

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.

APPLICATION REFERENCE

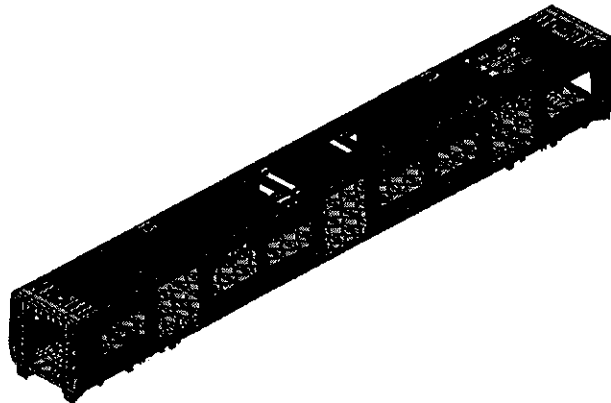
MOUNTING		DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ? 
					Tc1	M1	M1	M2	M3	Tc2		
☐	DTR31374497/3	AAD0001413329	CARBODYSHELL M2 ASSEMBLY	CB1210				X			PRA.CB1210.DTR313744 97/3.V25	YES
☐												

REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	10/01/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	10/01/2018
			CHECKER	Nosizo Pindela	10/01/2018
			COMPILER	Thanyani Mathegu	10/01/2018
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	2018/05/18
			CHECKER	Nosizo Pindela	2018/05/18
			REVISED BY	Ramokone Motama	2018/05/18
2	2018/07/04	Certain dimensional checks moved to CB1220 and CB1230	APPROVER	Itumeleng Modiba	2018/07/04
			CHECKER	Nosizo Pindela	2018/07/04
			REVISED BY	Ramokone Motama	2018/07/04
3	2018/12/12	Added dimensional check points to CB1210	APPROVER	Itumeleng Modiba	12/12/2018
			CHECKER	Nosizo Pindela	12/12/2018
			REVISED BY	Ramokone Motama	12/12/2018
5	22/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	22/01/2019
			CHECKER	Nosizo Pindela	22/01/2019
			REVISED BY	Vanessa Ntuli	22/01/2019
6	13/03/2019	Added D1 and D2 on Self - Inspection	APPROVER	Itumeleng Modiba	13/03/2019
			CHECKER	Nosizo Pindela	13/03/2019
			REVISED BY	Nosizo Pindela	13/03/2019
10	21/08/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	21/08/2019
			CHECKER	Nosizo Pindela	21/08/2019
			REVISED BY	Nosizo Pindela	21/08/2019
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi collins	17/08/2021
			CHECKER	Mpho Mulaudzi	
			REVISED BY	Mpho Mulaudzi	
25	21/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombi collins	21/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/04/2023	Addition of welding consumable traceability	APPROVER	Ntuli Vanessa	14/04/2023
			CHECKER	Mohlampe Amogelang	
			REVISED BY	Mohlampe Amogelang	
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Zwane Ntokozo	
			REVISED BY	Mohlampe Amogelang	
28	07/11/2023	Addition of welder traceability	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
TS210	M2	P. MACATI 40996	08/02/24	SI.CB1210.247.V28	17

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

Car: M2	NCR:	Work station: CB1210
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I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	D	E	M	M	E	D					
DTR31374497/3			X				V28		✓	N/A	07/11/2023

07/02/2024

I.2 - 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)
MURKAR	22316	07/02/24	✓	07/02/24	07/02/24
LABEL TAPE	125425921	07/02/24	✓	07/02/24	07/02/24
SAN TAPE	61871084	07/02/24	✓	07/02/24	07/02/24

07/02/24

I.3 - Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	314018-74097	MIG	✓	07/02/24	07/02/24
BDHLER	8603156	MIG	✓	07/02/24	07/02/24
ER 308 L	299687-74097	MIG	✓	07/02/24	07/02/24

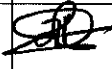
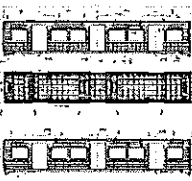
07/02/24

Handwritten notes and signatures at the bottom of the page.

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRA5A SI.CB1210.247.V28
		Date 07/11/2023	

II - Self Inspection - Items to Check

II.1 - Items to check

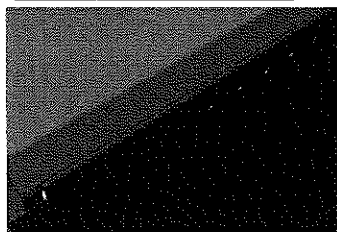
Item	Picture/Drawing	Description	Acceptance criteria / Report	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	AA00001375051	✓		P. Mosch 8/2/24	 9/2/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓		P. Mosch 8/2/24	 9/2/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 • DTD0000210675	✓		P. Mosch 8/2/24	 9/2/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		P. Mosch 8/2/24	 9/2/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		P. Mosch 8/2/24	 9/2/24
06		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓		P. Mosch 8/2/24	 9/2/24
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 fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓		P. Mosch 8/2/24	 9/2/24


 P. Mosch

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
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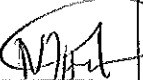
Welder traceability

Roof ring welds



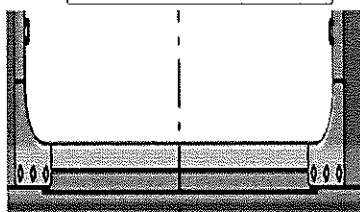
<u>LHS</u>	
Boiler maker (Name & Sign): <u>LUNGA</u> 	Welder (Name & Sign): <u>BOBBET</u> 
<u>RHS</u>	
Boiler maker (Name & Sign): <u>LUNGA</u> 	Welder (Name & Sign): <u>Thabang</u> 

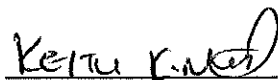
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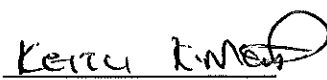
<u>LHS</u>	
Boiler maker (Name & Sign): <u>LUNGA</u> 	Welder (Name & Sign): <u>Mthokozisi</u> 
<u>RHS</u>	
Boiler maker (Name & Sign): <u>LUNGA</u> 	Welder (Name & Sign): <u>Mthokozisi</u> 

END 2

Door ring welds



<u>LHS</u>
Boiler maker (Name & Sign): <u>LUNGA</u> 
Welder (Name & Sign): <u>KERTU</u> 

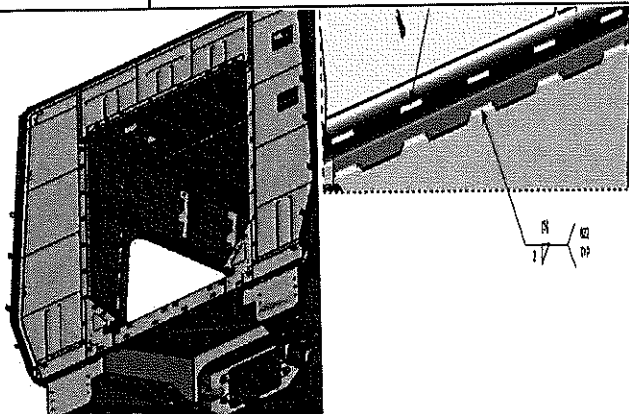
<u>RHS</u>
Boiler maker (Name & Sign): <u>Timony</u> 
Welder (Name & Sign): <u>Kertu</u> 

EUF Reinforcement Plates

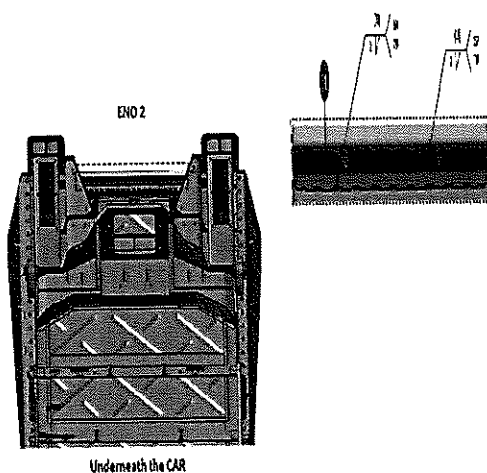


[Faint handwritten notes and signatures]

