

GIBELA

PRASA PROJECT

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

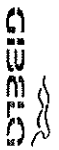
SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

This document and the information contemplated therein have to be considered as Confidential Information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

MOUNTING		DRAWING	DESCRIPTION	STATION	CAR TYPE				WORK INSTRUCTION	SAFETY ?
					TG	M1	M2	M3		
<input type="checkbox"/>	DIR31744/373	A4000043235	CAGEBODY/HELL M2 ASSEMBLY	CB1210					PRA, CB1210 DIR31744 97/3.V25	YES
<input type="checkbox"/>										
REV	DATE	MODIFICATION CONTENT				RESPONSIBLE	NAME	DATE		
0	10/01/2018	GIBELA NEW CREATION				APPROVER	Iumeleng Modiba	10/01/2018		
						CHECKER	Nosizo Pindela	10/01/2018		
						COMPLIER	Thanyani Mathegu	10/01/2018		
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PVE Manager to Quality manager				APPROVER	Iumeleng Modiba	2018/05/18		
						CHECKER	Nosizo Pindela	2018/05/18		
						REVISED BY	Ramkone Morama	2018/05/18		
2	2018/07/04	Certain dimensional checks moved to CB1220 and CB1230				APPROVER	Iumeleng Modiba	2018/07/04		
						CHECKER	Nosizo Pindela	2018/07/04		
						REVISED BY	Ramkone Morama	2018/07/04		
3	2018/12/12	Added dimensional check points to CB1210				APPROVER	Iumeleng Modiba	12/12/2018		
						CHECKER	Nosizo Pindela	12/12/2018		
						REVISED BY	Ramkone Morama	12/12/2018		
5	22/04/2019	As per Baseline 10.2				APPROVER	Iumeleng Modiba	22/04/2019		
						CHECKER	Nosizo Pindela	22/04/2019		
						REVISED BY	Vanessa Ntuli	22/04/2019		
6	13/03/2019	Added D1 and D2 on Self - Inspection				APPROVER	Iumeleng Modiba	13/03/2019		
						CHECKER	Nosizo Pindela	13/03/2019		
						REVISED BY	Nosizo Pindela	13/03/2019		
10	21/06/2019	New Baseline 10.2.5				APPROVER	Iumeleng Modiba	21/06/2019		
						CHECKER	Nosizo Pindela	21/06/2019		
						REVISED BY	Nosizo Pindela	21/06/2019		
15	06/06/2020	New Baseline 10.2.6				APPROVER	Timothy Maimela	06/06/2020		
						CHECKER	Bongane Masina	06/06/2020		
						REVISED BY	Bongane Masina	06/06/2020		
20	19/04/2021	New Baseline change 10.3				APPROVER	Timothy Maimela	19/04/2021		
						CHECKER	Bongane Masina	19/04/2021		
						REVISED BY	Bongane Masina	19/04/2021		
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING				APPROVER	Mkhombi collins	17/08/2021		
						CHECKER	Mpho Mulaudzi	17/08/2021		
						REVISED BY	Mpho Mulaudzi	17/08/2021		
25	21/02/2022	New Baseline change 10.3.1				APPROVER	Mkhombi collins	21/02/2022		
						CHECKER	Andani Muthelo	21/02/2022		
						REVISED BY	Andani Muthelo	21/02/2022		
26	14/04/2023	Addition of welding consumable traceability				APPROVER	Ntuli Vanessa	14/04/2023		
						CHECKER	Mohamphe Amogelang	14/04/2023		
						REVISED BY	Mohamphe Amogelang	14/04/2023		
27	27/07/2023	Added verification of loaded parts				APPROVER	Ngobeni Tyson	27/07/2023		
						CHECKER	Zwane Ntokozo	27/07/2023		
						REVISED BY	Mohamphe Amogelang	27/07/2023		
28	07/11/2023	Addition of welder traceability				APPROVER	Ngobeni Tyson	07/11/2023		
						CHECKER	Andani Muthelo	07/11/2023		
						REVISED BY	Ntokozo Zwane	07/11/2023		
TRAINSET	CAR	OPERATOR NUMBERS/NO	DATE	SELF INSPECTION NUMBER	PAGES					
15013	M2	P.MAATSI	01/02/2024	SI.CB1210.247.V28	17					

GIBELA
INDUSTRIAL QUALITY
-02- 01
ONLINE



CARBODYSHELL M2 ASSEMBLY DTR313744973





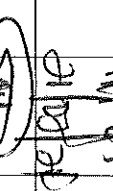
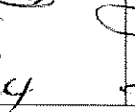

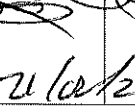

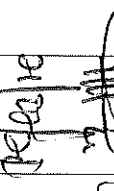
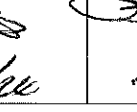
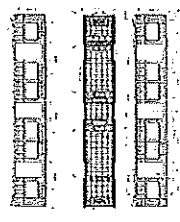
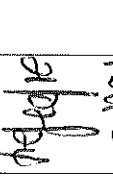
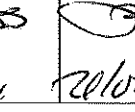

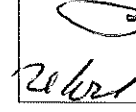
Rev. 28

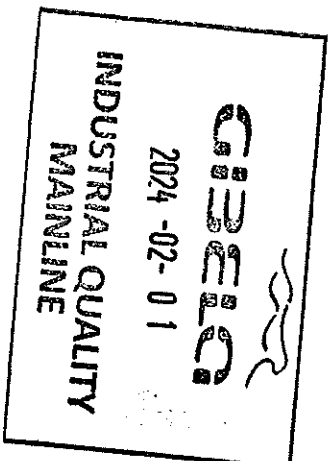
Project: PRASA
SI,CB1210.247.V28

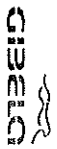
Date
07/11/2023

II - Self Inspection - Items to Check

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Manufacturer)	Signature/Date (Quality)
01	N/A	Verification of correct ports loaded (Sidewalls, Endframes, Roof and Underframe)	AA00001375051	✓	 21/10/24	 21/10/24
02	N/A	Carshell free of significant flows which compromise the appearance or functionality	DTD0000210675	✓	 21/10/24	 21/10/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD00000210675	✓	 21/10/24	 21/10/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TTPDEF - ARC - 0000	✓	 21/10/24	 21/10/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓	 21/10/24	 21/10/24
06		Functional dimensions approved according drawing or complementary document approved by Astrom engineering and registered in this document	Approved according specified on pages below.	✓	 21/10/24	 21/10/24
07	N/A	Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and filler sampling as described in DTD00000210658.	As the welding procedure IND-SAL-WMS-018 and DTD00000210658.	✓	 21/10/24	 21/10/24





CARBODYSHELL M2 ASSEMBLY DTR313744973

Rev.

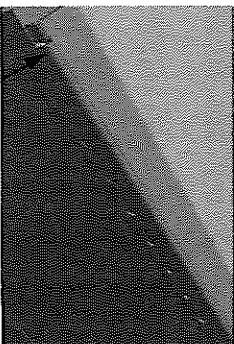
28

Project: PRA5A
SI.CB1210.247.V28

Date
07/11/2023


Welder traceability

Roof ring welds



LHS

Boiler maker (Name & Sign):

SEAN 

Welder (Name & Sign):

Traberg 

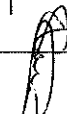
END 1

RHS

Boiler maker (Name & Sign):

SEAN 

Welder (Name & Sign):

Sprinkles 

LHS

Boiler maker (Name & Sign):

SEAN 

Welder (Name & Sign):

Traberg 

END 2

RHS

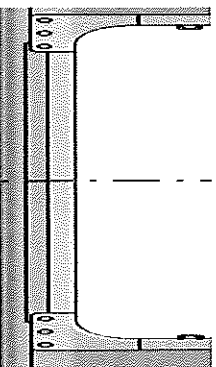
Boiler maker (Name & Sign):

SEAN 

Welder (Name & Sign):

Sprinkles 

Door ring welds



LHS

Boiler maker (Name & Sign):

WILSON 

Welder (Name & Sign):

SKL 

RHS

Boiler maker (Name & Sign):

WILSON 

Welder (Name & Sign):

SKL 



2024-02-01

INDUSTRIAL QUALITY
AS A MINIMUM

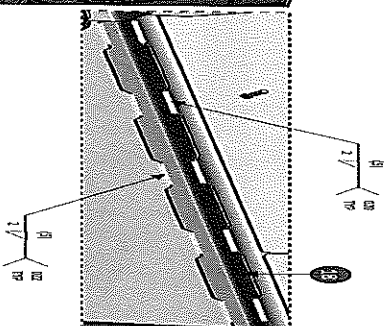
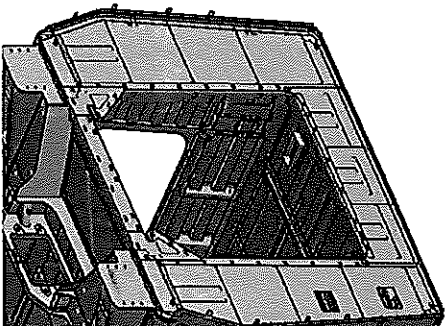


CARBODYSHELL M2 ASSEMBLY DTR3137/44973

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28
Date
07/11/2023

Project: PRASA
SI.CB1210.247.V28

EUF Reinforcement Plates



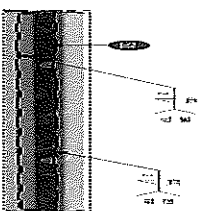
GIBELCO
2024-02-01
INDUSTRIAL QUALITY
MAINLINE

END 1

Boiler maker (Name & Sign): [Signature]

Welder (Name & Sign): SIFTHOKAZI

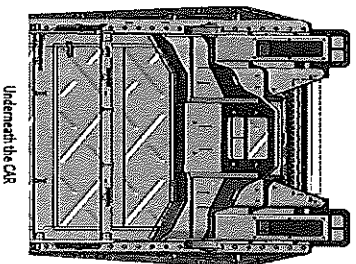
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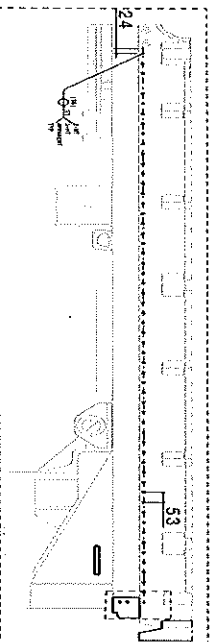
END 2

Boiler maker (Name & Sign): [Signature]

Welder (Name & Sign): Thabary



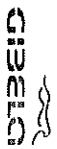
Underneath the CAR



FEDOU

OPERATOR:

[Signature]

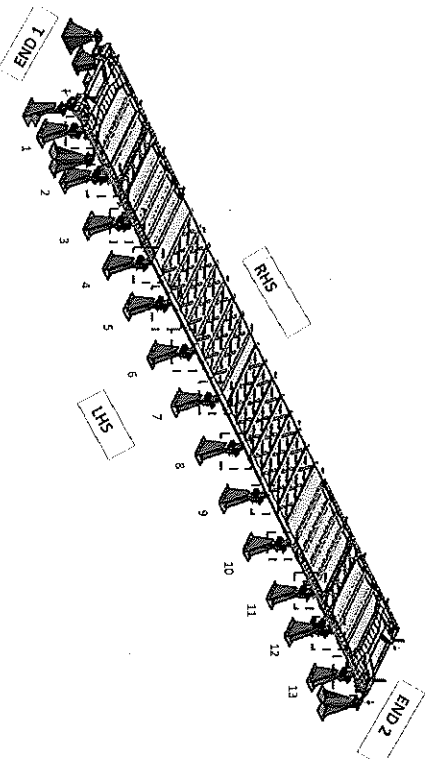


CARBODY/SHELL M2 ASSEMBLY DTR31374497/3

Rev.
28
Date
07/11/2023

Project: PRASA
SI.CB1210.247.V28

Specifications of Details for CBS measurement



Measure gap between jig pillar / chair and underframe = 0mm. No

After loading and clamping

Fill in the gap foundon each jig pillars / chair and underframe should be 0mm.

