PSPC
Guideline & its effect

2007. 10. 19.
Guideline
Content

History & Progress
Inspector
Primary Surface Preparation
Edge grinding
Steel preparation
Secondary Surface Preparation
Surface Preparation after Erection
Salt contents
DFT
Stripe coat
Dust
DFT measurement
History & Progress

- Approved at MSC 81
- IACS, early implementation to CSR ships
- Request UI to IACS
- IACS PR 34
- KOSHIPA-IACS Meeting
- JWG/COATING 1st & 2nd Meeting
- Guideline for Implementation of MSC 215(82)
PSPC

- Shall be agreed upon the parties and presented to the Administration for review.

Guideline

- Choice of Inspectors should be a part of agreement
- Assistant can be used
- Clear reason for additional test & measurement
PSPC

- Shall be agreed upon the parties and presented to the Administration for review.
- Inspections to be carried out as per para. 6.2

 Guideline

- Recommend to using the steel plate of rust grade A or B
- More inspection to the plate of Rust Grade C & D
- Process control on automated PSP line
- Typical QA control on abrasives
Edge grinding

PSPC

- 2R, or 3 pass grinding or at least equivalent process

Guideline

- “Equivalent” means a geometrically equivalent to, or better than (considering effective coating performance)
Before secondary surface preparation starts, a visual inspection shall be carried out.

By the coating inspector.
PSPC

- Damage: Sa 2.5
- Retained S/Primer: Sweeping or High pressure washing or equivalent
- Power tool for repair (2% rule can be applied)
- Contamination on retained S/Primer: according to coating manufacturer's recommendation

Guideline

- Power tool for repair (2% rule can be applied)
- Contamination on retained S/Primer: according to coating manufacturer's recommendation

Damage (shop primer): burnt or corroded
### PSPC

- **Butt**: St 3 or better or Sa 2.5 where applicable
- **Damage < 2%**: St 3
- **Damage > 2% or 25m²**: Sa 2.5

### Guideline

- **Erection joints**: St 3 or better or Sa 2.5 where applicable
- **Damage < 2%**: St 3
- **Damage > 2% or 25m²**: Sa 2.5

**Damage (coating)**: damage reaches to steel surface only
**Salt contents**

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**PSPC**

- Water soluble salt equivalent to NaCl after blasting or grinding: 50 mg/m³ of NaCl
- Method: ISO 8502-9

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**Guideline**

- None

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### PSPC
- 2 spray coats
- NDFT 320 mic.
- 90/10 rule

### Guideline
- 2 equal coat is not required, min. DFT recommended by the Paint manufacturer to be followed for each coat.
<table>
<thead>
<tr>
<th>PSPC</th>
<th>Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 stripe coats on edges &amp; welds</td>
<td>2 stripe coats on all edges</td>
</tr>
<tr>
<td>2\textsuperscript{nd} stripe coat can be dispensed on welds</td>
<td>1 stripe coat on welds(DFT is verified by annex 3, flat surface case)</td>
</tr>
<tr>
<td>Roller/brush</td>
<td>Roller or brush but, roller for small holes</td>
</tr>
<tr>
<td>PSPC</td>
<td>Guideline</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>▶ Class 3,4,5 : Grade 1 (Tape test)</td>
<td>▶ No tape test if agreed</td>
</tr>
<tr>
<td>▶ Class 1,2 to be removed if visible</td>
<td>▶ Visible small sized dust to be removed up to invisible</td>
</tr>
<tr>
<td></td>
<td>▶ 1 measurement per block</td>
</tr>
</tbody>
</table>
### PSPC

- Annex 3;
  - Gir/Web: 3 points/3m
  - Long’l: 2 points/3m
  - Opening: 2 points
- WFT measurement for quality control purpose.

### Guideline

- Girder & Floor in D/Hull: 1 point/5m²
- Flat bar & Bulb plate long’l: 1 point/3m
- Opening: 400 mm dia & over
- WFT by sprayer
<table>
<thead>
<tr>
<th><strong>PSPC</strong></th>
<th><strong>Guideline</strong></th>
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</thead>
<tbody>
<tr>
<td>- DFT readings to be attached in LOG</td>
<td>- Representative DFT measurement for 1st coat as a guide for next work.</td>
</tr>
<tr>
<td></td>
<td>- Statistical summary only to be recorded (Numbers, minimum, maximum, average DFT)</td>
</tr>
</tbody>
</table>
Cost Effect
Cost Effect (item by item)
Cost Effect (Summary)
Q & A
<table>
<thead>
<tr>
<th>PSPC</th>
<th>Cost Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shall be agreed upon the parties and presented to the Administration for review.</td>
<td>- Increased inspection activity about 100%</td>
</tr>
<tr>
<td></td>
<td>- Additional cost if agreed to invite 3rd party as inspector</td>
</tr>
</tbody>
</table>
PSPC