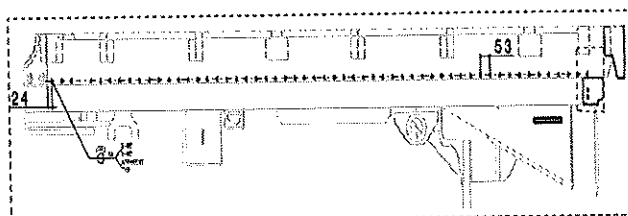
	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
		Date 07/11/2023	



END 1
Boiler maker (Name & Sign): Timothy - [Signature]
Welder (Name & Sign): Keira K. [Signature]
Siphokazi

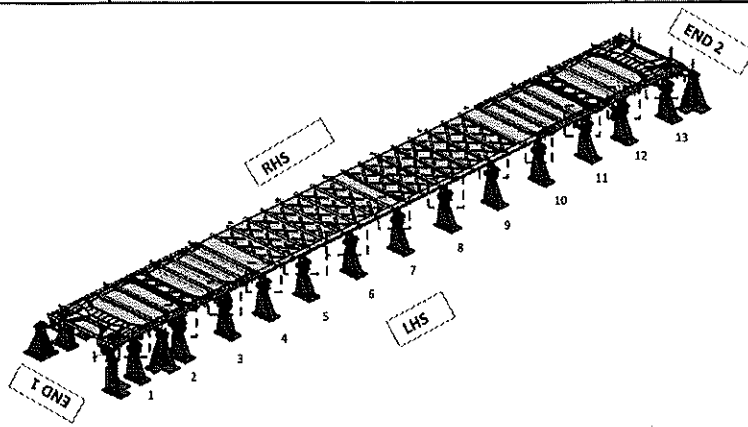


END 2
Boiler maker (Name & Sign): TERCO [Signature]
Welder (Name & Sign): MTHEKOSI [Signature]



FEDOLI
OPERATOR: SIPHOKAZI [Signature]

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev.	Project PRASA
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		07/11/2023	



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

After loading and clamping

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

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

Signature Operations:  Date: 8/2/24

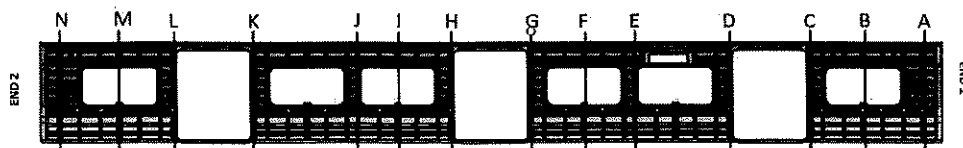
After Welding.

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

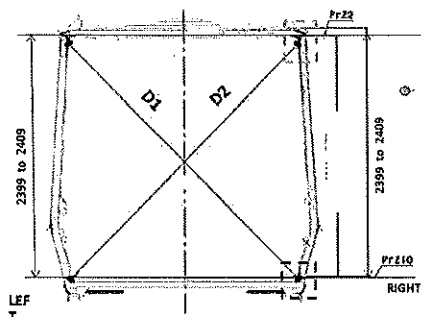
	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0

Signature Industrial Quality:  Date: 9/2/24

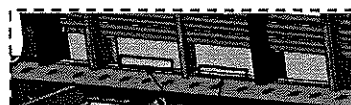
Specifications of Details for CBS measurement



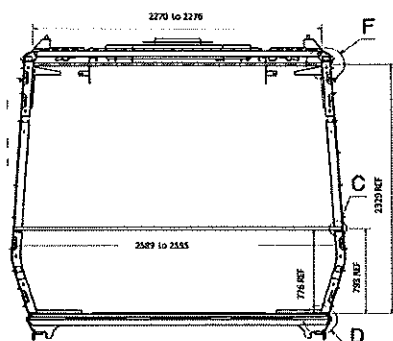
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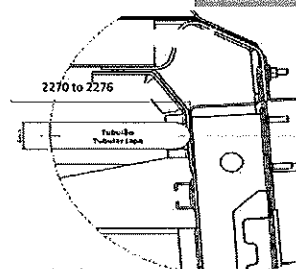
Measurement positions on roof rail and sidewall omega corner



Measurement positions on sidewall and side sill corner



Reinforcement area measurement positions on roof reinforcement area



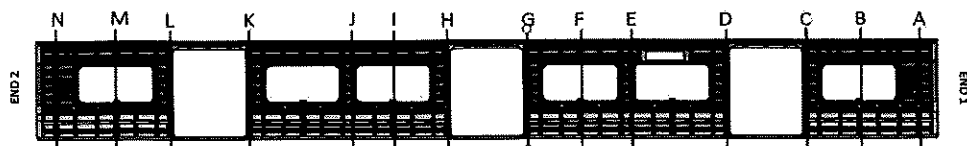
Detail F

Don't considering the reinforcement

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
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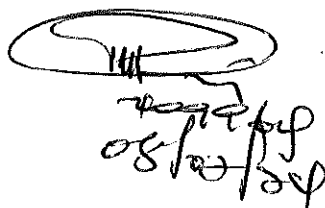
Specifications of Details for CBS measurement

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	3265	3266	1	2406	2406	0
B	3265	3265	0	2404	2404	0
C	3268	3268	0	2406	2405	1
D	3268	3267	1	2405	2405	0
E	3267	3267	0	2405	2405	0
F	3265	3265	0	2405	2404	1
G	3266	3266	0	2405	2405	0
H	3268	3268	0	2406	2405	1
I	3266	3266	0	2406	2406	0
J	3266	3265	1	2405	2406	1
K	3266	3268	2	2405	2405	0
L	3265	3265	0	2405	2405	0
M	3266	3266	0	2405	2405	0
N	3265	3265	0	2405	2405	0


08/10/24

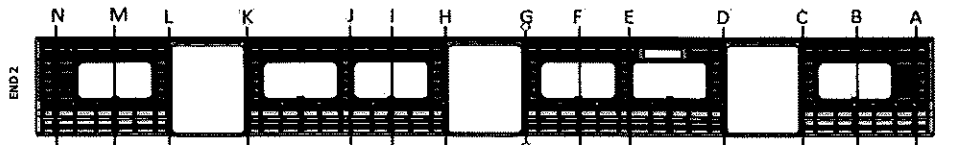


CARBODYSHELL M2 ASSEMBLY DTR31374497/3

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28
Date
07/11/2023Project: PRASA
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Specifications of Details for CBS measurement

AFTER WELDING



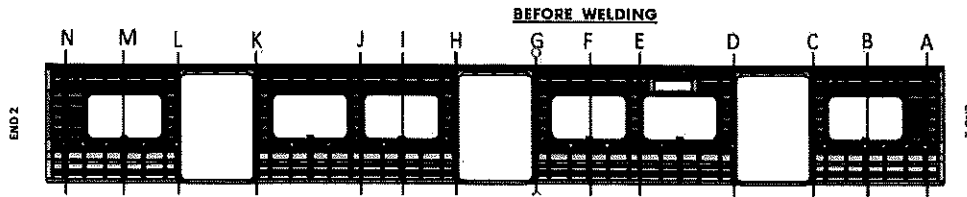
Note: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3296	3296	0	2406	2406	1
B	3266	3265	1	2405	2405	0
C	3248	3248	0	2405	2405	0
D	3245	3245	0	2406	2405	1
E	3266	3266	0	2405	2405	0
F	3268	3266	2	2400	2405	1
G	3248	3248	0	2405	2405	0
H	3246	3246	0	2405	2405	0
I	3266	3266	0	2406	2405	1
J	3285	3266	1	2406	2406	0
K	3297	3297	0	2406	2405	1
L	3245	3245	0	2406	2406	0
M	3268	3268	0	2400	2400	0
N	3246	3246	0	2406	2405	1

