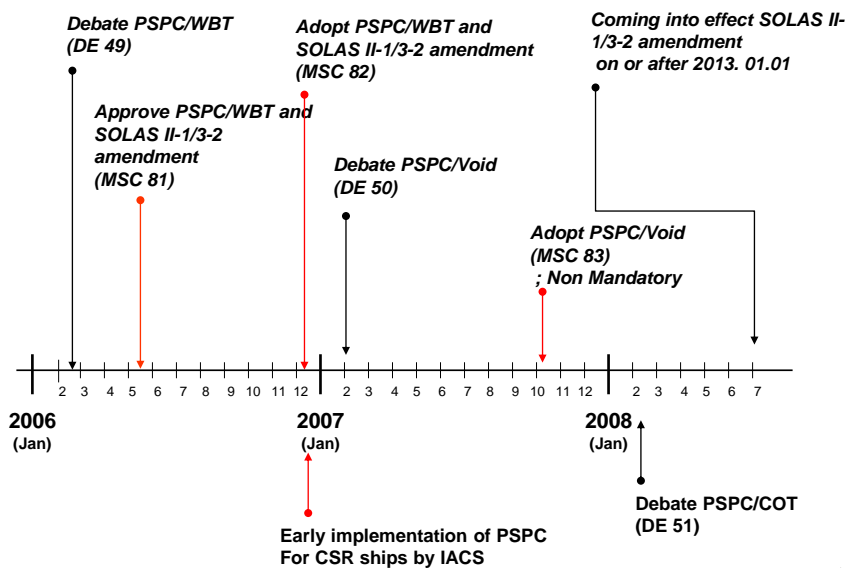
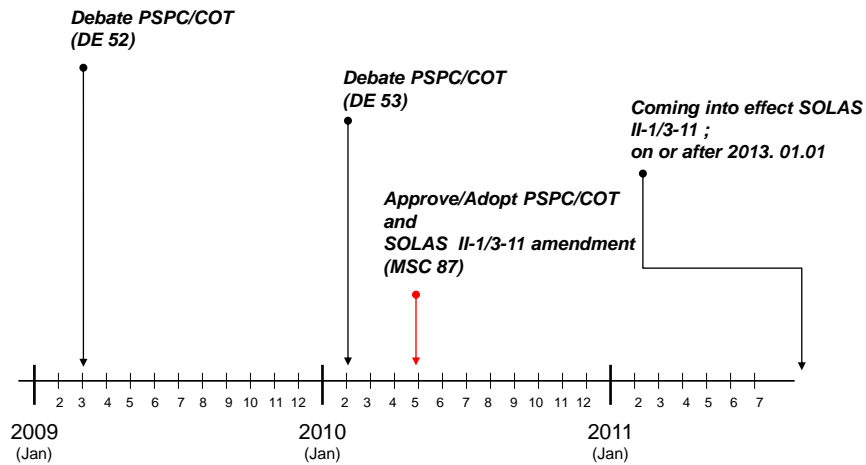


Progress of PSPC



Progress of PSPC



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PSPC requirement

Working procedure

Tripartite agreement
prior to start

Inspector

3 parties agreement
to Inspector
Decision by the
Inspector
Qualification is required
(NACE or FROSIO)

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PSPC requirement

TAC

Need TAC
Cross over test
according to PSPC

Inspection on PSP

3 parties agreement
Rust Grade A,B
(enhancing inspection
for Rust Grade C,D)
Abrasive control(Q.A)

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PSPC requirement

Steel Condition

ISO 8501-3(P2)
Inspection to be done
before blasting

Edge Grinding

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

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PSPC requirement

S/P at Block stage

Damage : Sa 2.5
Contamination on
retained S/Primer :
Sweeping, HPW or
equivalent

Salt measurement

One(1) measurement
per Block
 $\geq 50 \text{ mg/m}^2$
ISO 8502-9/8502-6

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PSPC requirement

S/P after erection

Erection joint : St 3 or
better or Sa 2.5 where
applicable
Damage $< 2\%$: St 3
Damage $> 2\%$ or 25m^2 :
Sa 2.5

DFT

Min. 2 spray coats
NDFT 320 mic.
90/10 rule

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PSPC requirement

Stripe Coat

2 stripe coats on all
edges & welds
Brush only
(roller on small holes)

Dust Control

Grade 1 for size 3,4,5
Size 1,2 : invisible
Tape test : one(1)
measurement/block

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PSPC requirement

DFT measurement

Annex 3
0.6~1.0 points/m²
Points : Annex 3

Reporting(CTF)