	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand side	00	0	1	00	0	1	2	00	0	0	0	0	0
Right Hand Side	00	0	1	00	0	1	2	00	0	0	0	0	0

Signature Operations:

Date:

[Signature]
21/07/24

After Welding.

Fill in the gap found each jig pillars / chair and underframe should be 0mm.

	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand Side	00	1	0	0	0	0	0	10	0	0	0	0	0
Right Hand side	00	1	0	0	0	0	0	0	0	0	0	0	0

Signature Industrial Quality:

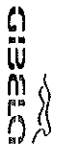
Date:

[Signature]
21/07/24

[Signature]
CARBODY/SHELL

2023-02-01

INDUSTRIAL QUALITY
MAIN LINE



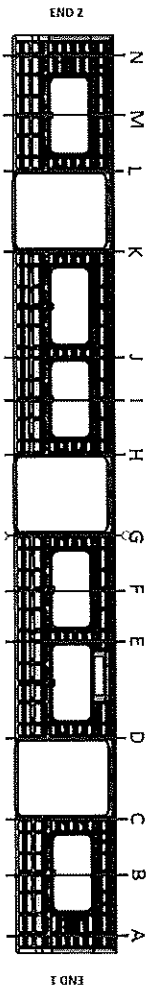
CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.
28
Date
07/11/2023

Project: PRASA
SI.CB1210.247.V28

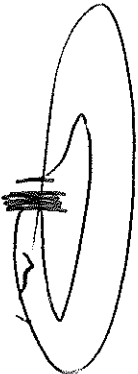
Specifications of Details for CBS measurement

BEFORE WELDING

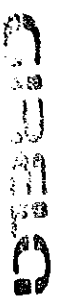


Note: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A <input type="text" value="3066"/>	<input type="text" value="3066"/>	<input type="text" value="0"/>	<input type="text" value="2404"/>	<input type="text" value="2404"/>	<input type="text" value="0"/>
B <input type="text" value="3067"/>	<input type="text" value="3068"/>	<input type="text" value="1"/>	<input type="text" value="2405"/>	<input type="text" value="2404"/>	<input type="text" value="1"/>
C <input type="text" value="3068"/>	<input type="text" value="3067"/>	<input type="text" value="1"/>	<input type="text" value="2406"/>	<input type="text" value="2405"/>	<input type="text" value="1"/>
D <input type="text" value="3069"/>	<input type="text" value="3071"/>	<input type="text" value="2"/>	<input type="text" value="2407"/>	<input type="text" value="2404"/>	<input type="text" value="0"/>
E <input type="text" value="3069"/>	<input type="text" value="3069"/>	<input type="text" value="0"/>	<input type="text" value="2406"/>	<input type="text" value="2404"/>	<input type="text" value="2"/>
F <input type="text" value="3070"/>	<input type="text" value="3069"/>	<input type="text" value="1"/>	<input type="text" value="2405"/>	<input type="text" value="2404"/>	<input type="text" value="0"/>
G <input type="text" value="3071"/>	<input type="text" value="3071"/>	<input type="text" value="0"/>	<input type="text" value="2404"/>	<input type="text" value="2403"/>	<input type="text" value="1"/>
H <input type="text" value="3069"/>	<input type="text" value="3066"/>	<input type="text" value="3"/>	<input type="text" value="2404"/>	<input type="text" value="2406"/>	<input type="text" value="2"/>
I <input type="text" value="3068"/>	<input type="text" value="3067"/>	<input type="text" value="1"/>	<input type="text" value="2405"/>	<input type="text" value="2405"/>	<input type="text" value="0"/>
J <input type="text" value="3069"/>	<input type="text" value="3068"/>	<input type="text" value="1"/>	<input type="text" value="2404"/>	<input type="text" value="2405"/>	<input type="text" value="1"/>
K <input type="text" value="3068"/>	<input type="text" value="3068"/>	<input type="text" value="0"/>	<input type="text" value="2406"/>	<input type="text" value="2406"/>	<input type="text" value="0"/>
L <input type="text" value="3069"/>	<input type="text" value="3068"/>	<input type="text" value="1"/>	<input type="text" value="2404"/>	<input type="text" value="2405"/>	<input type="text" value="1"/>
M <input type="text" value="3068"/>	<input type="text" value="3067"/>	<input type="text" value="1"/>	<input type="text" value="2404"/>	<input type="text" value="2404"/>	<input type="text" value="0"/>
N <input type="text" value="3069"/>	<input type="text" value="3068"/>	<input type="text" value="1"/>	<input type="text" value="2404"/>	<input type="text" value="2405"/>	<input type="text" value="1"/>



409964
21/02/24



MDA-02-U1

INDUSTRIAL QUALITY
WARRANTY

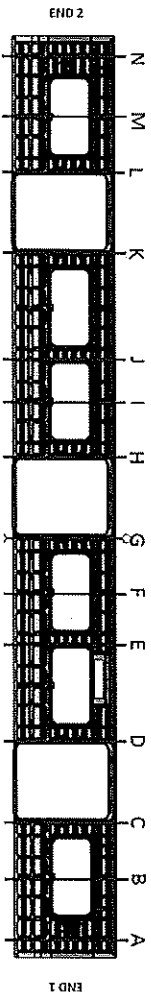


CARBODYSHELL M2 ASSEMBLY DTR31374497/3

REV. 28
Date 07/11/2023
Project: PRASA
SI.CB1210.247.V28

Specifications of Details for CBS measurement

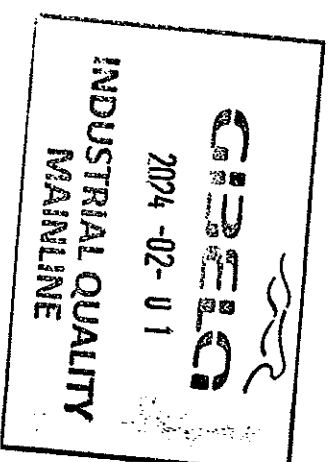
AFTER WELDING

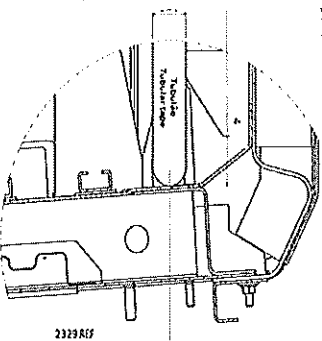
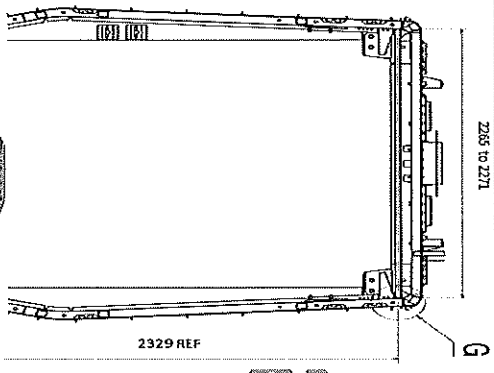
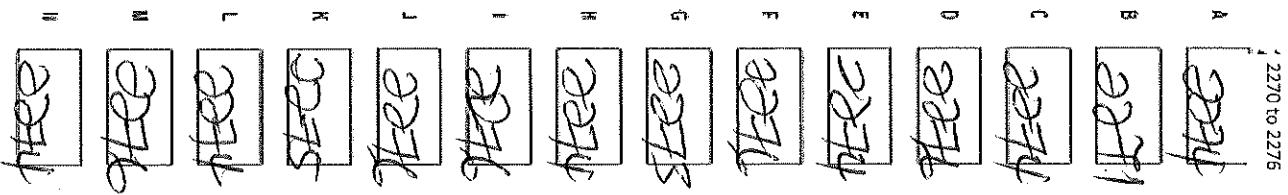
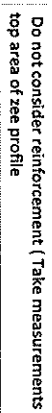


Note: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A 3396	3399	1	2404	2404	0
B 3369	3365	1	2406	2405	1
C 3395	3396	1	2404	2404	0
D 3298	3296	2	2406	2405	1
E 3369	3367	2	2404	2405	1
F 3368	3368	0	2405	2405	0
G 3396	3395	1	2404	2404	0
H 3398	3396	2	2406	2404	2
I 3368	3368	0	2404	2405	1
J 3369	3368	1	2404	2404	0
K 3398	3396	1	2406	2405	1
L 3398	3396	2	2404	2406	2
M 3369	3367	2	2405	2404	1
N 3398	3396	1	2405	2404	1

Handwritten signature and date: 07/11/2023





Detail 6

Considering the reinforcement plate

708-2-2-1
DEPARTMENT OF QUALITY
ASSURANCE

people

WJL

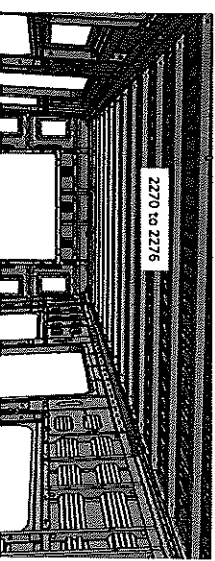
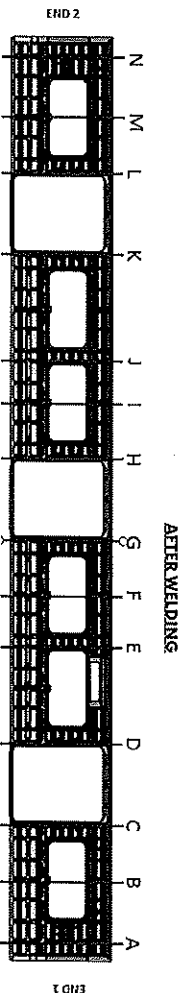
THE

CIBELQ

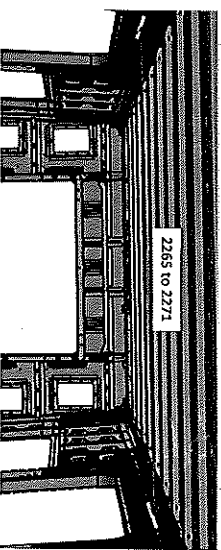
CARBOYSHELL M2 ASSEMBLY DTR313744973

Rev.	28	Project: PRASA SI.CB1210.247.V28
Date	07/11/2023	

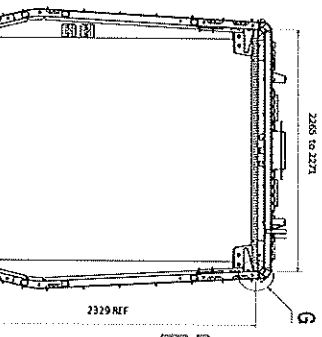
CBS measurement



Do not consider reinforcement (Take measurements top area of zee profile

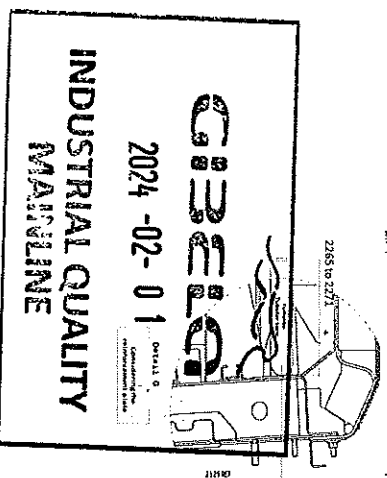


Take measurement close to radius (considering reinforcement)



