

## **PSPC, preparation and application in Korean shipyard**

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### **Abstract**

IMO PSPC was prepared with extensive discussion during several meetings in IMO committee and sub-committee in order to enhancing the coating performance of certain critical areas of the ship. The Korean shipyards prepare a hardware and software to fulfill the PSPC requirement from the very beginning of IMO discussion. Several vessels were constructed and delivered successively with cooperation of the parties concerned and this kind of higher standard can be maintained in Korean shipyards while the shipyards are well prepared.

### **1 Introduction**

Upon request by IMO, the Industry Joint working group developed a draft of PSPC for dedicated seawater ballast tanks for all type of ships and double side skin spaces of bulk carriers. An extensive discussion and negotiation was made till its' adoption at MSC 82 since the draft seem to be nearly impracticable in view of the shipbuilders.

Non-mandatory PSPC for Void spaces for bulk carriers and tankers was also developed and adopted at MSC 83 and Mandatory PSPC for cargo oil tank for crude oil tankers was finally adopted at MSC 87.

### **2 Preparation of PSPC in hardware aspect**

It is recognized that the current coating process including some part of steel preparation in block assembly should be changed drastically for applying PSPC regardless of size and condition of the shipyards. Prior to start block painting, all edges should be treated to a round radius of 2 mm, or subjected to 3 pass grinding at least. Blast cleaning should be applied at primary surface preparation and secondary surface preparation and certain level of water soluble salt and dust should be controlled and followed by two full spray coats and two full stripe coats with NDFT of 320 microns. No roller application is allowed for stripe coating on edges and welds.

The above requirement of PSPC can only be achieved by enhancing blasting and painting facility including stock area drastically. In order to achieve the goal of PSPC, enhancement of indoor painting ratio is most critical therefore, all efforts should be made to maintain higher indoor painting ratio as far as possible to the modernized shipyards.



Fig.1 Weather controlled indoor blasting & painting facility



Fig.2 Block stock area for final touch-up and inspection

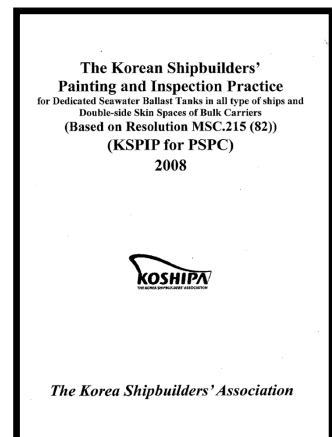
### 3 Preparation of PSPC in software aspect

Since the PSPC statement itself is very complicated to apply in field directly, IMO established the Joint Working Group for making Guidelines for PSPC upon request from Korean shipyard and the Joint Working Group finally develop the “Industry Guideline for Implementation of PSPC” which is recognized by IMO.

KOSHIPA also prepared a guideline for applying the PSPC, so called KSPIP, which is drafted by using the Guideline for Implementation of PSPC, IACS UI and PR, etc.

Each shipyard also training their QA inspector including related parties with NACE and FROSIO course while PSPC require a lot more inspection activities than before with certain certification recognized by the Administration.

In this regards, many shipyards established a special TFT for applying PSPC and maintain till now for the following purpose;



- Development of application method, tool, kit, etc.
- Quality control of steel preparation including edge grinding.
- Development of CTF format
- Training QA inspector and preparation of inspector certification

#### **4 Application of PSPC**

Coating and inspection process including nomination of coating inspector(s) should be discussed and agreed by the ship owner, the builder and the coating manufacturer prior to commencement of the coating work and the agreement to be presented to the Administration (normally presented to the Classification society). IACS require submitting the agreement in accordance with IACS UI SC 223 prior to start any coating works including primary surface preparation which sometimes impossible to submit due to delay in approval of the coating and inspection process including agreement of coating inspector.

Generally, the builder's QA and coating manufacturer's representative who has a certification with NACE inspector level 2 or FROSIO inspector level III should carried out the inspection for the PSPC matters. However, some ship owner requires their participation in the inspection while all PSPC inspection should be made by the certified coating inspector. The Surveyor of the Classification Society and superintendent of the ship owner can monitor the above coating and inspection process.

Inspection of primary surface preparation should be audited periodically once a month in general by the coating inspector and surveyor of the Classification Society, if necessary. Other inspection should be carried out in accordance with the requirement of PSPC and its Guideline including DFT measurement.

Several ships were coated and inspected in accordance with related PSPC resolution including IACS requirements without any big dispute so far and Korean shipyards should keep certain level of quality standard regardless of application of PSPC.

#### **5 Coating technical file**

Following matters should be included in the Coating Technical File and the CTF should be reviewed by the Classification Society on boarded at the time of delivery of the ships and it should be maintained throughout the life of the ships.

- Basic information of the ship
- Type approval certificate of the coating system including Technical Data Sheet(TDS) and Material Safety Data Sheet(MSDS)
- Coating specification
- Agreed coating inspector and copy of certificate

- Block/Compartment list including coating area
- Procedure for coating and inspection
- Result of inspection from primary surface preparation to completion of coating works including result of DFT measurement

## **6 Summary & Conclusion**

Korean shipyards have sufficient facilities as well as enough qualified people and constructed PSPC applied vessels successfully so far. The hardware and software prepared are verified by IACS member society and assures of constructing PSPC applied vessels without any doubt.

PSPC related matters inspection should be performed by the qualified persons who have good knowledge on PSPC and familiar with the builder's practice;

- Certification of inspector is the least requirement
- Inspection is to be prepared to confirm whether to meet PSPC resolution, not to resolve personal doubts/curiosity/ignorance.