

		INSPECTION SHEET No.		CTC00805555		TCE00512646	
INSPECTION DESCRIPTION			CP1-2 - QUALITY INSPECTION OF THE PAINT APPLICATION				
SHIP 53C			ORDER No. COS-SMB-200120_E		JOB ORDER FILE CC-200120-22310-13-001- <i>A</i>		
INSPECTION QUALIFICATION		CONSTRUCTOR		INSPECTION MODE		QC	
INSPECTION SUPERVISOR		QC					
ACCEPTANCE CRITERIA		SMB-030610 / SMB-002522 <i>B E</i>					
SCOPE OF INSPECTION		100%					
OBSERVATIONS:							
ELEMENTS TO BE INSPECTED		No. OF INSPECTION RECORD	NO. OF INSPECTION	CONFORM Y N		NCR / RO Nº	
53C-SC4-BT1-PD		<i>CP1-2</i>	CTE00805557	<i>X</i> <i>—</i>		<i>—</i>	
53C-CL105-EL121		<i>CP1-2</i>	CTE00805557	<i>X</i> <i>—</i>		<i>—</i>	
53C-CL105-EL122		<i>CP1-2</i>	CTE00805557	<i>X</i> <i>—</i>		<i>—</i>	
53C-CL105-EL131		<i>CP1-2</i>	CTE00805557	<i>X</i> <i>—</i>		<i>—</i>	
INSPECTION SHEET CLOSURE							
NAME OF INSPECTION SUPERVISOR:				José G. de S. Galvão Inspetor de Pintura Nível - I ABRACO-SNQC - CP N° 0503 Corpo Técnico da Marinha ICN - Itaguaí Construções Navais S/A		ENTITY: <i>C2</i>	
SIGNATURE: <i>[Signature]</i>						DATE: <i>30/01/2019</i>	

CP1-2 : Quality inspection of the paint application

SMB-030610 - B

A: Identification

<u>Inspection request N°:</u> CTE00805557		<u>Job Order technician's name:</u> Macaulay Willian L. R. da Silva	
<u>Order N° (issue):</u> COS-SMB-200120_E	<u>Manufacturing or installation order N° (issue):</u> MANUFACTURING OF FORWARD BATTERY COMPARTMENT	<u>Ship:</u> 53C	
<u>Designation of the product and production phase:</u> 53C-SC4-BT1-PD, 53C-CL105-EL121, 53C-CL105-EL122, 53C-CL105-EL131	<u>Critical surface:</u> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<u>Qualification of the operators:</u> Complete (M)	

B: Lifting of hold points (X)		INSPECTOR Name - Date - Signature	Remarks Anomaly processing sheet
Thickness of dry film of the anti-corrosion system (L)			
Final acceptance (L) of complete system	X	José G. de S. Galvão Inspetor de Pintura Nivel - I 30/07/2019	

C: Designation of measuring instruments	Metrology N°	Validity Date
Elcometer Película Seca	MPL-005	25/07/2019
Teubmetro Contato	THS-006	09/03/2019
Teubmetro Higrômetro	THS-006	09/03/2019

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CP1-2 : Quality inspection of the paint application

K: Application of coating									
Location		CC - 200 420 SBN3 ELEM. COMPART. BATERIA							
Paint applied		INTERGRAD 369							
Paint manufacturer		VERMOREL							
Batch No. (base or dual component) Use-by date		INTERNATIONAL BH8050100							
Hardener batch No. Use-by date		BH8010149							
Surface state before application		i.a.w. indications in chapter F		<input checked="" type="checkbox"/> C <input type="checkbox"/> NC		<input type="checkbox"/> C <input type="checkbox"/> NC		<input type="checkbox"/> C <input type="checkbox"/> NC	
Method of application		Roller: R / Brush: B / Spray gun: P / Airless spray: A		R B P A		R B P A		R B P A	
Dew point* ISO8502-4		T° of support T1 > 5°C		T1: 36.7		T1:		T1:	
		Dew point T2		T2: 23.2		T2:		T2:	
		T1-T2 > 3°C		8.5					
Weather conditions*		Ambient T° (°C)		29.5					
		Relative humidity (%)		69.8					
Mixing ratio		Base (weight)		A= -		A=		A=	
		Hardener (weight)		B= -		B=		B=	
		Base (volume)		A= 4		A=		A=	
		Hardener (volume)		B= 1		B=		B=	
MIX USAGE PERIOD (AT 20°C)		8 HORAS							
COATING TIME		Temperature:		m= -		m=		m=	
				M= -		M=		M=	
		Temperature:		m= -		m=		m=	
				M= -		M=		M=	
		Temperature:		m= -		m=		m=	
				M= -		M=		M=	
Date and time of start of application		29.01.19 15:00HRS							
Name:		Luiz Claudio Gouvea Lousada							
Matricula:		1756							
Signature:		ICM - Itaguaí Construções Navais S/A							

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CP1-2 : Quality inspection of the paint application

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L : Acceptance of paint system

Anti-corrosion dry film thickness check

SMB-326397 -A

- Thickness of anti-corrosion system: ☐ Required ☒ Not required

INSPECTOR

☐ C ☐ NCContractual thickness 'Ec': μm All measurements $\geq 80\%$ of "Ec"Average of all measurements \geq "Ec" and $\leq 3Ec$

20% max. of measurements should be comprised between 0.8Ec and Ec.

Mean thickness
obtained: μm

Name:

Signature:

Date:

Complete system dry thickness check

SMB-326397 -A

- Thickness of anti-corrosion system: ☒ Required ☐ Not required

INSPECTOR

Contractual thickness 'Ec': 50 μm All measurements $\geq 80\%$ of "Ec"Average of all measurements \geq "Ec" and $\leq 3Ec$

20% max. of measurements should be comprised between 0.8Ec and Ec.

Mean thickness
obtained: 443..... μm ☒ C ☐ NC

Appearance check.

SMB-326403 -A

- Alteration of the paint film: ☒ Zero defects☒ C ☐ NC- Appearance defects: ☒ Zero defects ☐ Defect accepted☒ C ☐ NC

Cross-linking check

SMB-326413 -A

☐ Required after applying a zinc ethyl silicate workshop Primer ☒ Not Required☐ C ☐ NCLevel required \geq ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☒ 4 ☐ 5Name: José G. de S. Galvão
Inspetor de Pintura Nivel - I

Signature:

Date:

30/04/2015

CP1-2 : Quality inspection of the paint application

SMB-030610 -B

L: Qualification of operators		Required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										
Date	Operator	Nature of the work (X)						Qualification (X)				
		Surface preparation	Preliminary touch-up	General coat	Final touch-up	Inspection	Confirmed operator	ACQPA / Level 1* Surface preparation	ACQPA / Level 1* Paint application	Inspector certified in anticorrosion		
28.01 2019	VAGNER BENEVUTO MAF: 3762 SNAC-CP-0563	X							X			
29.01 2019	JOSE GENARO GALVÃO					X					X	
29.01 2019	LUÍZ CLAUDIO LOUSADA MAF: 3756 SNAC-CP-0563			X						X		
30.01 2019	JOSE GENARO GALVÃO					X					X	

* or equivalent level recognized by DCNS.