



Introduction

On July 1 2008, PSPC was adopted by MSC216(86), China shipbuilding industry has been paying high attention to the enforcement of the new coating standard for more than two years.

- ◆ **has got improvement in technology of construction and management substantially.**
- ◆ **established certification system of marine coating inspectors.**
- ◆ **set up the coating qualification laboratory authorized by the government.**

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Introduction

- ◆ **After having implemented PSPC for two years, China's shipbuilding enterprises have got ability to build ships complied with PSPC.**
- ◆ **meanwhile, through the implementation of PSPC, we found irrational contents in PSPC,PSPC should be revised properly.**

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Implementation of PSPC

1 Setting up specialized internal coordination groups in shipbuilding enterprises

In order to make each department in shipyards to work efficiently, specialized internal coordination groups or equivalent groups have been set up in shipyards, which are responsible to coordinate the work of each department in shipyards, carry out the management and inspection of the construction process and check the job of each department in shipyards.

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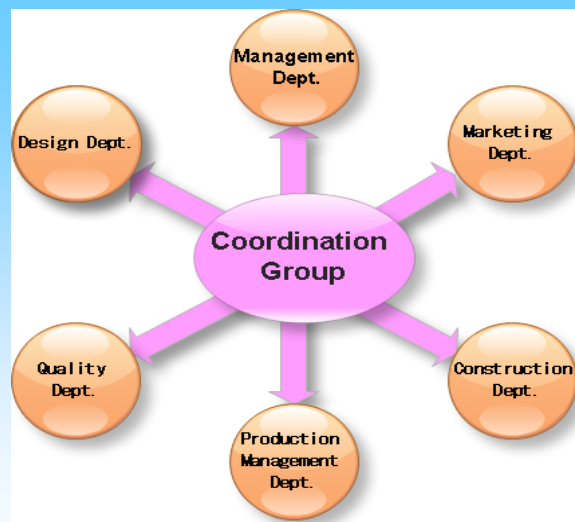


Fig.1 Internal coordination group



Implementation of PSPC

2 In order to ensure the construction process up to PSPC, Shipbuilding enterprises have done some technology researches on shipbuilding and adopted the new techniques during construction process.

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Implementation of PSPC

(1) Carried out The Inspection agreement for paint of Dedicated Seawater Ballast Tanks in all type of ships and Double-side Skin Spaces of Bulk Carriers

In order to ensure implementation of PSPC on ships built by the shipyards ,and to correspond coating inspection process, inspection of surface preparation and coating processes agreement shall be agreed among shipyard, ship owner and coating manufacturer.

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Implementation of PSPC

- (2) Carrying out the relevant standards and guidance documents on PSPC
- 1) Guideline for implementation of Performance Standards on Protective Coatings (PSPC) during ship construction.

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Implementation of PSPC

- The guideline is considered for the purpose of IMO/MS.215(82)PSPC requirement, according relevant documents.
- China National Standards
 - China Shipbuilding Industry Standards
 - IACS PR34 ;IACS UI223
 - Guideline for implementation of MS.215(82) performance standard of protective coating(draft) by IACS industry JWG/coating group and so on.

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Implementation of PSPC

In the guideline, requirements have been carried down, such as technical and inspection requirements of the surface pretreatment, coating application of every stage, and the submission and confirmation requirements of CTF, etc.

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Implementation of PSPC

The requirements of ships construction up to PSPC have been stipulated ,such as,

- **treatment of steel edges**
- **design for reservation length of welding**
- **design of stick parts**
- **the defect treatment of the structure surface**
- **controlling steel deformation caused by welding**
- **the construction of pre-outfitting production**
- **leakage test on block stage, etc.**

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Implementation of PSPC

2) Require of painting techniques and technology for ballast tanks

“Require of painting techniques and technology for ballast tanks” has been adopted as China shipbuilding industry standards.

This standard provides technical requirements for surface preparation, painting tasks of each stage, safety, inspection and technical documents of painting of ballast tanks of ships.

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Implementation of PSPC

3) Assessment and calculation method of coating damaged areas for ballast tanks of ships

“Assessment and calculation method of coating damaged areas for ballast tanks of ships” has been adopted as China shipbuilding industry standard.

This document prescribes the sorts and definitions of coating damages for ballast tanks of ships, and the assessment and calculation method of defective areas of coating for ballast tanks of ships, etc.