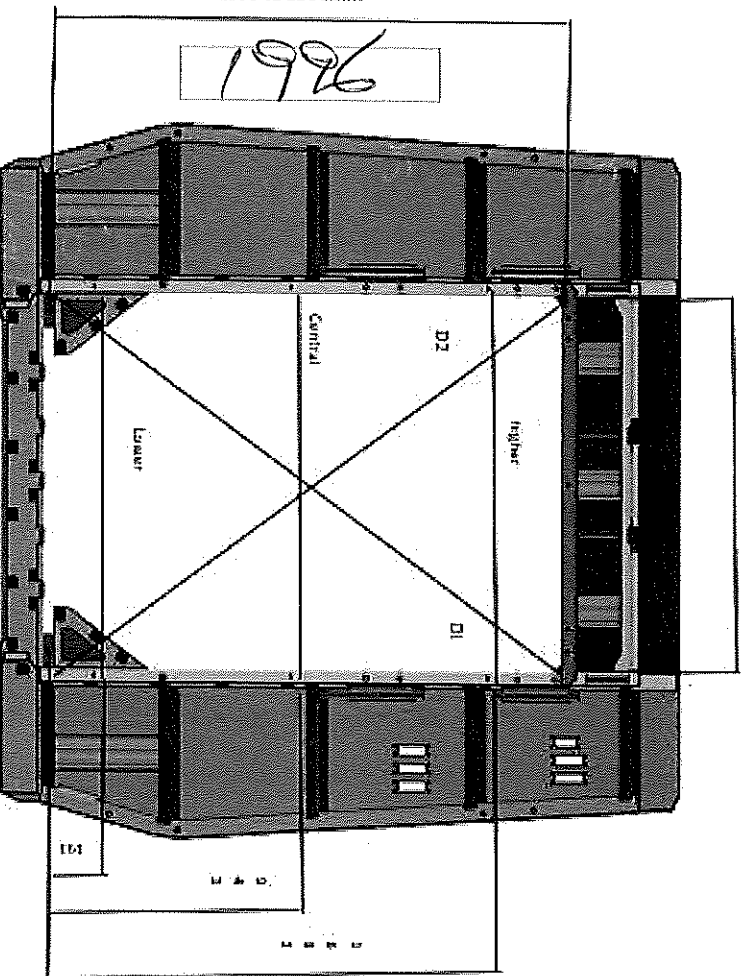
	2265 to 2271	2270 to 2276
A	2265	N/A
B	N/A	2276
C	2265	N/A
D	2268	N/A
E	N/A	2276
F	N/A	2276
G	2268	N/A
H	2266	N/A
I	N/A	2274
J	N/A	2275
K	2269	N/A
L	2265	N/A
M	N/A	2273
N	2269	N/A

to be 21/22/23



INDUSTRIAL QUALITY
MAINLINE

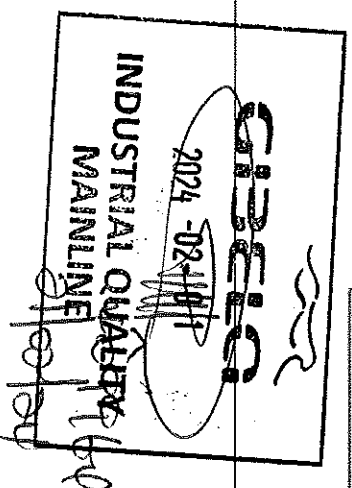
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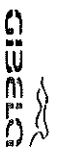


DIAGONAL DIFFERENCE D1-D2 $\leq 3\text{mm}$

24/6

file





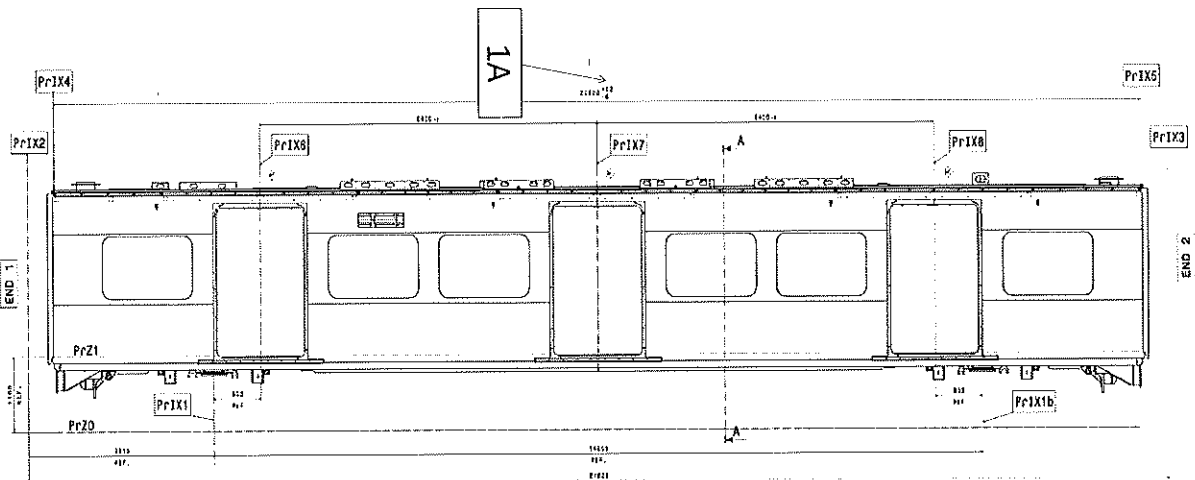
CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.	Project: PRASA
28	SI.CB1210.247.V28
Date	
07/11/2023	

Specifications of Details for CBS measurement

LEFT SIDE	
SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614
	20615

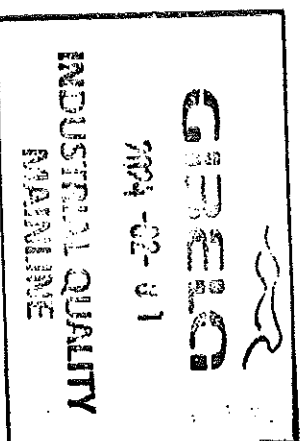
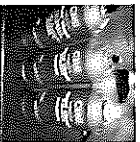
RIGHT SIDE	
SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614
	20615



Handwritten signature and date: 20/06/24

Dye penetrant test

Dye-penetration test to be performed by quality personnel



	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
		Date 07/11/2023	

Self Inspection - Final Result

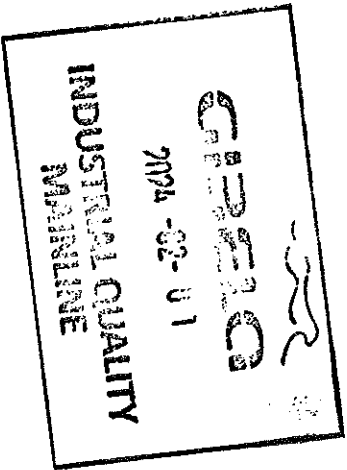
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)		DATE	NAME	SIGNATURE
HOLD POINT	<div> <div>GO</div> <div> (If activities are not complete, the missing activities must not impact the next stage) Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the component party.) There are activities pending that impact the activities of the next process Obs. (To describe problems below) There are non-conformities impact the quality of the product and there is no corrective action defined yet! </div> </div>			

In case of "NO GO", describe blocking problems

In case of "NO GO", the operations manager must define below action plan to ensure "GO".				
Item	Description	Responsible	Due date	Status

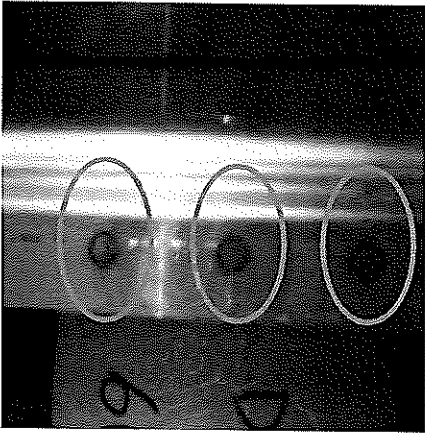
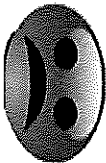
Operations

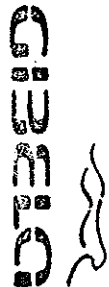
Quality



	CARBODYSHELL M2 ASSEMBLY DTR31374497/3		Rev. 28	Project: PRASA SI.CB1210.247.V28
			Date 07/11/2023	

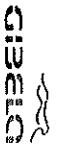
ANNEXURE A: Spot Welding Quality Acceptance Standard



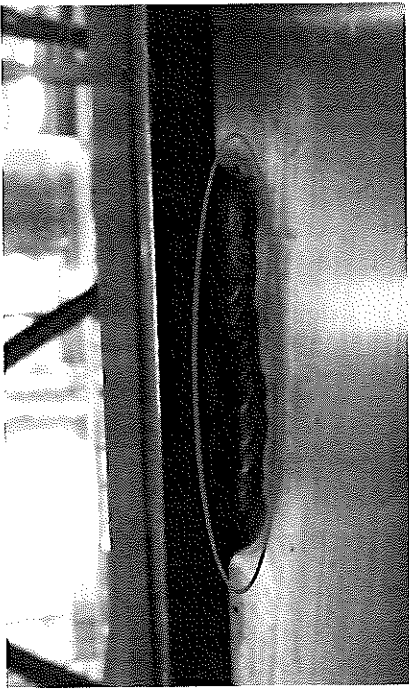
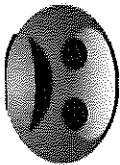
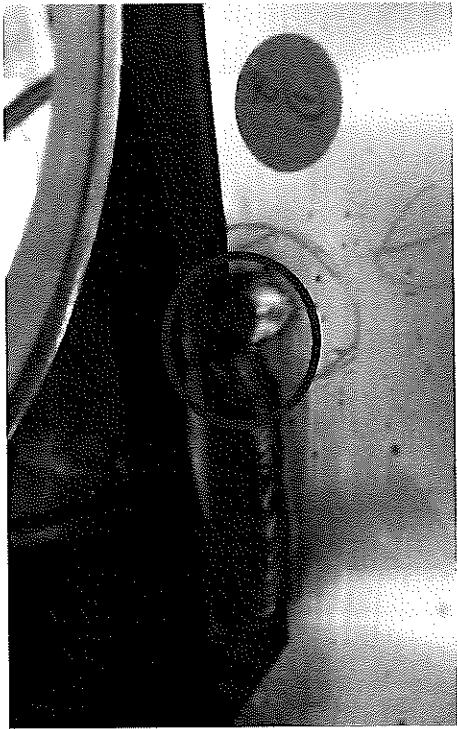


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	CARBODYSHELL M2 ASSEMBLY DTR313744973		Rev. 28	Project: PRASA SI.CB1210.247.V28
			Date 07/11/2023	

ANNEXURE B: Arc Welding Quality Acceptance Standard





APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

CONFIDENTIAL INFORMATION
This document and the information contemplated therein have to be considered as Confidential Information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

