenance personnel in the shipping industry who participate in the design, modification, and maintenance of washwater discharge stub pipes.

The Project Team was composed of industry representatives from ship owners/operators, alloy suppliers, and consulting firms.

**WARNING** — The alloys selected using this document are resistant to the washwater discharge environments in seawater but are not necessarily immune to corrosion under all service conditions. It is the scrubber user's responsibility to select the alloys suitable for the intended service.

## Scope

This standard addresses material selection and welding procedures needed for optimum corrosion resistance for marine exhaust gas cleaning system washwater discharge piping.

## Rationale

Before the publication of this standard, there was no uniform, industry-wide standard for handling acidic washwater in the discharge stub pipe of marine exhaust gas cleaning systems. The primary purpose of this standard is to provide information allowing the reader to make a more informed decision regarding the selection of materials and provide information on appropriate welding of alloy stub pipes. Only in sections containing information about which there is general agreement among users are specific recommendations made. This standard is intended to assist engineers and operations and maintenance personnel in the shipping industry who participate in the design, modification, and maintenance of washwater discharge stub pipes.