

Technical Specification for Ship Coating Repair

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AMPP values your input. To provide feedback on this standard, please contact: standards@ampp.org

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Foreword

This standard is based upon the technical requirements for coating repair developed by the National Marine Ship Standardization Technical Committee Ship Repair Branch Technical Committee in China, but may be applicable for use globally provided it meets the field requirements of marine maintenance and fulfills the environmental protection requirements of the appropriate governing body.

Scope

This standard provides the technical requirements for surface coating inspection, preparation of steel substrates, coating application, and coating quality inspection of steel ships that have been in service. It specifies a coating survey be performed on the steel surface, followed by surface preparation, coating application, and technical inspection requirements. This standard is applicable to coating repairs on a steel substrate of a steel vessel. The standard may also be used as a reference for other repairs.

Rationale

At present, the majority of coating standards are applicable only for new ship building. There is a need for a standard for repairing coating on ships that have been in service. In the absence of such a standard, most ship repair facilities utilize new ship building coating standards. The coating condition on a ship that has been in service differs from that on a new ship. The repair work environment differs from ship building. Given the differences between repairing and ship building, the standards for ship building are not completely adaptable to servicing a ship.

In AMPP standards, the terms *shall* and *must* are used to state requirements and are considered mandatory. The term *should* is used to state something that is recommended, but is not considered mandatory. The term *may* is used to state something considered optional.

Section 1: General

This standard addresses the repair of in-service ship coatings and includes requirements for the coating repair process. In addition to addressing abrasive blasting operations, it also covers ultra-high pressure water jetting, and includes protective measures to avoid abrasive dust and paint mist.

Section 2: Definitions

CB: The mandatory shipbuilding industry standard of China.

CB/T: Recommended shipbuilding industry standards of China.

Derusting: Refers to the preparation of a steel surface by abrasive blasting, ultra-high pressure water jetting, manual and power tool cleaning.

GB/T: Recommended national standards of China.

Relevant Parties: Usually the “Relevant parties” include representatives from owner/paint manufacturer/shipyard.

Section 3: Survey

- 3.1** After the ship enters a shipyard or drydock, a site survey shall be conducted with relevant parties to determine the location and scope of coating repair, the level of steel surface treatment, coating specification and its construction requirements.
- 3.2** Shipyard survey staff shall be certified to work after training and have corresponding professional qualifications.
- 3.3** During the survey, the original condition of the steel surface should be checked, including coating status, rust, surface abrasion, and oil pollution, etc.
- 3.4** During the survey of the ship’s hull, the condition of marine growth below the waterline should be checked. The rating of the marine growth is in accordance with the requirements of NACE SP21421.¹
- 3.5** During inspection of the ship’s cargo hold or tanks, the objective is to evaluate the condition of the capacity and structure, the design of the ventilation capacity of the fans, the erection of scaffolding, etc. For the special coating of cargo hold or tanks, it is necessary to evaluate the condition of the deck, the location of equipment and facilities, and the status of temporary openings created during coating to facilitate ventilation or working hose access to the working area.

Section 4: Repair Requirements

4.1 General requirements

- 4.1.1** Cleaning steel substrate by high pressure water
 - 4.1.1.1** Before preparation of steel substrates, the steel surface should be cleaned with high pressure fresh water to remove soluble salts, various marine growth, dirt (grime), ineffective coatings, loose antifouling paint, and rust layers, etc. For firmly attached marine growth, manual removal should be used.
 - 4.1.1.2** The water pressure should not be less than 25 MPa or in accordance with the coating manufacturer specifications.