Log sheet for S/P and
coating
DFT according to
Annex 3
0.6~1.0 points/m²
Verify 90/10 rule

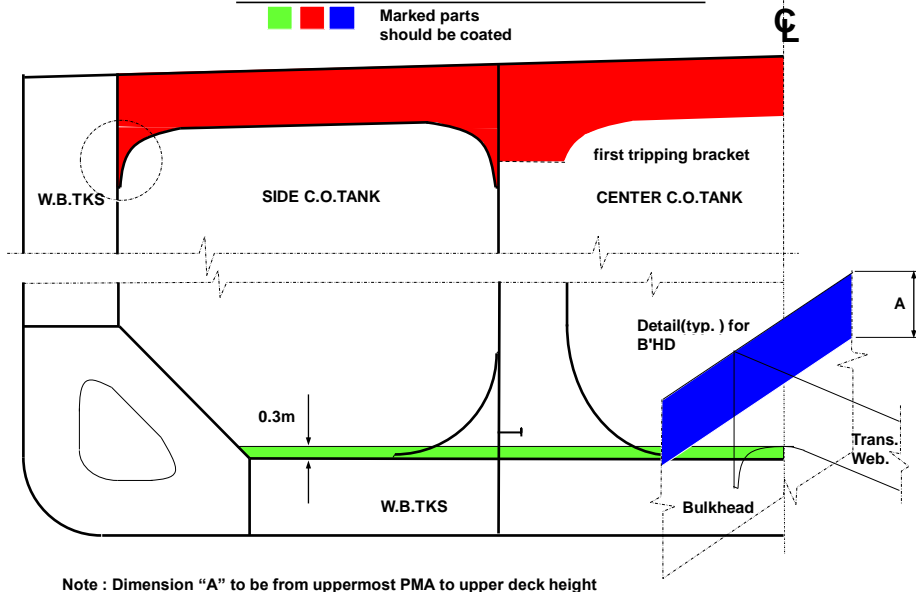
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•PSPC requirement(Summary)

Item	PSPC/WBT	PSPC/COT	PSPC/VOID
Method of application	Mandatory		Non-mandatory
Type of ships	All type of ships	Crude oil tanker	B/C & Tanker
Area to be protected	All area	Top & Bottom	All area
NDFT	2 coats, 320µm		1 coat, 200µm
Dust for size "3", "4", "5"	"1"		"2"
Allowable salt level	50 mg/m ²		100 mg/m ²
Stripe coat	2 coats on all edges & welds		1 coat on cut edge
Edge treatment	2R, 3 pass		1 pass
Steel condition	P2		P1
SSP at block	Sa 2 ^{1/2}		Sa 2 or St 3
St 3 for after erection	Damage < 2 %	Damage < 3 % or 20%	-

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TYPICAL SECTION OF V.L.C.C.



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KSPIP*

****Korean Shipbuilders' Painting and
Inspection Practice***

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***At the beginning of PSPC ;
Mandatory requirement but,***

- No class rule***
- No UI***
- No Guideline***

and only available

***-IACS PR 34 which mainly deal
with TAC and inspector
qualification***

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PSPC required ;

Tripartite agreement for

- Inspection of surface preparation and coating process***

and Class required

- Tripartite agreement prior to start coating works***

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There are many ambiguities such as

- Edge Grinding***
- Surface preparation on shop primed steel***
- Inspection for PSP***
- Stripe coating***
- DFT measurement***
- Reporting***

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***Need Guideline or Practice for PSPC !
develop KSPIP
for uniform application of PSPC***