APPLICATION REFERENCE													
MOUNTING		DRAWING	DESCRIPTION	STATION	TO	FM	RE	NO	TO	GRIP		WORK INSTRUCTION	SAFETY
<input type="checkbox"/>	07/5/17-4/9/17	A40000-A1200	CORROSIONAL HAZ ASSP/PMI	CR230								POL-GR1220-07/03/17-4/07/17	YES
<input type="checkbox"/>												7/17	
<input type="checkbox"/>													
<input type="checkbox"/>													
<input type="checkbox"/>													
<input type="checkbox"/>													
<input type="checkbox"/>													
<input type="checkbox"/>													
REV	DATE	MODIFICATION CONTENT			RESPONSIBLE				NAME		DATE		
0	01/02/2018	GIEBA NEW CREATION			APPROVER				Iumeng Modiba		01/02/2018		
					CHECKER				Nesozo Pheloa		01/02/2018		
					COMPLER				Thanyani Mathungu		01/02/2018		
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PWE Manager to Quality manager			APPROVER				Iumeng Modiba		18/05/2018		
					CHECKER				Nesozo Pheloa		18/05/2018		
					REVISED BY				Ramodimo Matema		18/05/2018		
2	2018/07/05	Certain dimensional checks added and others moved to CR2110			APPROVER				Iumeng Modiba		2018/07/05		
					CHECKER				Nesozo Pheloa		2018/07/05		
					REVISED BY				Ramodimo Matema		2018/07/05		
3	2018/06/12	Width tolerance as per DT000036600			APPROVER				Iumeng Modiba		2018/06/12		
					CHECKER				Nesozo Pheloa		2018/06/12		
					REVISED BY				Nesozo Pheloa		2018/06/12		
5	24/01/2019	As per Baseline 10.2			APPROVER				Iumeng Modiba		24/01/2019		
					CHECKER				Vanessa Ntuli		24/01/2019		
					REVISED BY								
6	19/03/2019	Added D1 and D2 on Self-Inspection length measurements			APPROVER				Iumeng Modiba		19/03/2019		
					CHECKER				Nesozo Pheloa		19/03/2019		
					REVISED BY				Nesozo Pheloa		19/03/2019		
7	27/05/2019	Removed measurement positions on the display windows			APPROVER				Iumeng Modiba		27/05/2019		
					CHECKER				Nesozo Pheloa		27/05/2019		
					REVISED BY				Nesozo Pheloa		27/05/2019		
10	22/08/2019	New Baseline 10.3.5			APPROVER				Iumeng Modiba		22/08/2019		
					CHECKER				Nesozo Pheloa		22/08/2019		
					REVISED BY				Nesozo Pheloa		22/08/2019		
13	06/08/2020	New Baseline 10.2.6			APPROVER				Timothy Muthela		06/08/2020		
					CHECKER				Bongane Mema				
					REVISED BY				Bongane Mema				
20	19/04/2021	New Baseline change 10.3			APPROVER				Timothy Muthela		19/04/2021		
					CHECKER				Bongane Mema				
					REVISED BY				Bongane Mema				
21	17/09/2021	ADDED DIMENSIONS BEFORE WELDING			APPROVER				Mphahlele Mphahlele		17/09/2021		
					CHECKER				Mphahlele Mphahlele				
					REVISED BY				Mphahlele Mphahlele				
25	20/02/2022	New Baseline change 10.3.1			APPROVER				Mphahlele Mphahlele		20/02/2022		
					CHECKER				Andani Muthela				
					REVISED BY				Andani Muthela				
26	14/06/2022	Update Minimum temperature requirement for coolant application			APPROVER				Mphahlele Mphahlele		14/06/2022		
					CHECKER				Andani Muthela				
					REVISED BY				Andani Muthela				
28	14/04/2023	Added coolant batch number & welding consumables traceability			APPROVER				Vanessa Ntuli		14/04/2023		
					CHECKER				Nesozo Pheloa				
					REVISED BY				Nesozo Pheloa				
29	28/10/2023	Addition of tracer quantity			APPROVER				Thanyani Mathungu		28/10/2023		
					CHECKER				Khehona Mathungu				
					REVISED BY				Iumeng Modiba				
TRAINSET		CAR	OPERATOR MASTER ALPS NO		DATE		SELF INSPECTION NUMBER		PAGES				
213	M2	1166	4004	2010024	SI-CB1220-276-V29		15						



CARBODYSHELL M2 ASSEMBLY DTR313744372

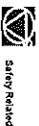
Rev. 29
Date 29/10/2023
Project: PRASA
SI.CB1220.276.V29

Car: M2

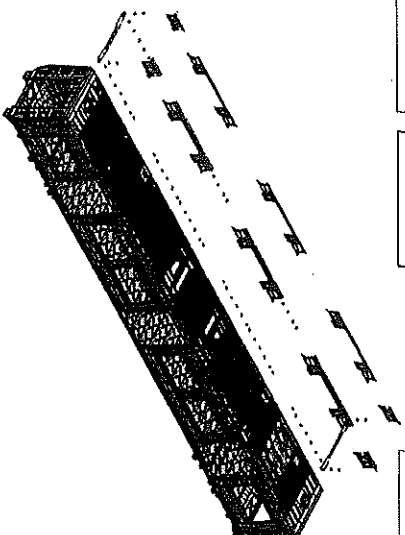
NCR:

Work station:

CB1220



Safety Related




1 - Documentation and Instruments Control

L1 - Documentation Control

Document	Type of car					Revision	Question	OK	Signature Date (Manufacturing)	Signature Date (Quality)
	101	111	121	131	141					
DTR313744372										


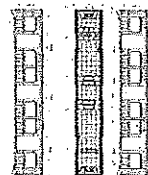
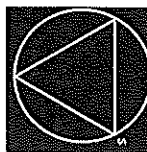
L2 - Instruments Control


Monitoring and Measuring Instrument Control - Used for Special Process						
Instrument	Serial number	Calibration or Verification Validation Date	OK	Signature Date (Manufacturing)	Signature Date (Quality)	
Measuring tape	61610391	05/04/2024	V	Modis	24/02/24	
Probalor	22713	08/08/2024	V	Modis		
1.3 Consumables						
Welding Consumable Control - Used for Special Process						
Welding Material	Heat Number	Welding Process	OK	Signature Date (Manufacturing)	Signature Date (Quality)	
308 1.0 mm	031067	MIG	V	Modis	24/02/24	



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	CARBODYSHELL MZ ASSEMBLY DTR313744972		Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.276.V29
	II - Self Inspection - Items to Check			

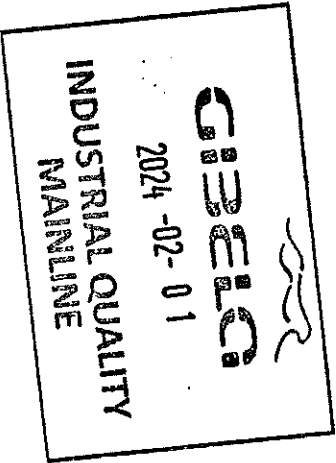
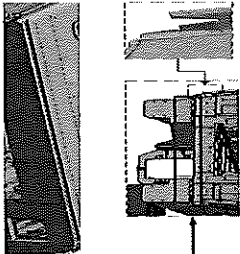
II.1 - Items to check					
Item	Pictured drawing	Description	Acceptance criteria / Record	OK	Signature Date (Manufacturing)
01	N/A	Assembly according to Instruction Engineering n° PR.CB220.DT0111497/2 Verification of fitment for all reinforcement brackets.	PR.CB220.DT0111497/2	✓	Machin 22/10/24 23/10/24
02	N/A	Carbide free of significant flaws which compromise the appearance or functionality	DT00000210075	✓	Machin 22/10/24 23/10/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO CIR - TTPDEF - ARC - 0000	✓	Machin 22/10/24 23/10/24
04		Cleaning of all Structural Steel Surface	According to CIR-WEL - PROC. 0002	✓	Machin 22/10/24 23/10/24
05		Functional dimensions approved according drawing or complementary document approved by Atsom engineering and registered in this document.	Approved according specified on pages below.	✓	Machin 22/10/24 23/10/24
06		Perform visual inspection of welds in 200% of the project. Run by permanent testing in electric arc welding (weld only) as IND-SAL-WMS-016. Run by permanent testing welds (weld ring) and filler sampling as described in DT00000210054.	As the welding procedure IND-SAL-WMS-016 and DT00000210054.	✓	Machin 22/10/24 23/10/24
07	N/A	Before application of sealant record the apply date and make sure that the room temperature and humidity are within specified values as per WSPC instructions. Start date: 10°C Temperature Min. - Max (1) Min-Max 20°C Relative Humidity Min. - Max (1) Min-Max 25% Max 15 60%	Sealant Batch No: IND-SAL-TD-01 Exp Date: 03/03/24 Actuals: Temperature: 30°C Humidity: 50%	✓	Machin 22/10/24 23/10/24
08	N/A	Verification of sealant application in certain register in the drawing.	AAD000143339	✓	Machin 22/10/24 23/10/24


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	CARBODYSHELL M2 ASSEMBLY DTR31374497/2		Rev. 29	Project: PRASA
	28/10/2023		Date 28/10/2023	S1.CB1220.276.V29

SEALANT APPLICATION
 AREA 1 & 2 END 1

Operator (Name & sign): Priscilla
 Operator (Name & sign): Priscilla

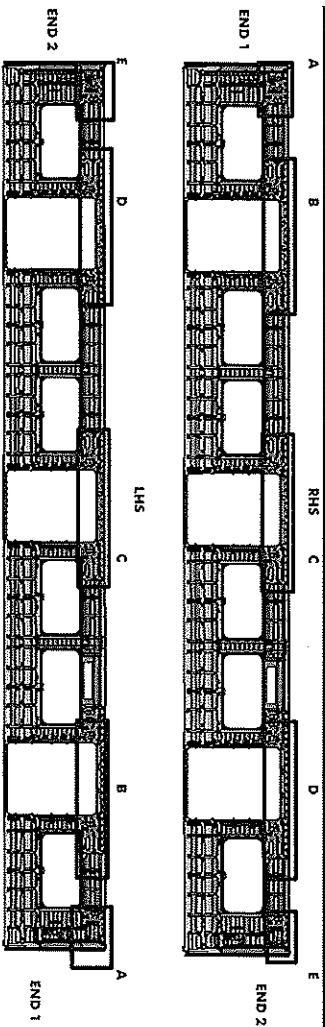


2






 GIBELCO	CARBODYSHELL M2 ASSEMBLY DTR3137/44872		Rev.	Project: PRASA
			29	
			Date	
			28/10/2023	
		SI.CB1220.276.V29		


II - Self Inspection - Items to Check

II - Self Inspection - Items to Check



REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>Luisa</u> 	
B	Operator (Name&sign): <u>Luisa</u> 	
C	Operator (Name&sign): <u>Margarita / Mphire</u>	<u>Margarita Mphire</u>
D	Operator (Name&sign): 	<u>Keturu K. Mphire</u>
E	Operator (Name&sign): <u>Keturu K. Mphire</u>	<u>Keturu K. Mphire</u>

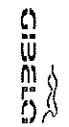


GIBELCO

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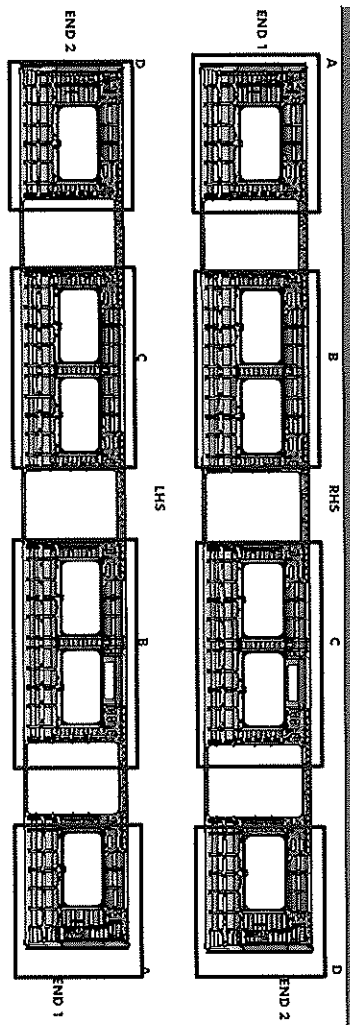
MAINLINE