4099264
08/02/24

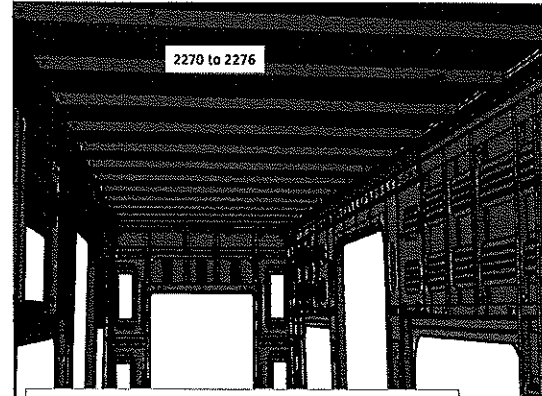
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CBS measurement

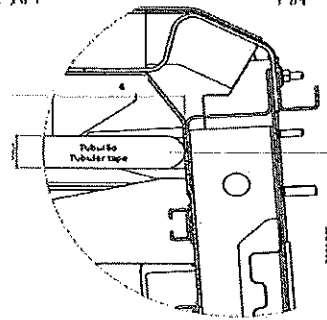
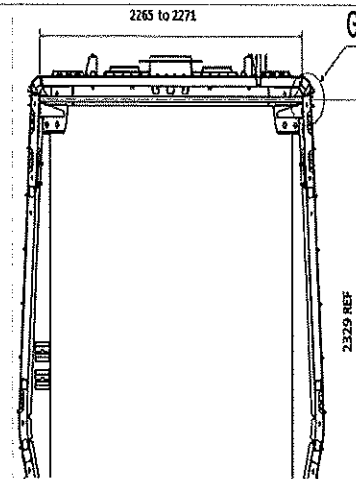


2270 to 2276

A	2274
B	2272
C	2276
D	2271
E	2273
F	2274
G	2272
H	2274
I	2271
J	2273
K	2275
L	2272
M	2273
N	2271



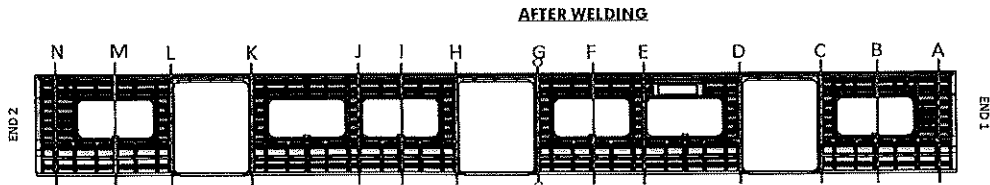
Do not consider reinforcement (Take measurements top area of zee profile



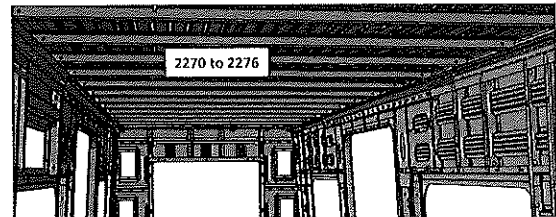
Detail G
Considering the reinforcement plate

408964
08/02/24

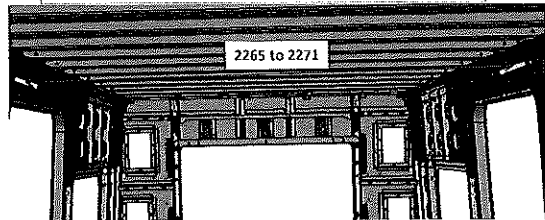
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CBS measurement			



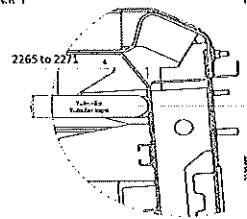
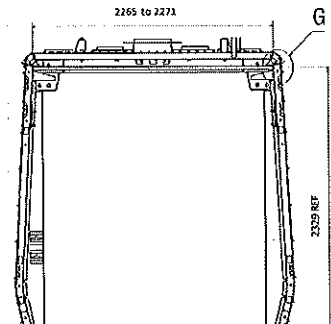
	2265 to 2271	2270 to 2276
A	2269	/
B	/	2271
C	2268	/
D	2265	/
E	/	2269
F	/	2274
G	2265	/
H	2270	/
I	/	2276
J	/	2277
K	2268	/
L	2267	/
M	/	2275
N	2269	/



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



Take measurement close to radius (considering reinforcement)



Detail D
Consider reinforcement plate


4099764
08/02/24



CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.