KSPIP for PSPC/WBT

1st Edition published : Jun. 2008

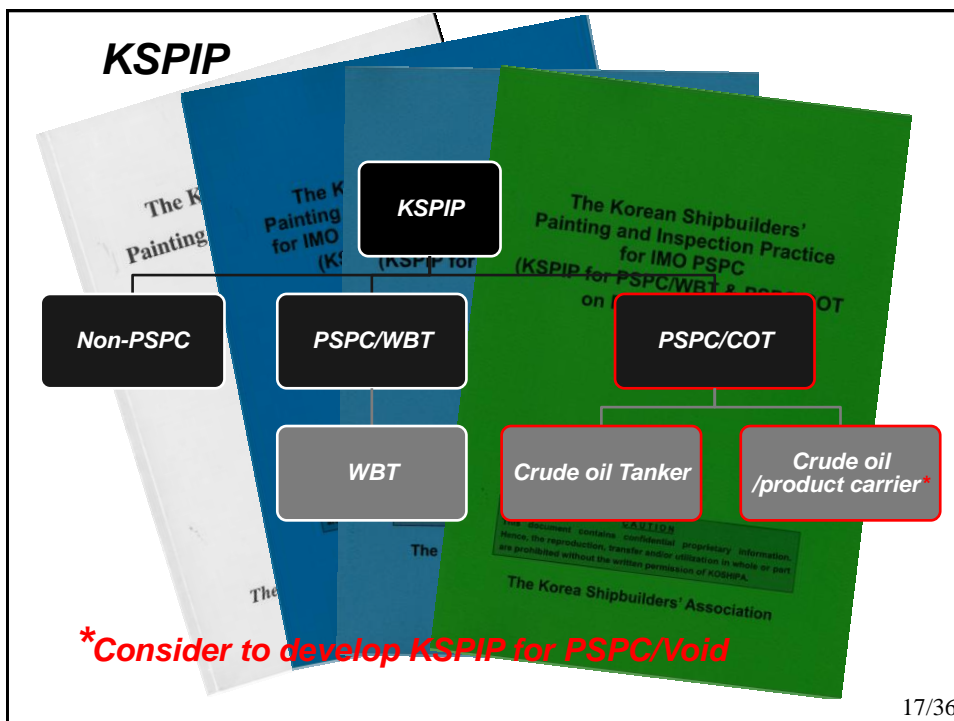
2nd Edition published : Jul. 2010

3rd Edition published : Oct. 2012

KSPIP for PSPC/COT

1st Edition published : Oct. 2012

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References

3rd Edition of KSPIP/WBT refers ;
IMO Resolutions
MSC.1/Circ.1378(IACS UI SC 223)
ISO 16145-1*
Industry guideline
KSPIP for non-PSPC

**ISO 16145 series was developed by ISO TC8/SC8*

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References

1st Edition of KSPIP/COT refers ;
IMO Resolutions
MSC.1/Circ.1378
ISO 16145-3
Industry guideline
KSPIP for non-PSPC

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Contents of KSPIP

Contents

- 1. General***
- 2. Coating***
- 3. Inspection***
- 4. Annexes***

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Annexes

Annexes

- 1. Salt measurement for abrasive***
- 2. Salt measurement for surface***
- 3. Inspection items for each steps***
- 4. Damage assessment***
- 5. CTF***
- 6. Inspection report (sample)***

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Details of KSPIP

Refers JSRA/JSTRA-SPSS for shop primed steel
no ISO standards for shop primed steel

Abrasive control
abrasive should be controlled within a certain salt limit

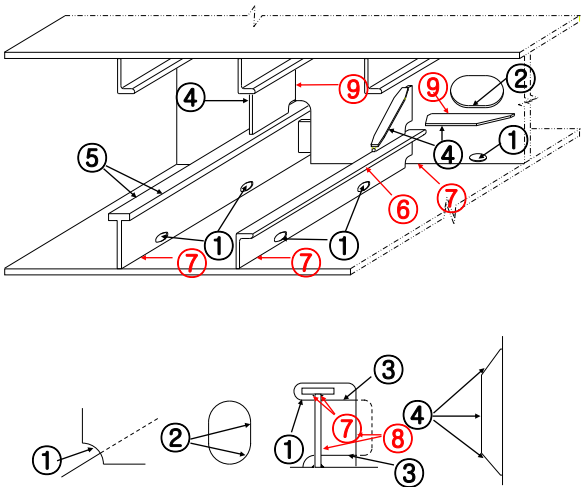
Equivalent process to 3 pass grinding
equivalent process should be considered the coating performance

Definition of damage
damages on shop primer and main coating

Repair of coating
repair of common coating failure on new-building

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Stripe Coating detail



WBT & COT	
①	Small Holes
②	Large Holes
③	Collar Plate
④	Stiffener/Face
⑤	Built-up Edge
⑥	Angle Edge
⑦	Auto Welds
⑧	Manual Welds
⑨	Manual Welds
VOID	
①	Small Holes
②	Large Holes
③	Collar Plate
④	Stiffener/Face
⑤	Built-up Edge

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Details of KSPIP

■ Inspection at each steps

Steps	WBT	Void	COT	COT for P/C
PSP	O	O	O	O
Assembly	O	O	O	O
SSP at Block	O	O	O	-
Coating	O	O	O	-
Block final	O	O	O	-
Damage assessment	O	O	O	-
SSP at Erection	O	O	O	O
Coating	O	O	O	O
Tank final	O	O	O	O