CARBODYSHELL M2 ASSEMBLY DTR313744972

Rev.	29	Project: PRASA
Date:	28/10/2023	SI.CB1220.276.V29

II - Self Inspection - Items to Check



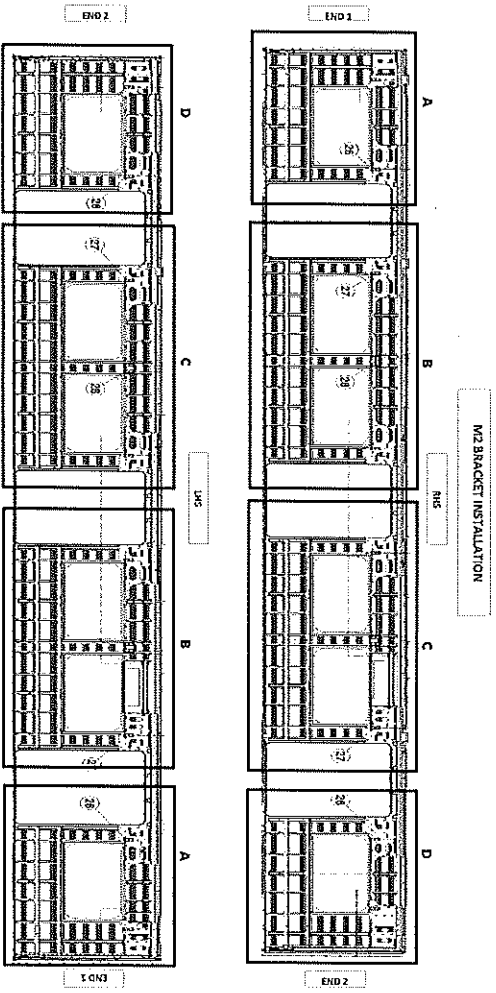
BRACKETING

CRAILS:	Operator:	<u>Pisilla</u>	INSTALLATION
DOOR MECHANISMS:	Operator:	<u>len</u>	
TAPPING PADS	Operator:	<u>en</u>	
SEAT & LUGGAGE BRACKETS:	Operator:	<u>Tebo</u>	INSTALLATION & VERIFICATION
SEAT BRACKET VERIFICATION:	Operator:	<u>Tebo</u>	

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WELDING

AREA	LHS	RHS
A (Seat brackets)	Operator (Name&sign): <u>Mosbar</u>	Operator (Name&sign): <u>S. AD (en)</u>
(C-rails, Luggage and earth bushes)	Operator (Name&sign): <u>Mosbar</u>	Operator (Name&sign): <u>S. AD (en)</u>
B (Seat brackets)	Operator (Name&sign): <u>Mosbar</u>	Operator (Name&sign): <u>THULANI</u>
(C-rails, Luggage and earth bushes)	Operator (Name&sign): <u>THULANI</u>	Operator (Name&sign): <u>THULANI</u>
C (Seat brackets)	Operator (Name&sign): <u>Sibies</u>	Operator (Name&sign): <u>THULANI</u>
(C-rails, Luggage and earth bushes)	Operator (Name&sign): <u>THULANI</u>	Operator (Name&sign): <u>THULANI</u>
D (Seat brackets)	Operator (Name&sign): <u>Sibies</u>	Operator (Name&sign): <u>THULANI</u>
(C-rails, Luggage and earth bushes)	Operator (Name&sign): <u>Sibies</u>	Operator (Name&sign): <u>THULANI</u>
ENDS		
END 1 TAPPING PADS WELDING:	Operator (Name&sign): <u>Mosbar</u>	Operator (Name&sign): <u>Mosbar</u>
END 2 TAPPING PADS WELDING:	Operator (Name&sign): <u>Mosbar</u>	Operator (Name&sign): <u>Mosbar</u>



QUANTITIES (M2)

M2S

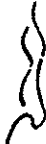
SECTION	QUANTITY	OK	NOK
C-RAILS	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	
SEAT BRACKETS	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	
EARTH BUSH	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	

ROOF ENDS:
CHAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END
VERIFICATION BY: Mashud

M2S

SECTION	QUANTITY	OK	NOK
C-RAILS	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	
SEAT BRACKETS	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	
EARTH BUSH	6	✓	
	6	✓	
	6	✓	
	6	✓	
	6	✓	

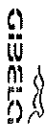
ROOF ENDS:
CHAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END
VERIFICATION BY: Mashud



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2024 -02- 01

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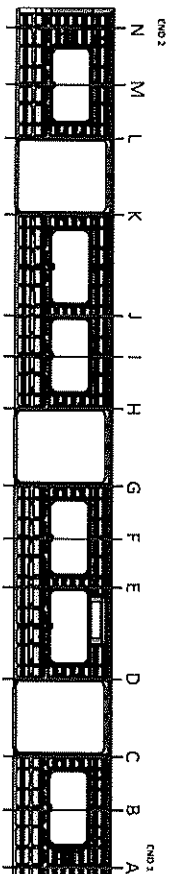
CARBODYSHELL MZ ASSEMBLY DTR313744972

Rev.	29
Date	28/10/2023

Project: PRASA

SI.CB1220.276.V29

CBS Measurement



BEFORE WELDING

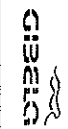
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	32914	32916	2	
B	3268	3264	4	
C	3297	3294	3	
D	3297	3300	3	
E	3264	3268	4	
F	3264	3265	1	
G	3299	3297	2	
H	3299	3298	1	
I	3268	3264	4	
J	3264	3270	6	
K	3296	3300	4	
L	3294	3299	3	
M	3274	3275	6	
N	3301	3295	3	

N/A



2024-02-01

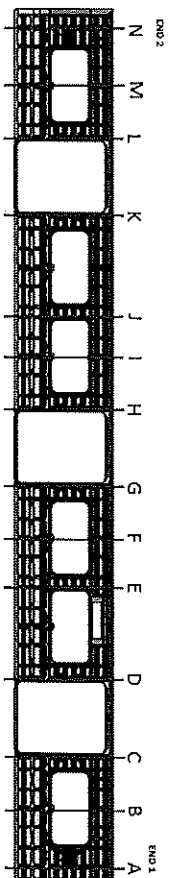
INDUSTRIAL QUALITY
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CARBODYSHELL M2 ASSEMBLY DTR313744972

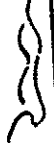
Rev. 29
Date 28/10/2023
Project: PRASA
SI.CB1220.276.V29

CBS measurement

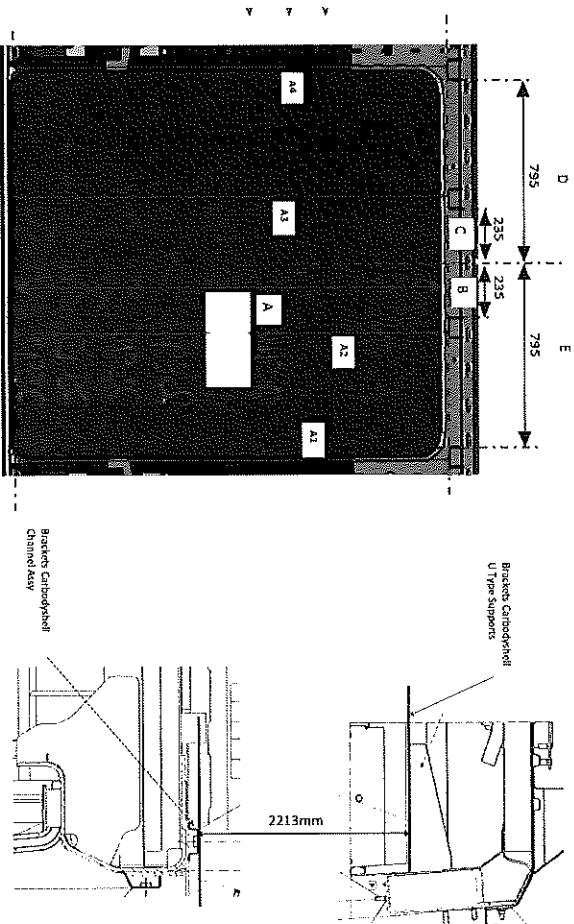


AFTER WELDING

Record D1 values		Record D2 values		D1-D2 ≤ 5mm		2589 to 2595	
A	3297	3295		2		2594	
B	3265	3268		3		2570	
C	3296	3299		3		2589	
D	3299	3297		2		2594	
E	3261	3264		3		2595	
F	3265	3266		1		2592	
G	3298	3299		1		2594	
H	3297	3299		2		2594	
I	3264	3267		3		2594	
J	3270	3266		4		2595	
K	3301	3299		2		2595	
L	3297	3299		2		2592	
M	3270	3266		4		2591	
N	3301	3297		4		2594	


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Specifications of Details for CBS measurement CB1220



DOOR 1 - LHS

VALUE	ACTUAL
A1 2230 to 2232	2232
A2 2230 to 2232	2232
A3 2230 to 2232	2232
A4 2230 to 2232	2232
B 234 to 236	235
C 234 to 236	235
D 794 to 796	795
E 794 to 796	795

DOOR 2 - LHS

VALUE	ACTUAL
A1 2230 to 2232	2233
A2 2230 to 2232	2232
A3 2230 to 2232	2232
A4 2230 to 2232	2233
B 234 to 236	235
C 234 to 236	236
D 794 to 796	795
E 794 to 796	796

DOOR 3 - LHS

VALUE	ACTUAL
A1 2230 to 2232	2232
A2 2230 to 2232	2232
A3 2230 to 2232	2232
A4 2230 to 2232	2232
B 234 to 236	235
C 234 to 236	235
D 794 to 796	795
E 794 to 796	795

DOOR 1 - RHS

VALUE	ACTUAL
A1 2230 to 2232	2232
A2 2230 to 2232	2232
A3 2230 to 2232	2232
A4 2230 to 2232	2232
B 234 to 236	235
C 234 to 236	235
D 794 to 796	795
E 794 to 796	795

DOOR 2 - RHS

VALUE	ACTUAL
A1 2230 to 2232	2233
A2 2230 to 2232	2233
A3 2230 to 2232	2233
A4 2230 to 2232	2233
B 234 to 236	234
C 234 to 236	235
D 794 to 796	794
E 794 to 796	795


DOOR 3 - RHS

VALUE	ACTUAL
A1 2230 to 2232	2232
A2 2230 to 2232	2231
A3 2230 to 2232	2231
A4 2230 to 2232	2232
B 234 to 236	235
C 234 to 236	235
D 794 to 796	795
E 794 to 796	795