28

Date

07/11/2023

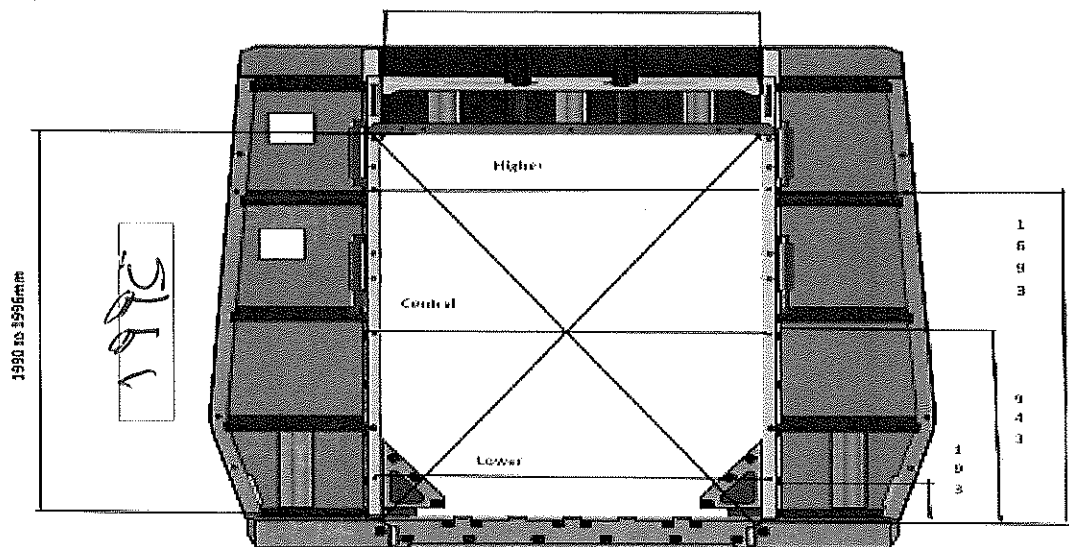
Project: PRA5A

SI.CB1210.247.V28

CBS measurement

End frame 1

1380 to 1382 mm



Higher Dimension

1381

Central Dimension

1382

Lower Dimension

1381

DIAGONAL DIFFERENCE $D1-D2 < 3mm$

D1

2416

D2

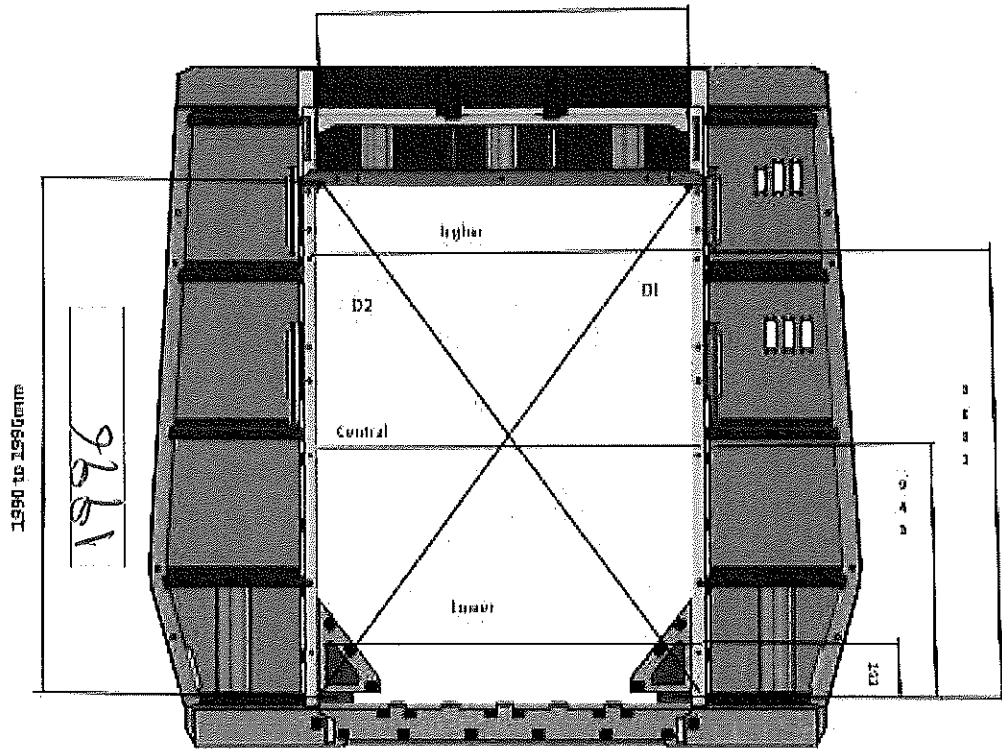
2415

D1-D2

1

Handwritten signature and date: 409964 08/02/24

End frame 2



1380 to 1382 mm

DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension

1380

D1

2415

Central Dimension

1381

D2

2415

Lower Dimension

1381

D1-D2

0

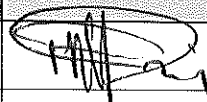
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409964
08/02/24



		CARBODYSHELL M2 ASSEMBLY DTR31374497/3		Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.V28		
Item	Description of the Issue				OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
II.2 - Check List REX							
Check List Items							
Item	Picture/Drawing	Description	Criteria /Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX				

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Self Inspection - Final Result

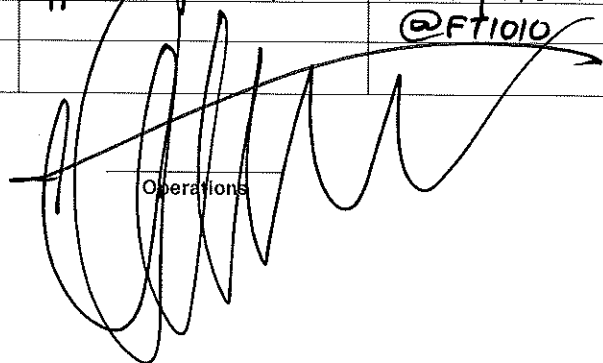
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)			DATE	NAME	SIGNATURE
HOLD POINT	GO	(If activities are not complete, the missing activities must not impact the next stage)	08/02/24	Pon Pso Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	09/02/24	Amo Industrial Quality	
	NO GO	There are activities pending that impact/stop 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)	08/02/24	Amo Industrial Quality	

In case of "NO GO", describe blocking problems

Diffuser cap marks on End 1 finishers (LH & RH)

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

Item	Description	Responsible	Due date	Status
1	Diffuser cap scratches To be polished @FT1010	Omphile/Hubi	13/02/24	Open 09/02/24



Operations

Quality

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.												
APPLICATION REFERENCE												
MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY	
				TC1	MA	MA	M2	M3	TC2			
☐	DTR31374497/2	ADD0001413329	CARBODYSHELL M2 ASSEMBLY	CB1220					X		PRA.CB1220.DTR31374497/2.V21	YES
☐												
☐												
☐												
☐												
☐												
☐												
REV	DATE	MODIFICATION CONTENT			RESPONSIBLE		NAME		DATE			
0	01/02/2018	GIBELA NEW CREATION			APPROVER	Itumeleng Modiba	01/02/2018					
					CHECKER	Nosizo Pindela	01/02/2018					
					COMPILER	Thanyani Mathegu	01/02/2018					
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager			APPROVER	Itumeleng Modiba	18/05/2018					
					CHECKER	Nosizo Pindela	18/05/2018					
					REVISED BY	Ramekone Motama	18/05/2018					
2	2018/07/05	Certain dimensional checks added and others moved to CB1210			APPROVER	Itumeleng Modiba	2018/07/05					
					CHECKER	Nosizo Pindela	2018/07/05					
					REVISED BY	Ramekone Motama	2018/07/05					
3	2018/06/12	Width tolerance as per DT0000336600			APPROVER	Itumeleng Modiba	2018/06/12					
					CHECKER	Nosizo Pindela	2018/06/12					
					REVISED BY	Nosizo Pindela	2018/06/12					
5	24/01/2019	As per Baseline 10.2			APPROVER	Itumeleng Modiba	24/01/2019					
					CHECKER	Nosizo Pindela	24/01/2019					
					REVISED BY	Vanessa Ntuli	24/01/2019					
6	13/03/2019	Added D1 and D2 on Self - Inspection length measurements			APPROVER	Itumeleng Modiba	13/03/2019					
					CHECKER	Nosizo Pindela	13/03/2019					
					REVISED BY	Nosizo Pindela	13/03/2019					
7	27/05/2019	Removed measurement positions on the display windows			APPROVER	Itumeleng Modiba	27/05/2019					
					CHECKER	Nosizo Pindela	27/05/2019					
					REVISED BY	Nosizo Pindela	27/05/2019					
10	22/08/2019	New Baseline 10.2.5			APPROVER	Itumeleng Modiba	22/08/2019					
					CHECKER	Nosizo Pindela	22/08/2019					
					REVISED BY	Nosizo Pindela	22/08/2019					
15	06/08/2020	New Baseline 10.2.6			APPROVER	Timothy Maimela	06/08/2020					
					CHECKER	Bongane Masina	06/08/2020					
					REVISED BY	Bongane Masina	06/08/2020					
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	Mbhombi collins	17/08/2021					
					CHECKER	Mpho Mulaudzi	17/08/2021					
					REVISED BY	Mpho Mulaudzi	17/08/2021					
25	20/02/2022	New Baseline change 10.3.1			APPROVER	Mbhombi collins	20/02/2022					
					CHECKER	Andani Muthelo	20/02/2022					
					REVISED BY	Andani Muthelo	20/02/2022					
26	14/06/2022	Update Minimum temperature requirement for sealant application			APPROVER	Mbhombi collins	14/06/2022					
					CHECKER	Andani Muthelo	14/06/2022					
					REVISED BY	Andani Muthelo	14/06/2022					
27	19/10/2022	Addition of traceability for sealant application and welding.			APPROVER	Mbhombi collins	19/10/2022					
					CHECKER	Ntokozo Zwane	19/10/2022					
					REVISED BY	Amogelang Mohlampe	19/10/2022					
28	14/04/2023	Added sealant batch number & welding consumables traceability			APPROVER	Vanessa Ntuli	14/04/2023					
					CHECKER	Ntokozo Zwane	14/04/2023					
					REVISED BY	Amogelang Mohlampe	14/04/2023					
29	28/10/2023	Addition of bracket quantity			APPROVER	Tyson Ngobeni	28/10/2023					
					CHECKER	Kelebene Mathapo	28/10/2023					
					REVISED BY	Amogelang Mohlampe	28/10/2023					
TRAINSET	CAR	OPERATOR NAME & ALPS NO		DATE	SELF INSPECTION NUMBER			PAGES				
210	M2	Praxilly 410571		10/02/24	SI.CB1220.276.V29			15				

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

Safety Related

I - Documentation and Instruments Control

L1 - Documentation Control

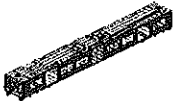
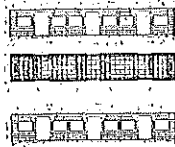
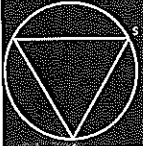
Document	Type of test					Revision	Observation	TTC	Signature/Date (Manufacturing)	Signature/Date (Quality)
	U	F	S	E	P					
DTR31374497/2		X				29		✓	N/A	10/02/24 2 10/02/24