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Details of KSPIP

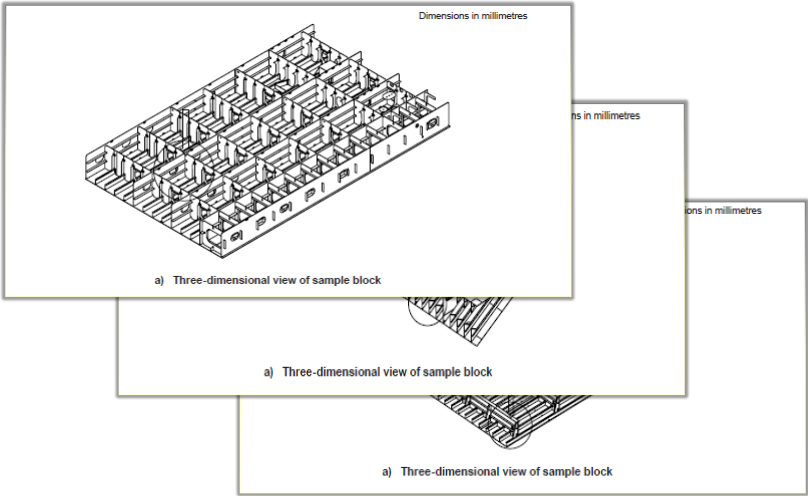
■ Inspection at each steps(example of SSP)

Items	management	time	method	standards
Surface preparation	Coating Inspector or Assistant to coating inspector	Before 1 st coat	All Blocks	ISO 8501-1
roughness				ISO 8503-1/2
Salts				ISO 8502-9 or NACE SP0508-2010
dust				Visual and ISO 8502-3
others				Maker's recommendation

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Details of KSPIP

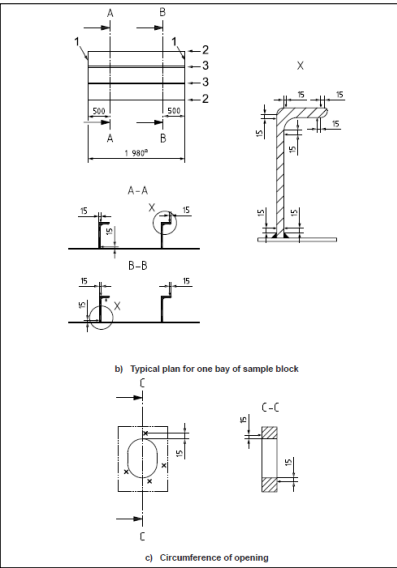
DFT measurement



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Details of KSPIP

DFT measurement



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Details of KSPIP

DFT measurement

Table 7 — Measurement example of dry film thickness for sample block

Category		Standard	Area/length	Number of measurement	Remarks
Flat plate	Outer shell plate, inner bottom plate, girder, web, etc.	One point per 5 m ²	1 271 m ²	255	Eight points per bay (two points: shell plate and inner bottom plate, one point: girder and web)
Support member	Longitudinals, support members	Two points per 2 m to 3 m	628 m	900	Measurement of two sets per frame space
Opening	Circumference of opening	Two points for each opening	55 openings	110	
Boundary of tank		One point per 2 m to 3 m	31 m	11	
Total				1 276	
Circumference of welding joint		Statistical sampling		30	Measurement for exemption of stripe coating

Details of KSPIP

Damage assessment

Annex D
Assessment for the degree of damage

PART 4

1 Assessment for the degree of damage
Following Figure D.1 is used for reference when deciding the % of damage in the tank for selecting the method of surface preparation after pre-erection or erection.

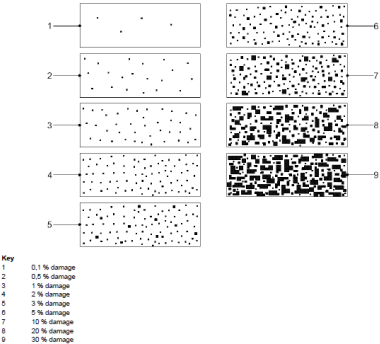


Figure D.1. Reference drawing for degree of damage

Details of KSPIP

Sample form of Report

Example of inspection report

전처리의 검사일지
(Inspection report for Primary Surface Preparation)

일지번호(Sheet No.): PSP-
일지번호(Sheet No.): PSP-

인쇄 번호 (Project number or ship name)			
인쇄 번호 (Plate numbers)			
검사 일자 (Inspection date)			

환경조건(Environmental condition)