GIBELCO

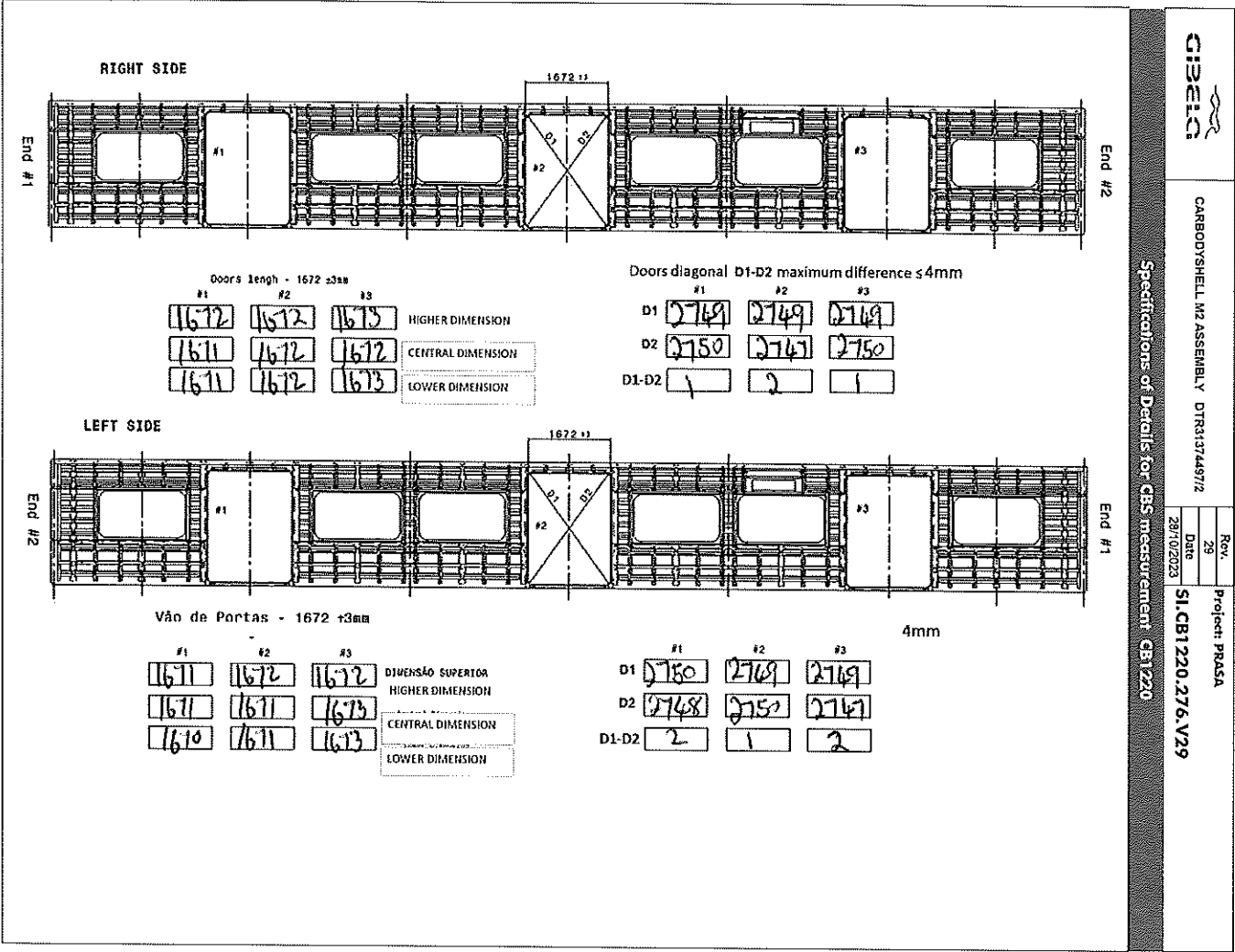
2024-02-01

INDUSTRIAL QUALITY
MAINLINE



2024 -02- 01

INDUSTRIAL QUALITY
MAINLINE



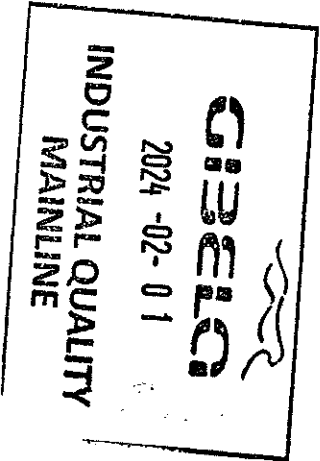
	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA
		29	
		Date	28/10/2023
			SI.CB1220.276.V29

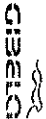
Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)		DATE	NAME	SIGNATURE
HOLD POINT	GO	22/02/2024	Moshmeh	Moshmeh
		22/02/2024	Ame	[Signature]
<div>Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the component party.)</div> <div>There are activities pending that impact the activities of the next station</div> <div>Other: (To describe problems below)</div> <div>There are non-conformities impact the quality of the product and there is no corrective action underway yet</div>			Operations	
In case of "NO GO", describe blocking problems			Industrial Quality	
In case of "NO GO", the operations manager must define below action plan to ensure "GO":				
Item	Description	Responsible	Due date	Status

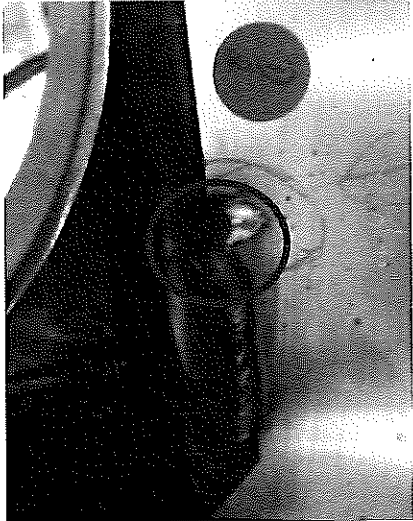
Operations

Quality



	CARBODYSHELL M2 ASSEMBLY DTR313744972			Rev.	Project: PRASA
				29 Date 28/10/2023	SI.CB1220.276.V29

ANNEXURE A: Arc Welding Quality Acceptance Standard



APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

This document and the information contained therein have to be considered as Confidential Information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

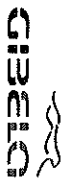
APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE					WORK INSTRUCTION	SAFETY 1		
				TCL	MA	MS	MS	TC				
<input type="checkbox"/>	A4000374497	A40000443233	CARBODY+SHELL M2 ASSEMBLY	CB1230					X		PRA-CB1230-A4000013 74497.V20	YES
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
REV	DATE	MODIFICATION CONTENT							RESPONSIBLE	NAME	DATE	
0	2018/08/02	GIBELA NEW CREATION							APPROVER	Phillipe Marques	2018/08/02	
									CHECKER	Nosizo Pindela	2018/08/02	
									COMPLIER	Nosizo Pindela	2018/08/02	
									APPROVER	Itumeleng Modiba	30/5/2018	
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to quality manager							CHECKER	Nosizo Pindela	30/5/2018	
									REVISOR BY	Nosizo Pindela	30/5/2018	
									APPROVER	Itumeleng Modiba	2018/05/07	
									CHECKER	Nosizo Pindela	2018/05/07	
									REVISOR BY	Ramokone Madama	2018/05/07	
2	2018/05/07	Certain dimensional checks moved to CB1220							APPROVER	Itumeleng Modiba	24/01/2019	
									CHECKER	Nosizo Pindela	24/01/2019	
									REVISOR BY	Vanessa Ntuli	24/01/2019	
5	24/01/2019	As per Baseline 10.2							APPROVER	Itumeleng Modiba	13/03/2019	
									CHECKER	Nosizo Pindela	13/03/2019	
									REVISOR BY	Vanessa Ntuli	13/03/2019	
6	13/03/2019	Added Twist and Door Bracket Measurements Remove Door Measurements							APPROVER	Itumeleng Modiba	23/08/2019	
									CHECKER	Nosizo Pindela	23/08/2019	
									REVISOR BY	Nosizo Pindela	23/08/2019	
10	23/03/2019	New Baseline 10.2.5							APPROVER	Timothy Maimela	06/08/2020	
									CHECKER	Bongane Masina	06/08/2020	
									REVISOR BY	Bongane Masina	06/08/2020	
11	06/08/2020	New Baseline 10.2.6							APPROVER	Timothy Maimela	19/04/2021	
									CHECKER	Bongane Masina	19/04/2021	
									REVISOR BY	Bongane Masina	19/04/2021	
20	19/04/2021	New Baseline change 10.3							APPROVER	Collins Mkhombhi	20/02/2022	
									CHECKER	Andanti Muthelo	20/02/2022	
									REVISOR BY	Andanti Muthelo	20/02/2022	
25	20/02/2022	New Baseline change 10.3.1							APPROVER	Collins Mkhombhi	14/06/2022	
									CHECKER	Andanti Muthelo	14/06/2022	
									REVISOR BY	Andanti Muthelo	14/06/2022	
26	14/06/2022	Update minimum temperature requirement for sealant application							APPROVER	Collins Mkhombhi	27/07/2022	
									CHECKER	Andanti Muthelo	27/07/2022	
									REVISOR BY	Andanti Muthelo	27/07/2022	
27	26/07/2022	Threshold measurement addition							APPROVER	Collins Mkhombhi	17/10/2022	
									CHECKER	Nosizo Zwane	17/10/2022	
									REVISOR BY	Amogelang Mphahlepe	17/10/2022	
28	17/10/2022	Addition of traceability for sealant application							APPROVER	Vanessa Ntuli	14/04/2023	
									CHECKER	Nosizo Zwane	14/04/2023	
									REVISOR BY	Amogelang Mphahlepe	14/04/2023	
29	14/04/2023	Added sealant batch number & welding consumables traceability							APPROVER	Nosizo Zwane	06/11/2023	
									CHECKER	Andanti Muthelo	06/11/2023	
									REVISOR BY	Nosizo Zwane	06/11/2023	
TRAINSET	CAR	OPERATOR NAME/ALPS NO	DATE	SELF INSPECTION NUMBER							PAGES	
213	MA	KHOBY 147405	23-03-24	SI.CB1230.277.V29							11	

GIBELA

2024 -02- 01

INDUSTRIAL QUALITY
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CARBODYSHELL M2 ASSEMBLY AA00001374497

Rev. 30
Date 06/11/2023
Project: PRASA
SI.CB1230.277.V29

Car:

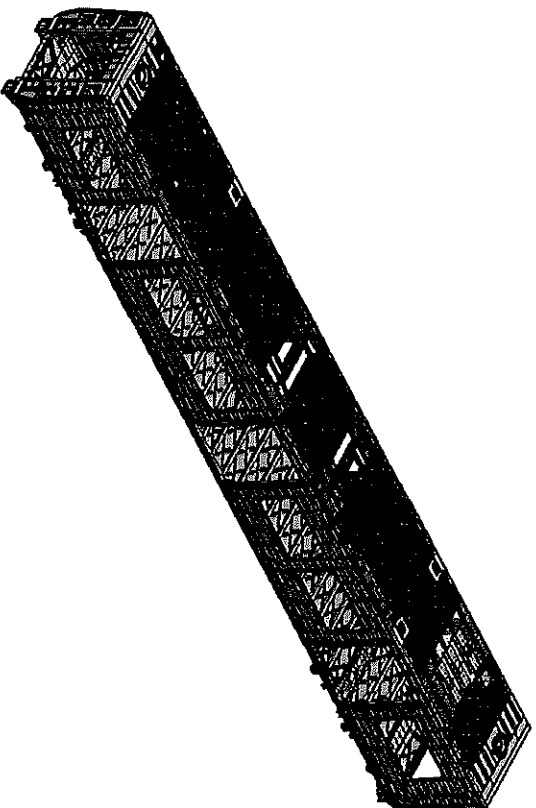
NCR:

Work station:

CB1230



Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	Signature/Date (Operations)	Signature/Date (Quality)
	Q	M	W	E	D					
PRA.CB1230.AA00001374497			X			V30		OK	N/A	03.03.24, P.12/17

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	Signature/Date (Operations)	Signature/Date (Quality)
MEASURE TAPE	CIB1A03R	2024.04.03	OK	03.03.24	03/03/24
Combination square	CIB8A00R	27.07.24	OK	03.03.24	03/03/24
UBIAC	22615	2024.03.07	OK	03.03.24	03/03/24

1.3 Consumables

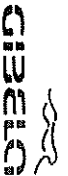
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
WELDING WIRE	E301350	MIG	OK	03.02.24	03/02/24




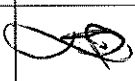
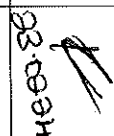
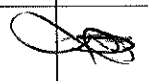
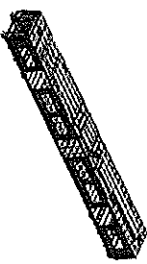

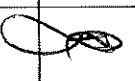
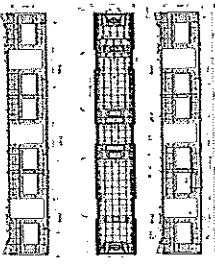


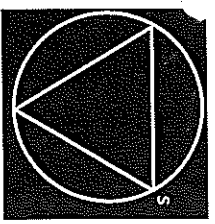

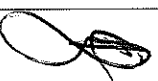

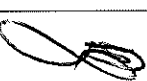
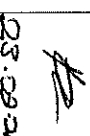
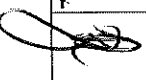
CIBELCO

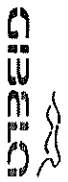
2024-02-01

INDUSTRIAL QUALITY
MAINLINE

	CARBODYSHELL M2 ASSEMBLY AA00001374497		Rev. 30 Date 06/11/2023	Project: PRASA SI.CB1230.277.V29
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II - Self Inspection - Items to Check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB1230.AA00001374497 Verification of fitment for all brackets.	PRA.CB1230.AA00001374497	OK	 03.03.24	 23/02/2024
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	OK	 03.03.24	 23/02/2024
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TTPDEF - ARC - 0000	OK	 03.03.24	 23/02/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	OK	 03.03.24	 23/02/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	OK	 03.03.24	 23/02/24
06		Perform visual inspection of welds 100% of the project. Run by penetrant testing in elect 2024-02-01 as the welding procedure IND-SAL-WMS-018 and (weld ring) and INDUSTRIAL QUALITY MAINLINE described in DTD0000210675.	OK	OK	 03.03.24	 23/02/24
07	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (°) Min-Max Relative humidity Min - Max (%) 10°C - 35°C 25% - 80%	Sealant Batch No: 154 0608 Exp Date: 06/24 Actuals Temperature: 17°C Humidity: 57%	OK	 23.03.24	 23/02/24
08	N/A	Verification of sealant application in regions of roof and sidframe.	Sealant applied in regions of roof and sidframe.	OK	 23.03.24	 23/02/24