L2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process									
Instrument	Serial number	Calibration or Verification Validation Date		TTC	Signature/Date (Manufacturing)	Signature/Date (Quality)			
Tubular measuring tape	22713	29/11/2023	21/11/2024		10/02/24 2	10/02/24 2 10/02/24			
	61810381	22/08/2023	22/08/2024		10/02/24 2	10/02/24 2 10/02/24			
					Carlin				

1.3 Consumables

Welding Consumable Control - Used for Special Process					
Filler Material	Heat Number	Welding Process	TTC	Signature/Date (Manufacturing)	Signature/Date (Quality)
308		mig welding		10/02/24 2	10/02/24 2 10/02/24
				Carlin	

	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA SI.CB1220.276.V29			
		Date 28/10/2023				
		II - Self Inspection - Items to Check				
B.1 - Items to check						
Items	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA CB1220. DTR31374497/2 Verification of flange for all reinforcement brackets.	PRA CB1220. DTR31374497/2	✓	 10/02/24	 10/02/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTDO000210675	✓	 10/02/24	 10/02/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓	 10/02/24	 10/02/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓	 10/02/24	 10/02/24
05		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓	 10/02/24	 10/02/24
06		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 fillet sampling as described in DTDO000210658.	As the welding procedure IND-SAL-WMS-018 and DTDO000210658.	✓	 10/02/24	 10/02/24
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 (°C) 10°C - 35°C Relative humidity 25% - 75% Actuals: Temperature: 22°C Humidity: 45%	Sealant Batch No: 1527053 Exp Date: 10/02/24	✓	 10/02/24	 10/02/24
08	NA	Verification of sealant application in certain regions in the drawing	AAD0001433929	✓	 10/02/24	 10/02/24

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

SEALANT APPLICATION



AREA 1 & 2 END 1

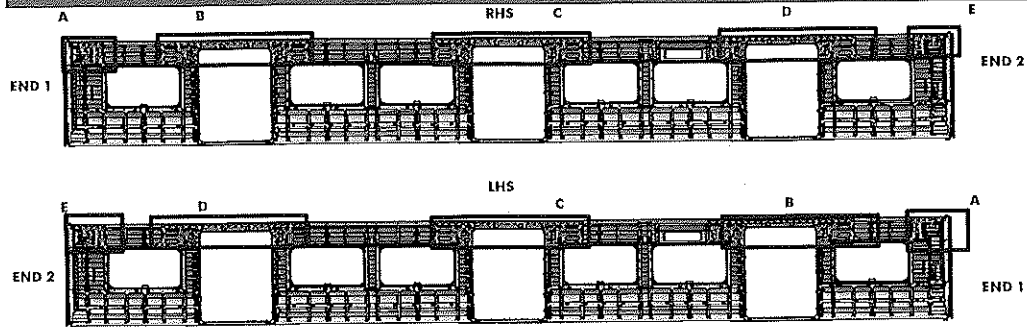
Operator (Name & sign): *Piscilla*

Operator (Name & sign): *Piscilla*

APPROVED
DATE: 28/10/2023
BY: [Signature]

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

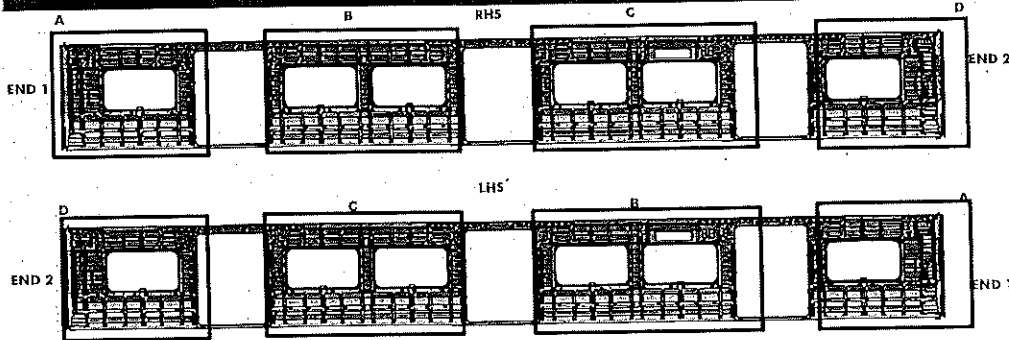
II - Self Inspection - Items to Check



REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <i>[Signature]</i>	<i>[Signature]</i>
B	Operator (Name&sign): <i>[Signature]</i>	<i>[Signature]</i>
C	Operator (Name&sign): <i>Machado Machado</i>	<i>Machado Machado</i>
D	Operator (Name&sign): <i>Martins Neto Neto</i>	<i>Martins Neto Neto</i>
E	Operator (Name&sign): <i>Martins Neto Neto</i>	<i>Martins Neto Neto</i>

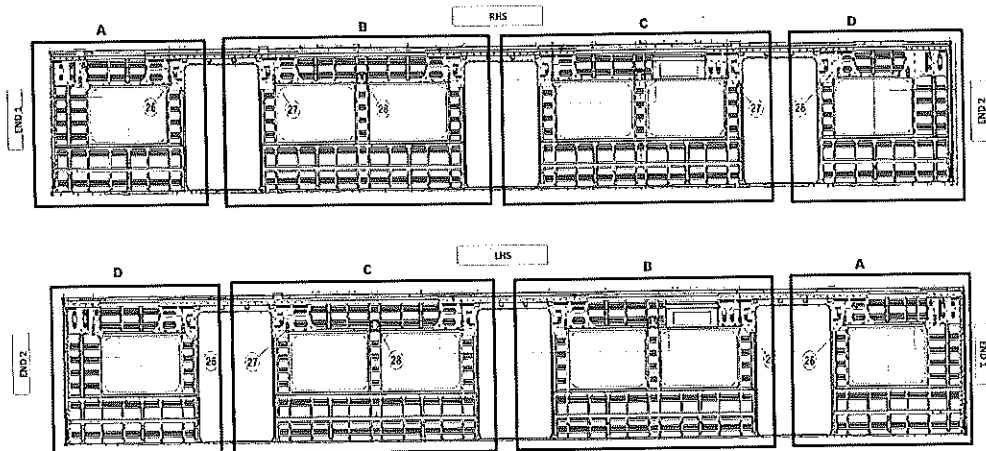
	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA
		29	
		Date	SI.CB1220.276.V29
		28/10/2023	
II - Self Inspection - Items to Check			



BRACKETING		
INSTALLATION		
C-RAILS:	Operator:	ASANIWA
	Operator:	
DOOR MECHANISMS:	Operator:	Regilla
	Operator:	
TAPPING PADS	Operator:	
	Operator:	End 1 Mmamabolo Maku
	Operator:	End 2 Mmamabolo Maku
INSTALLATION & VERIFICATION		
SEAT & LUGGAGE BRACKETS:	Operator:	Mashadi Mashadi
	Operator:	Mhokozisi
SEAT BRACKETS VERIFICATION:	Operator:	THICANI
	Operator:	
WELDING		
AREA	LHS	RHS
A (Seat brackets)	: Operator (Name&sign): Mmamabolo Maku	Mmamabolo Maku
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): Mmamabolo Maku	Mmamabolo Maku
B (Seat brackets)	: Operator (Name&sign): Mashadi Mashadi	Mashadi Mashadi
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): Mmamabolo Maku	Mmamabolo Maku
C (Seat brackets)	: Operator (Name&sign): Siliya	Siliya
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): Mashadi Mashadi	Mashadi Mashadi
D (Seat brackets)	: Operator (Name&sign): Siliya	THICANI
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): Siliya	THICANI
ENDS		
END 1 TAPPING PADS WELDING:	Operator (Name&sign): Mmamabolo Maku	
END 2 TAPPING PADS WELDING:	Operator (Name&sign): Mmamabolo Maku	

	CARBODYSHELL M2 ASSEMBLY DTR31374487/2	Rev. 29	Project: PRASA SI.CB1220.276.V29
		Date 28/10/2023	