건조 온도(°C) (Dry bulb temperature)		비고(Remarks):
상대 습도(%) (Relative humidity)		
이슬점(°C) (Dew point)		
표면 온도(°C) (Surface temperature)		

표면처리(Surface preparation)

표면 거칠기 (Surface profile) (30 ~ 75 µm)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 미세(Fine) <input type="checkbox"/> 보통(Medium) <input type="checkbox"/> 거칠(Coarse)	비고(Remarks):
용해성 염료 (Water soluble salts) (≤50 mg/m²)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	mg/m²	

용 프라이머(Shop primer)

제조사 (Manufacturer)		비고(Remarks):
제품명 (Product name)		
식별기호/번호 (Identification mark/number)		
평균 D.F.T. (Specified D.F.T.)	평균 15 이이크론 ± 5 이이크론 (Average 15 µm ± 5 µm)	

검사(Checked by):

<input type="checkbox"/> 도장검사사 (Coating inspector)	성명(Name):	확인(Verified by):	성명(Name):
<input type="checkbox"/> 도장검사사 (Assistant to coating inspector)	서명(Signature):	도장검사사 (Coating inspector)	서명(Signature):
<input type="checkbox"/> 작업 감독자 (Supervisor)			

Annex F PART 4
KSPIP for PSPCWB

Details of KSPIP

Sample form of Report

Example of inspection report

2차 표면처리 검사일지
(Inspection report for Secondary Surface Preparation)

일지번호(Sheet No.): PSP-
일지번호(Sheet No.): PSP-

인쇄 번호 (Project number or ship name)			
부위명(Part of structure) (Block name/Part No. etc.)			
구조물 (Name of shipyard)			
구분 (Construction stage)	<input type="checkbox"/> 용접집합 / <input type="checkbox"/> 예비 입자입적 / <input type="checkbox"/> 입자입적 (Block assembly / Pre-eraption / Eription)		

철근상태(Steel condition)

검사일자(시) (Inspection date(time))			비고(Remarks):
표면 처리 (Edge grinding)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 불합격(Fail)	
도장 (Spatier)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 불합격(Fail)	
용접선 (Welding line)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 불합격(Fail)	
표면 (Surfacc)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 불합격(Fail)	
기타 (Others)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 불합격(Fail)	

2차 표면처리(Secundary surface preparation)

검사일자(시) (Inspection date(time))			비고(Remarks):
표면 거칠기 (Surface profile) (30 ~ 75 µm)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 미세(Fine) <input type="checkbox"/> 보통(Medium) <input type="checkbox"/> 거칠(Coarse)	
용해성 염료 (Water soluble salts) (≤50 mg/m²)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	mg/m²	
염기 (Alkali)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 불합격(Fail)	
오염물질 (Oil contamination)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 불합격(Fail)	
검사 결과 (Result of inspection)	<input type="checkbox"/> 합격(Pass) <input type="checkbox"/> 불합격(Fail)	<input type="checkbox"/> 불합격(Fail)	

검사(Checked by):

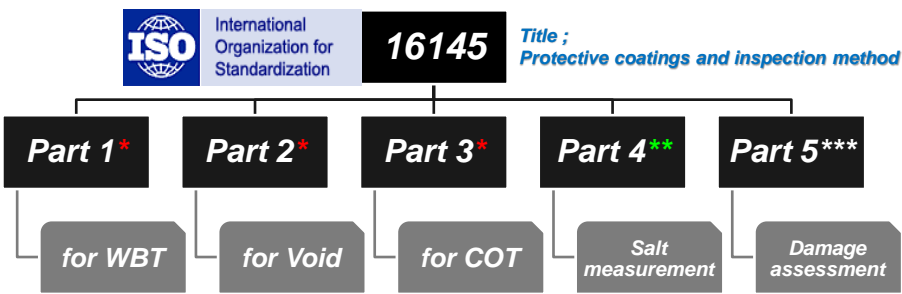
<input type="checkbox"/> 도장검사사 (Coating inspector)	성명(Name):	확인(Verified by):	성명(Name):
<input type="checkbox"/> 도장검사사 (Assistant to coating inspector)	서명(Signature):	도장검사사 (Coating inspector)	서명(Signature):
<input type="checkbox"/> 작업 감독자 (Supervisor)			

Annex F PART 4
KSPIP for PSPCWB

ISO standards for PSPC

34/36

ISO for PSPC



**Part 1/2/3 : published, Oct. 2012*
***Part 4 : published, Jan. 2013*
****Part 5 : under preparation*

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Visit [ISO web-site](https://www.iso.org) for more details