CARBODYSHELL M2 ASSEMBLY AA00001374497

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30

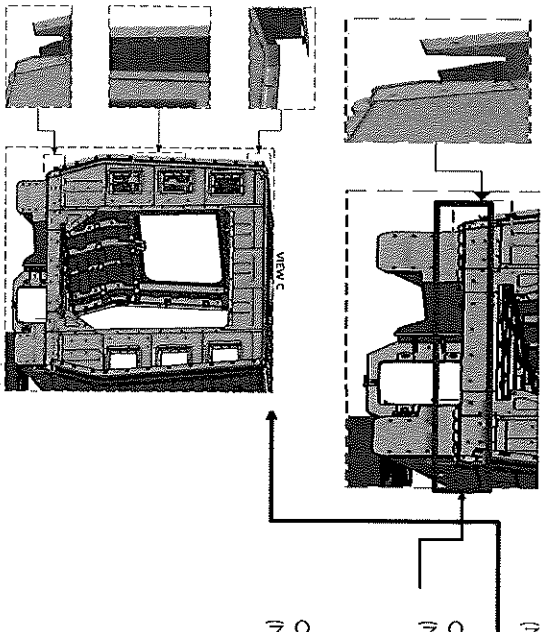
Project: PRASA

Date

06/11/2023

SI.CB1230.277.V29

AREA 1



OPERATOR
(Name & sign):

LEEDY

OPERATOR
(Name & sign):

LEEDY

OPERATOR
(Name & sign):

LEEDY

END 2 SEALANT

Area D,E,F,G,H,I

LHS

Operator (Name & sign):

RHS

Operator (Name & sign):

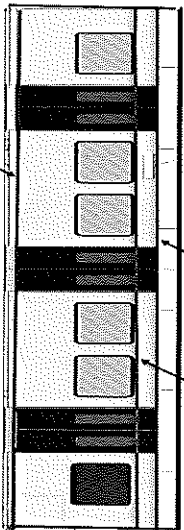
Operator (Name & sign):

Operator (Name & sign):

Operator (Name & sign):

Operator (Name & sign):

H



I

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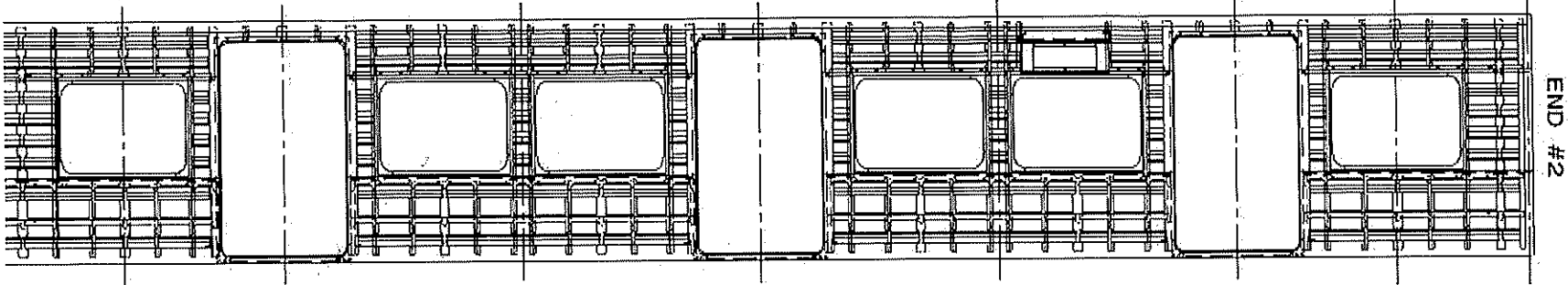


2024-02-01

Specifications of Details for GBS measurement CB1230

latness side left and right maximum of 2mm in the valley to peak measured in 900mm). Recod the maximum and minimum value four. and indicate the corresponding region.

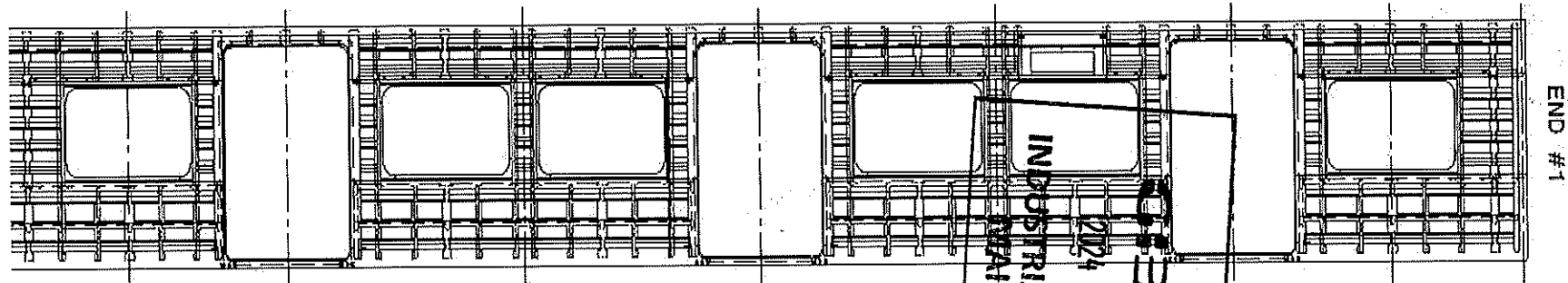
RIGHT SIDE



MAXIMUM 1.9

MINIMUM 1.3

LEFT SIDE



MAXIMUM 1.6

MINIMUM 1.2



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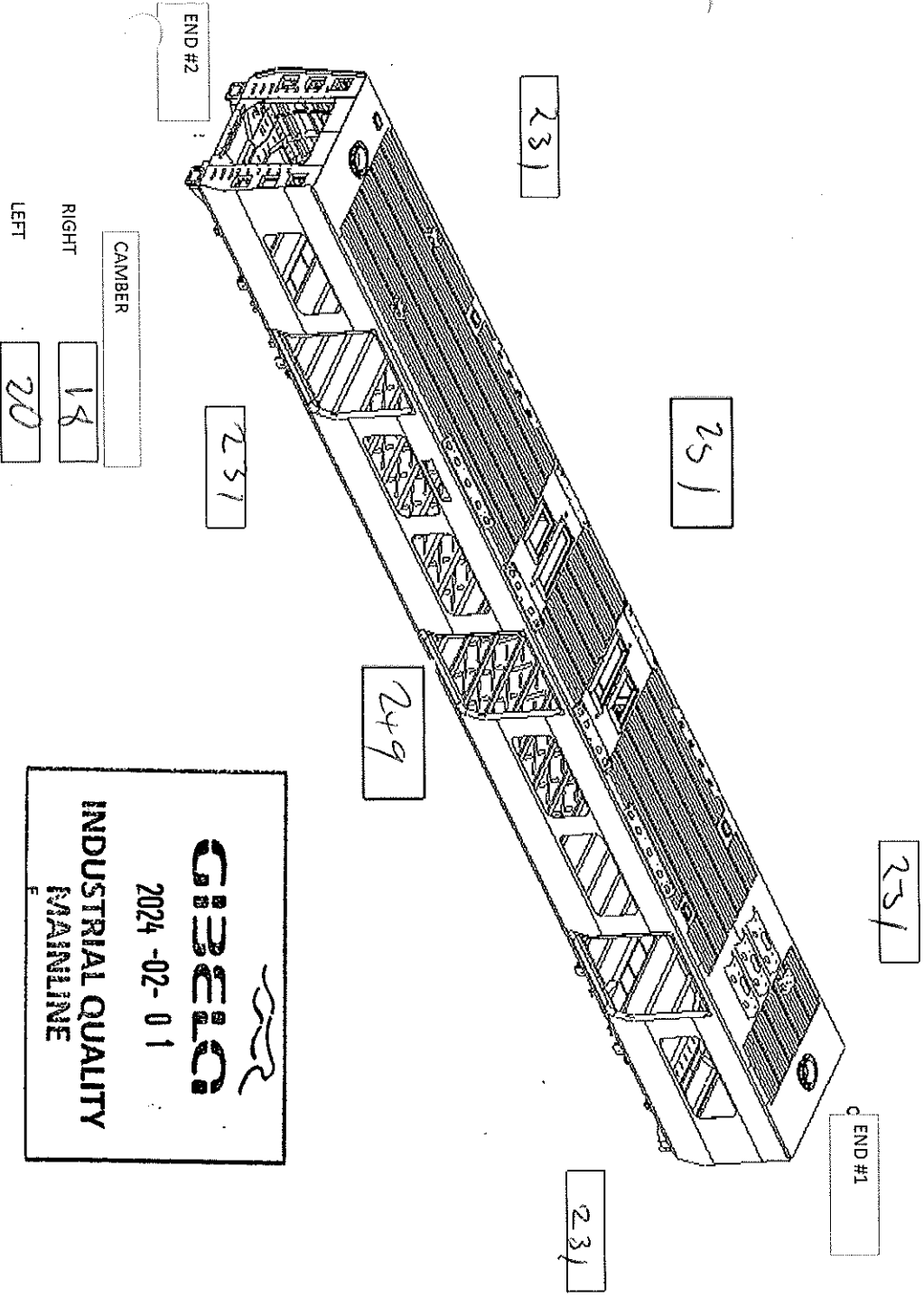
END #1

END #2


GIBELCO
2024-02-01
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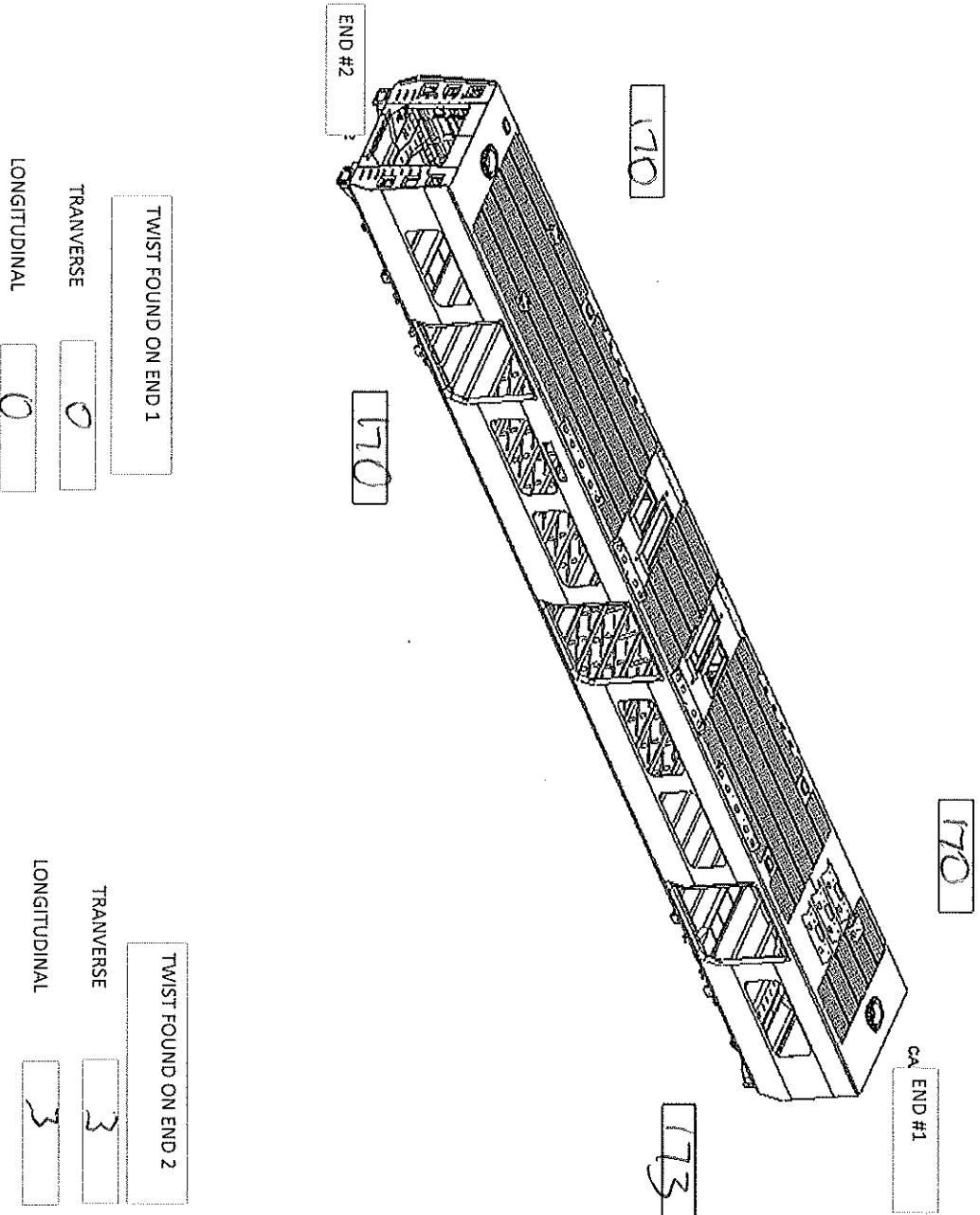
Specifications of Details for CBS measurement GB1230