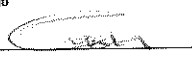
M2 BRACKET INSTALLATION



QUANTITIES (M2)

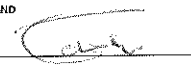
RHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	8	✓	
	B	6	✓	
	C	6	✓	
	D	2	✓	
SEAT BRACKETS	A	13	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	2	✓	
	B	4	✓	
	C	5	✓	
	D	3	✓	

ROOF ENDS:
 C-RAILS 2 OFF EACH END
 EARTH BUSH 6 OFF EACH END

VERIFICATION BY: 

LHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	9	✓	
	B	11	✓	
	C	11	✓	
	D	12	✓	
SEAT BRACKETS	A	12	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	3	✓	
	B	7	✓	
	C	6	✓	
	D	2	✓	

ROOF ENDS:
 C-RAILS 2 OFF EACH END
 EARTH BUSH 6 OFF EACH END

VERIFICATION BY: 

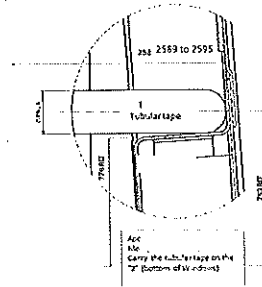
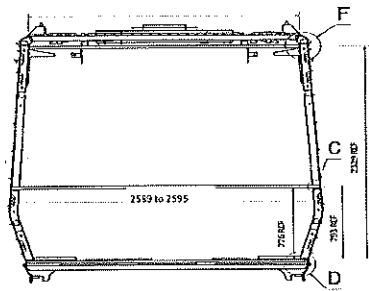


CARBODYSHELL M2 ASSEMBLY DTR31374497/2

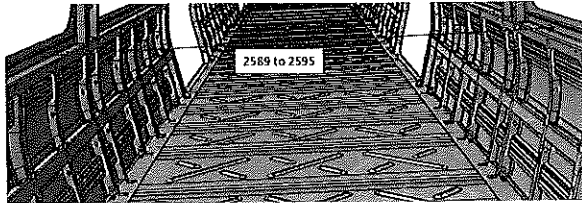
Rev.
29
Date
28/10/2023

Project: PRASA

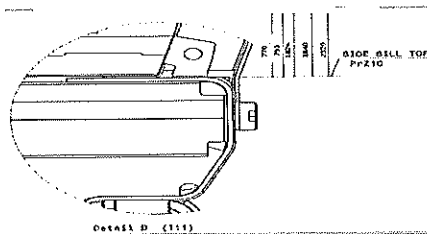
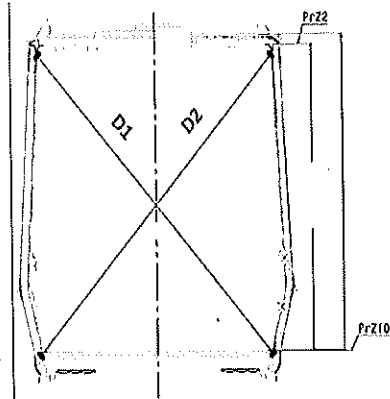
SI.CB1220.276.V29



Detail C



Take measurement close to
radius





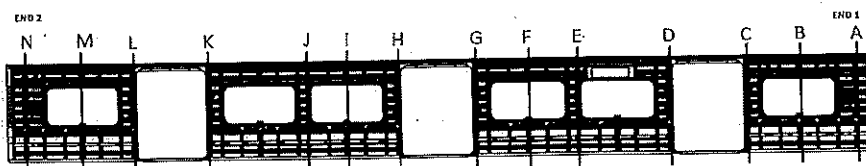
CARBODYSHELL M2 ASSEMBLY DTR31374497/2

Rev.
29
Date
28/10/2023

Project: PRASA

SI.CB1220.276.V29

CBS measurement

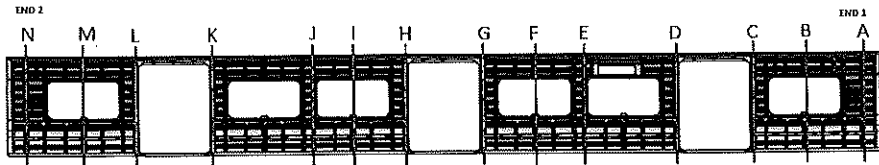


BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3299	3297	2	
B	3268	3263	5	
C	3298	3293	5	
D	3297	3296	1	
E	3263	3266	3	
F	3264	3267	3	
G	3294	3299	5	
H	3295	3300	5	
I	3262	3266	4	
J	3264	3265	1	
K	3296	3295	1	
L	3292	3295	3	
M	3267	3265	2	
N	3295	3297	2	

	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRA5A SI.CB1220.276.V29
		29	
		Date	
		28/10/2023	

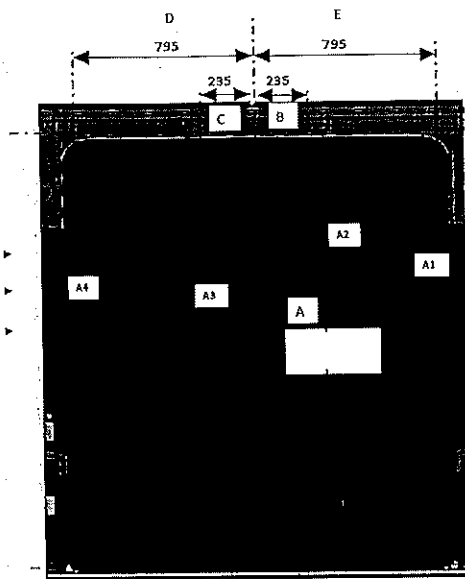
CBS measurement



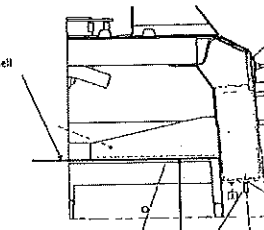
AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3299	3296	3	2595
B	3268	3265	3	2589
C	3298	3294	4	2589
D	3295	3297	2	2589
E	3267	3264	3	2591
F	3267	3265	2	2593
G	3295	3299	4	2595
H	3298	3295	3	2589
I	3266	3262	4	2595
J	3265	3265	1	2595
K	3293	3296	3	2591
L	3293	3294	1	2589
M	3265	3267	2	2589
N	3295	3295	0	2595

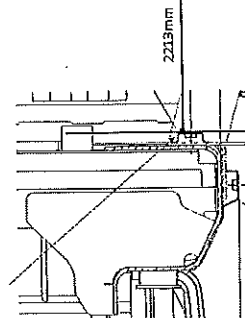
Specifications of Details for CBS measurement CB1220