- shall be agreed upon the parties and presented to the Administration for review.
- Inspections to be carried out as per para. 6.2

Cost Effect

- Additional cost for regular inspection
Cost Effect

Edge grinding

PSPC

- 2R, or 3 pass grinding or at least equivalent process

Cost Effect

- 100% or more cost is required for additional edge treatments
Cost Effect

Steel condition

PSPC

- Before secondary surface preparation starts, a visual inspection shall be carried out

Cost effect

- Additional cost for steel inspection
- Additional stock time for inspection
Cost Effect

Block stage

PSPC

- Damage : Sa 2.5
- Retained S/Primer : Sweeping or High pressure washing or equivalent

Cost Effect

- 30% more surface preparation cost is required for sweeping, etc.
**PSPC**

- Butt: St 3 or better or Sa 2.5 where applicable
- Damage < 2%: St 3
- Damage > 2% or 25m²: Sa 2.5

**Cost Effect**

- Dispute for applying higher grade of surface preparation
- Additional coat for inspection & assessment of Damage %
PSPC

- Water soluble salt equivalent to NaCl after blasting or grinding: 50 mg/m³ of NaCl
- Method: ISO 8502-9

Cost Effect

- Additional cost for Test & Washing
- Washing to be applied about 20% of Blocks
  (Blocks from sub-contractor: 50%, Other Blocks: 10%)
<table>
<thead>
<tr>
<th>PSPC</th>
<th>Cost Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 spray coats</td>
<td>20% more painting cost due to increasing total DFT</td>
</tr>
<tr>
<td>NDFT 320 mic.</td>
<td>10% more painting cost due to 90/10 rule</td>
</tr>
<tr>
<td>90/10 rule</td>
<td></td>
</tr>
</tbody>
</table>
Cost Effect

Stripe coat

PSPC

- 2 stripe coats on edges & welds
- 2\textsuperscript{nd} stripe coat can be dispensed on welds
- Roller/brush

Cost Effect

- 150\% more painting cost due to increasing number of stripe coating & area of stripe coating
PSPC

- Class 3,4,5 : Grade 1 (Tape test)
- Class 1,2 to be removed if visible

Cost Effect

- 15% more cleaning cost is required
- Vacuum cleaner to be provided for final cleaning on bottom
Cost Effect

DFT measurement

PSPC

- Annex 3;
  - Gir/Web: 3 points/3m
  - Long’l: 2 points/3m
  - Opening: 2 points
- WFT measurement for quality control purpose.

Cost Effect

- 5% more painting cost due to increasing number of DFT measurement
- 20% more surface preparation cost due to control of Max. DFT (partial repair for areas exceeding Max. DFT)
PSPC

Para. 6.2

Cost Effect

 Increased inspection activity about 100%
Stock area

PSP

✓ Quality control by QA system
✓ Periodically checked by the inspector

Block fabrication

✓ 2R or 3 pass grinding or equivalent
✓ Inspected by the inspector
Mill Maker

PSP (Sub-contractor)

Transportation

Block fabrication (Sub-contractor)

- Quality control by their QA system
- Periodically checked by the inspector
- 2R or 3 pass grinding or equivalent
- Inspected by the inspector
**Process - BSPPCe**

- **SSP Block painting**
  - Sa2.5 + Sweeping or HPW or equivalent
  - Inspection incl. salt & dust check
  - 2 stripe coats on all edges & welds
  - DFT measurement as per Annex 3
  - Check min. & max. DFT
  - CTF
  - Damage assessment, St3
  - Inspection incl. salt & dust check
  - 2 stripe coats on all edges & welds
  - DFT measurement as per Annex 3
  - Check min. & max. DFT
  - CTF
Repair

- All repair: confirm
- CTF
### Cost Effect Summary

<table>
<thead>
<tr>
<th>Sub-item</th>
<th>Cost Effect</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design MH</td>
<td>about 10%</td>
<td></td>
</tr>
<tr>
<td>Production MH</td>
<td>about 100%</td>
<td></td>
</tr>
<tr>
<td>Material cost</td>
<td>about 20%</td>
<td></td>
</tr>
<tr>
<td>Manpower</td>
<td>about 30%</td>
<td></td>
</tr>
</tbody>
</table>

Additional costs for the paint manufacturers & Class fee to be considered separately.
Thank you
for attention