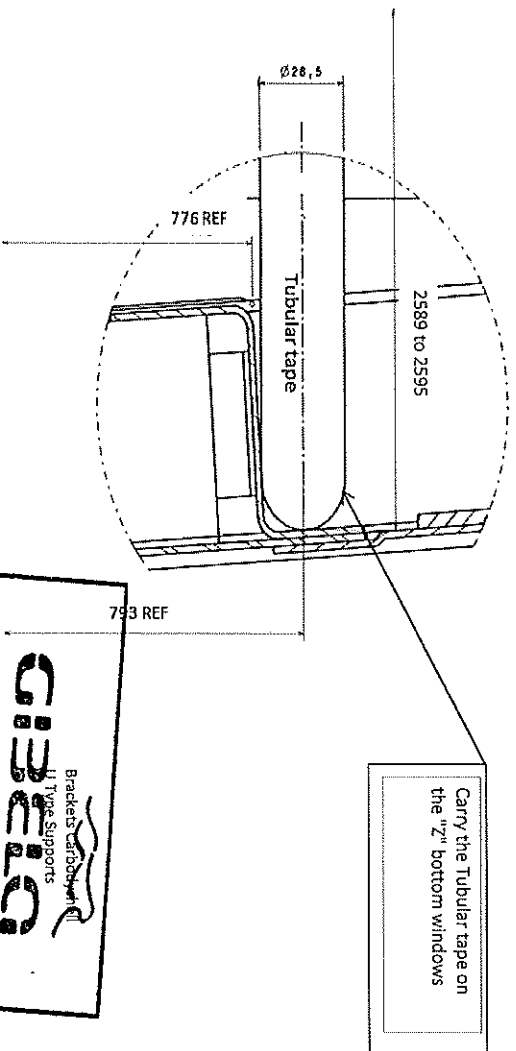
Specified Camber for car out of jig is 18mm(-0mm + 2mm)



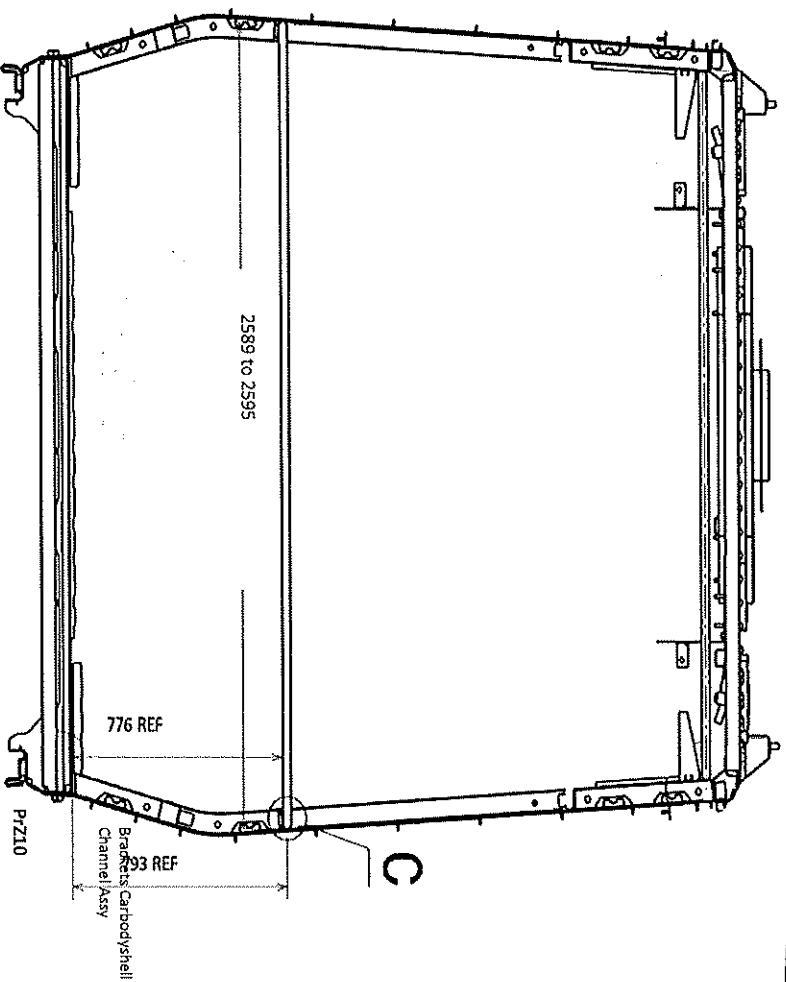
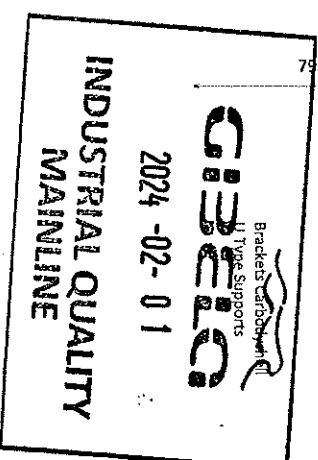
Specifications of Details for CBS measurement CB1230

Twist measured in transversal and longitudinal = Maximum 3mm. Measure twist on air spring plates (LHS and RHS), both End 1 and End 2 following twist measurement document.

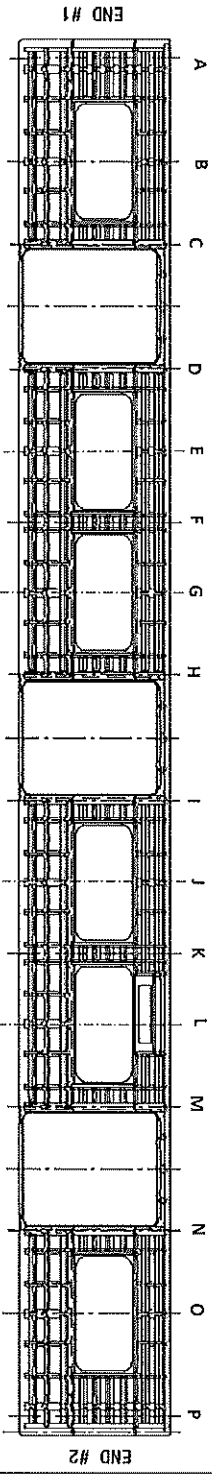




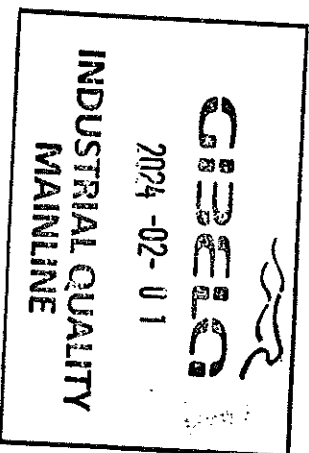
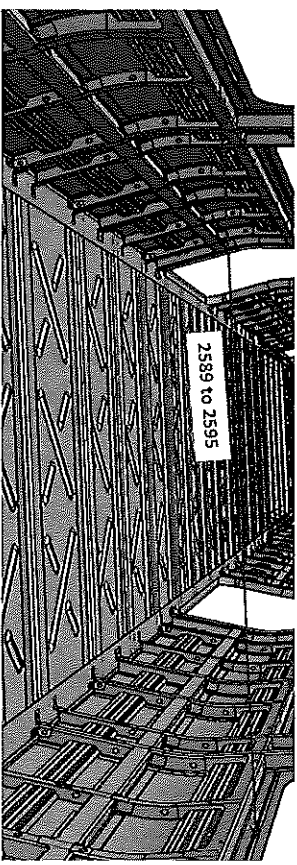
Detail C



Specifications of Details for CBS measurement CB1230




A	2594
B	2590
C	2589
D	2594
E	2593
F	2595
G	2590
H	2594
I	2594
J	2594
K	2595
L	2595
M	2595
N	2592
O	2591
P	2594

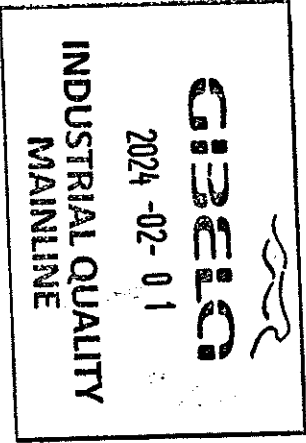


Threshold verification						Nominal value :38
Door 1		Door 2		Door 3		
L	R	L	R	L	R	
38	38	38	38	38	38	
Door 4		Door 5		Door 6		
L	R	L	R	L	R	
38	38	38	38	38	38	

BOILER MAKER: 15416000 15416000

WELDER: Zanett 15416000

 GIBELCO	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA SI.CB1230.277.V29
		Date 06/11/2023	
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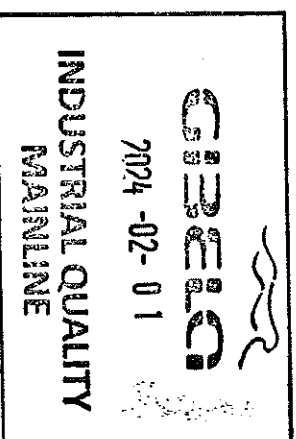
Date

06/11/2023

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Dye penetrant test

Dye-penetration test to be performed by quality personnel





Specifications of Details for CBS measurement

[illegible]

11.2 - Check List REX

Check List Items

Item	Picture/Drawing	Description	Criteria/Record	OK	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX			





CARBODYSHELL M2 ASSEMBLY AA0000137/4497

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Date	06/11/2023

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Self Inspection - Final Result

Is the car good to advance to the next workstation/process?
(Approval of Operations and Industrial Quality)

DATE

NAME

SIGNATURE

23.09.24

KHOSY

Operations

23/02/24

Utholero

Industrial Quality

GO

(If activities are not complete, the missing activities must not impact the next stage)

Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)

There are activities pending that impact/stop the activities of the next process
Obs: (To describe problems below)

Operations

There are non-conformities impact the quality of the product and there is no corrective action defined yet)

Industrial Quality

HOLD POINT

In case of "NO GO", describe blocking problems

In case of "NO GO", the operations manager must define below action plan to ensure "GO".

Item	Description	Responsible	Due date	Status

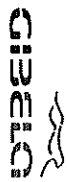
Operations

Quality



2024-02-01

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Date	
06/11/2023	

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ANNEXURE A: Arc Welding Quality Acceptance Standard