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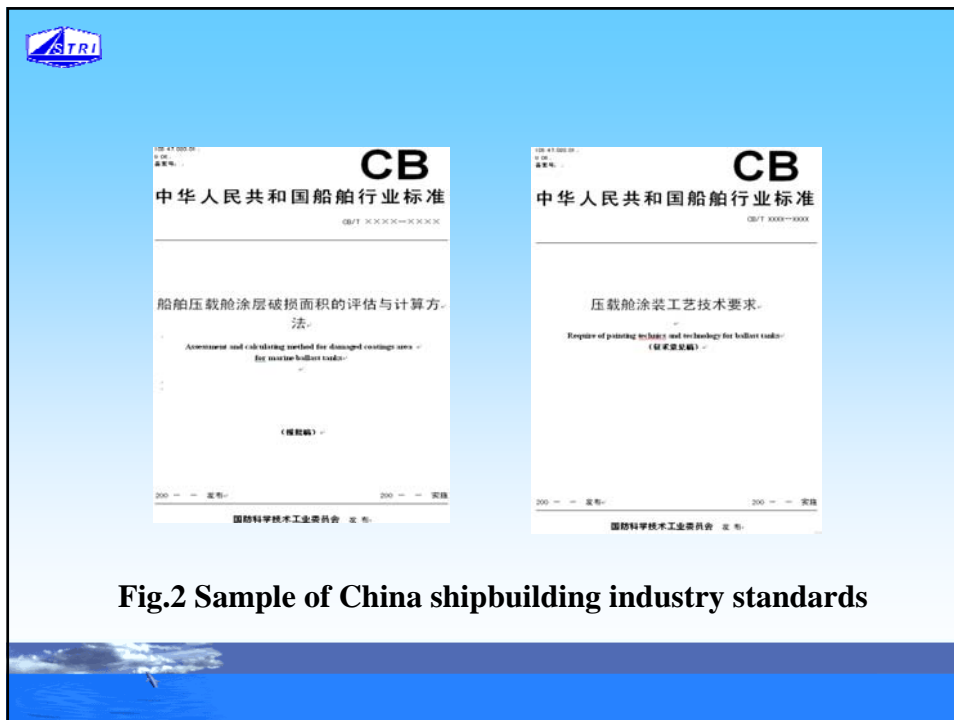


Fig.2 Sample of China shipbuilding industry standards

Implementation of PSPC

(3) Technology research and utilization in shipbuilding

- Improvement and increase of technology in key production processes, such as improvement on precision of the block production so as to decrease altering work on dock/quay stage.
- Improvement of pre-outfitting production designs, and carried out standards for the outfitting technology.

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Implementation of PSPC

- **Modified methods of welding, parameters of welding and welding sequence.**
- **Made guidelines of leakage test in block stage.**
- **Got clear technical requirements of installing and dislodging hook.**
- **Modified methods of staging installing.**
- **Specialized route ways in ballast tanks for staffs for protecting paint film.**

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Fig.3 Pre-outfitting production



Fig.4 Protection for paint film



Implementation of PSPC

3 Training

Technical training has been given to employees on designing, manufacturing, management and construction of ships.

For example,

- the standards dissemination work**
- methods of grinding to R2**
- training course for welders and coating inspection**
- skills of modification of structure designing**
- improvement on construction technology, etc.**

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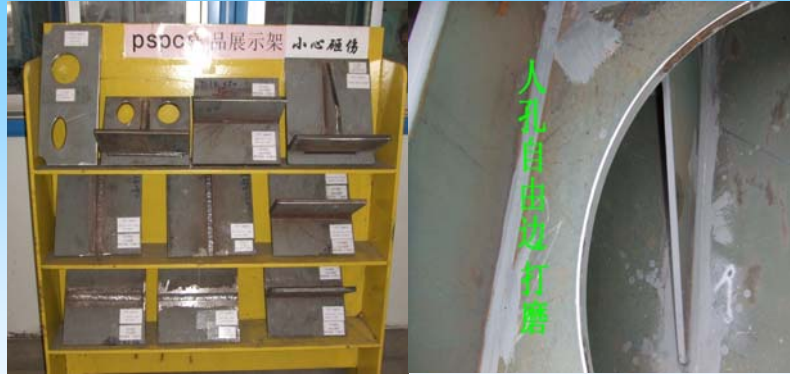


Fig.5 Sample plates of structure treatment



Fig.6 Sample plates of structure treatment



Suggestion of revision

PSPC requires that the roughness after the first and second surface treatment is among 30-75 μm in accordance with ISO 8503-1/2: 1988. (Preparation of steel substrates before application of paints and related products – Surface roughness characteristics of blast-cleaned steel substrates.)

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Suggestion of revision

ISO 8503-1/2: 1988 describes a visual and tactile method for assessing the grade of profile that has been produced by blasting on steel surface, and the limits of profile grades are defined as “Fine”, “Medium”, “coarse”.

But in PSPC, requirement of roughness is among 30-75 μm , not using profile grades defined in ISO 8503-1/2, such as “Fine”.

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Suggestion of revision

“Medium ”, or “ coarse”, the expression of roughness are not uniformity, shipyards always feel puzzled about assessing the grade of profile during construction. Therefore, amendment job should be done in accordance with ISO 8503 - 1 / 2 : 1988, “30 - 75 μm ” statement in PSPC should be replaced by “Medium ” defined in ISO 8503 – 1/ 2.

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