Brackets Carbodyshell
U Type Supports



Brackets Carbodyshell
Channel Assy



DOOR 1 - LHS

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

DOOR 2 - LHS

	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 - LHS

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

DOOR 1 - RHS

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

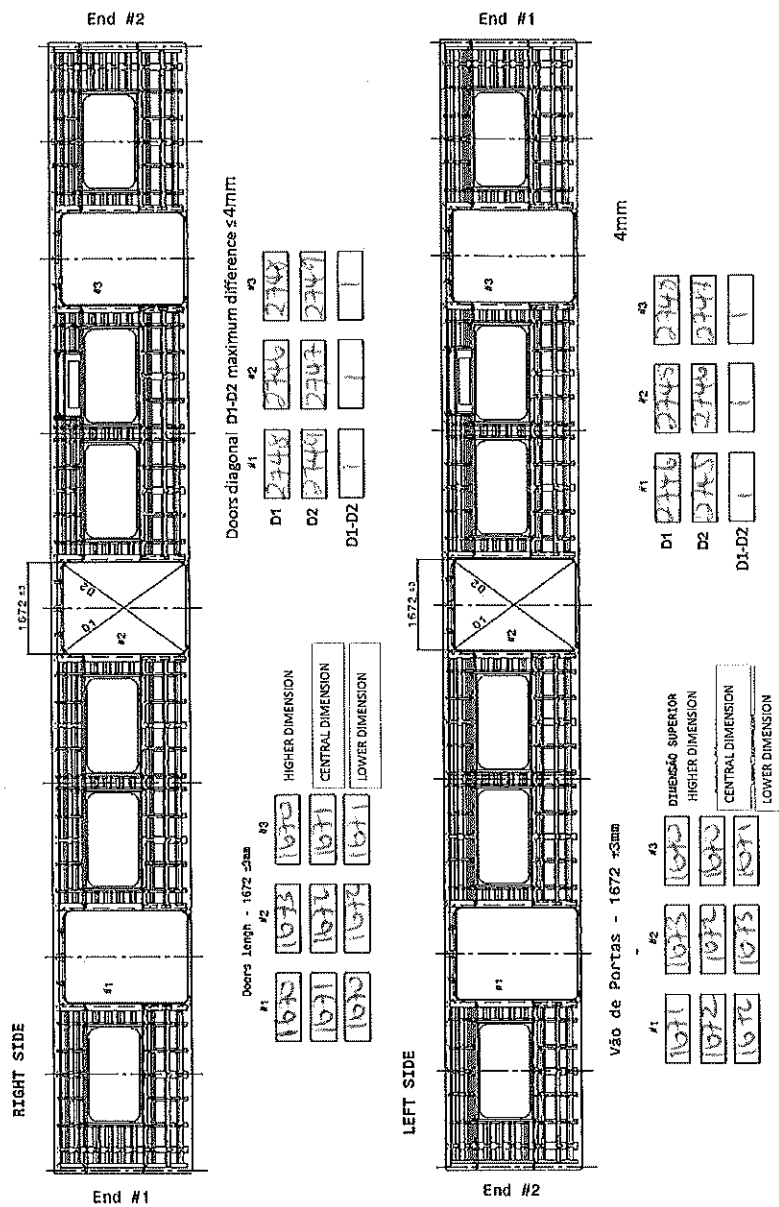
DOOR 2 - RHS

	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	236
D	794 to 796	796
E	794 to 796	795

DOOR 3 - RHS

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

Specifications of Details for CBS measurement CB1220



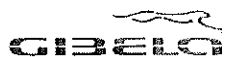
	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRA5A	
		28		
		Date	SI, CB1220.276.V29	
		28/10/2023		

CBS measurement (Manufacturing)				
Dye penetrant test				
Dye-penetration test to be performed by quality personnel				
				

Item	Description of the Issue	Signature/Date (Manufacturing)	Signature/Date (Quality)

IL2 - Check List REX						
Check List Items						
Item	Picture/Drawing	Description	Critique Record	Signature/Date (Manufacturing)	Signature/Date (Quality)	
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX			

		CARBODYSHELL M2 ASSEMBLY DTR31374497/2		Rev.	Project: PRASA SI.CB1220.276.V29	
				29		
				Date		
				28/10/2023		
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	GO	(If activities are not complete, the missing activities must not impact the next stage)	10/02/24	Priscilla		
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party	10/02/24	Richmond		
		There are activities pending that impact/stop 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				
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				


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.

APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE							WORK INSTRUCTION	SAFETY ? 	
				TC1	M4	M1	M2	M3	TC2				
☐	AA0000137497	AAD0001413329	CARBODYSHELL M2 ASSEMBLY	CB1230				X				PRA.CB1230.AA0000137497.V20	YES
☐													
☐													
☐													
☐													
☐													
REV	DATE	MODIFICATION CONTENT			RESPONSIBLE		NAME		DATE				
0	2018/08/02	GIBELA NEW CREATION			APPROVER	Philippe Marques	2018/08/02						
					CHECKER	Nosizo Pindela	2018/08/02						
					COMPILER	Nosizo Pindela	2018/08/02						
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager			APPROVER	Itumeleng Modiba	30/5/2018						
					CHECKER	Nosizo Pindela	30/5/2018						
					REVISED BY	Nosizo Pindela	30/5/2018						
2	2018/05/07	Certain dimensional checks moved to CB1220			APPROVER	Itumeleng Modiba	2018/05/07						
					CHECKER	Nosizo Pindela	2018/05/07						
					REVISED BY	Ramokone Motama	2018/05/07						
5	24/01/2019	As per Baseline 10.2			APPROVER	Itumeleng Modiba	24/01/2019						
					CHECKER	Nosizo Pindela	24/01/2019						
					REVISED BY	Vanessa Ntuli	24/01/2019						
6	13/03/2019	Added Twist and Door Bracket Measurements Remove Door Measurements			APPROVER	Itumeleng Modiba	13/03/2019						
					CHECKER	Nosizo Pindela	13/03/2019						
					REVISED BY	Vanessa Ntuli	13/03/2019						
10	23/03/2019	New Baseline 10.2.5			APPROVER	Itumeleng Modiba	23/08/2019						
					CHECKER	Nosizo Pindela	23/08/2019						
					REVISED BY	Nosizo Pindela	23/08/2019						
	06/08/2020	New Baseline 10.2.6			APPROVER	Timothy Maimela	06/08/2020						
					CHECKER	Bongane Masina							
					REVISED BY	Bongane Masina							
20	19/04/2021	New Baseline change 10.3			APPROVER	Timothy Maimela	19/04/2021						
					CHECKER	Bongane Masina							
					REVISED BY	Bongane Masina							
25	20/02/2022	New Baseline change 10.3.1			APPROVER	Collins Mbombhhi	20/02/2022						
					CHECKER	Andani Muthelo							
					REVISED BY	Andani Muthelo							
26	14/06/2022	Update minimum temperature requirement for sealant application			APPROVER	Collins Mbombhhi	14/06/2022						
					CHECKER	Andani Muthelo							
					REVISED BY	Andani Muthelo							
27	26/07/2022	Threshold measurement addition			APPROVER	Collins Mbombhhi	27/07/2022						
					CHECKER	Andani Muthelo							
					REVISED BY	Andani Muthelo							
28	17/10/2022	Addition of traceability for sealant application			APPROVER	Collins Mbombhhi	17/10/2022						
					CHECKER	Ntokozi Zwane							
					REVISED BY	Amogelang Mohlampe							
29	14/04/2023	Added sealant batch number & welding consumables traceability			APPROVER	Vanessa Ntuli	14/04/2023						
					CHECKER	Ntokozi Zwane							
					REVISED BY	Amogelang Mohlampe							
30	06/11/2023	Added traceability on thresholds for boiler makers and welders			APPROVER	Ngobeni Tyson	06/11/2023						
					CHECKER	Andani Muthelo							
					REVISED BY	Ntokozi Zwane							
TRAINSET	CAR	OPERATOR NAME & ALPS NO		DATE	SELF INSPECTION NUMBER		PAGES						
210	MOU	Sine 426955		12/01/24	SI.CB1230.277.V29		11						



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Car:

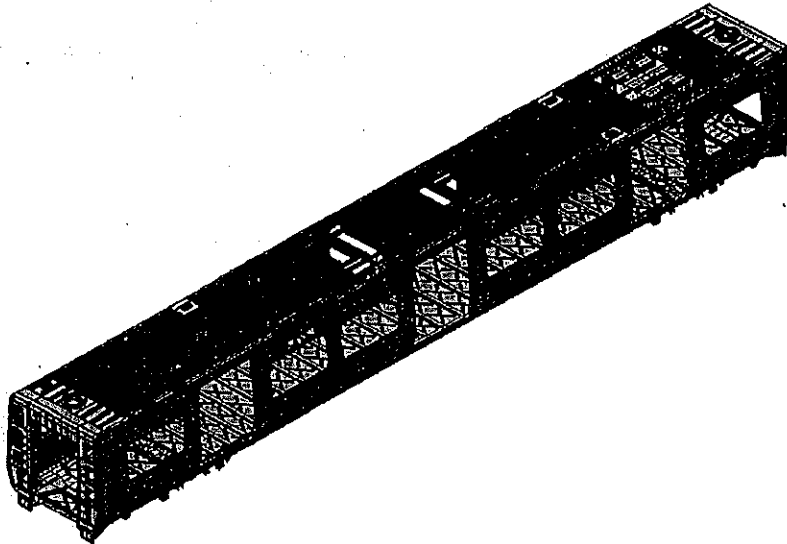
NCR:

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)
	B	M	N	M2	M1	U2						
PRA.CB1230.AA00001374497			X				30		OK		N/A	12/02/24 8 12/02/24

I.2 - Instruments Control**Monitoring and Measuring Instrument Control - Used for Special Process**

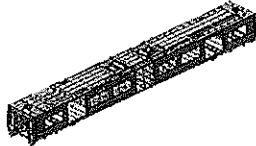
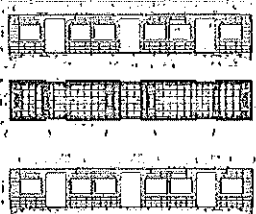
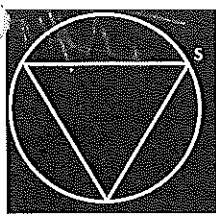
Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Operations)	Signature/Date (Quality)
Tubular	22713	26/06/24	OK		12/02/24 8	12/02/24 8
Combination Square	G180072	24/06/24	OK		12/02/24 8	12/02/24 8

I.3 Consumables**Welding Consumable Control - Used for Special Process**

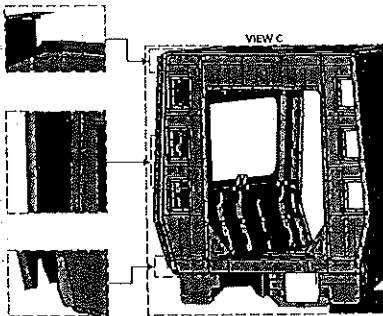
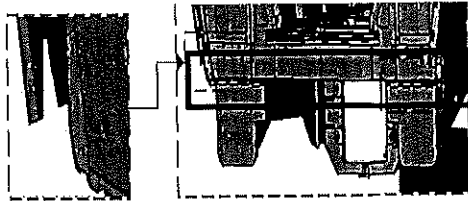
Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 Li	31080	mig welding	OK		12/02/24 8	12/02/24 8

II - Self Inspection - Items to Check

II.1 - Items to check

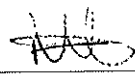
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NO	Remarks	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.AA00001374497 Verification of fitment for all brackets.	PRA.CB1230.AA00001374497	OK			12/02/24 S	12/02/24 S
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	OK			12/02/24 S	12/02/24 S
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	OK			12/02/24 S	12/02/24 S
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	OK			12/02/24 S	12/02/24 S
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			12/02/24 S	12/02/24 S
06		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 fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	OK			12/02/24 S	12/02/24 S
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 (I) Min-Max 10°C - 35°C Relative humidity Min - Max (I) 25% - 80%	Sealant Batch No: 18R 70-03 Exp Date: 05/24 Actuals Temperature: 28°C Humidity: 50%	OK			12/02/24 S	12/02/24 S
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	✓			12/02/24 S	12/02/24 S

AREA 1



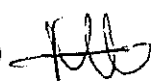
END 2 SEALANT

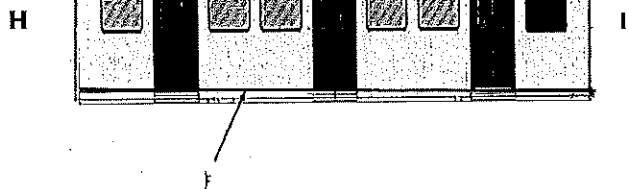
OPERATOR
(Name & sign):

Mthokozisi 

OPERATOR
(Name & sign):

OPERATOR
(Name & sign):

Mthokozisi 



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

Operator (Name & sign):

LHS
D,E,F,G,H,I

RHS
D,E,F,G,H,I

Operator (Name & sign):

Khosy

Khosy

Operator (Name & sign):



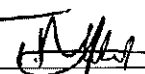


Operator (Name & sign):

Tshendo

Tshendo

Operator (Name & sign):

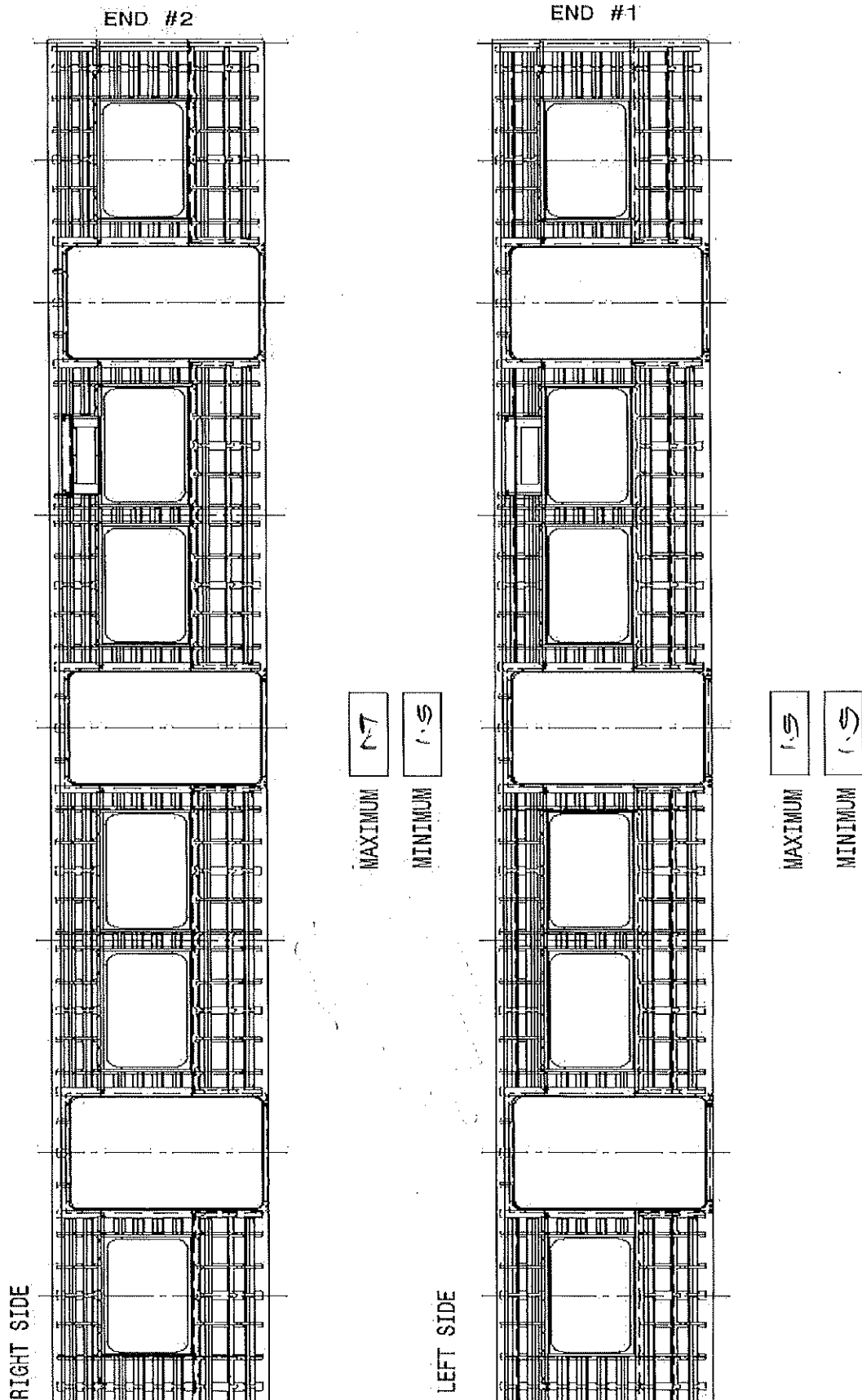




Operator (Name & sign):

Specifications of Details for CBS measurement CB1230

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





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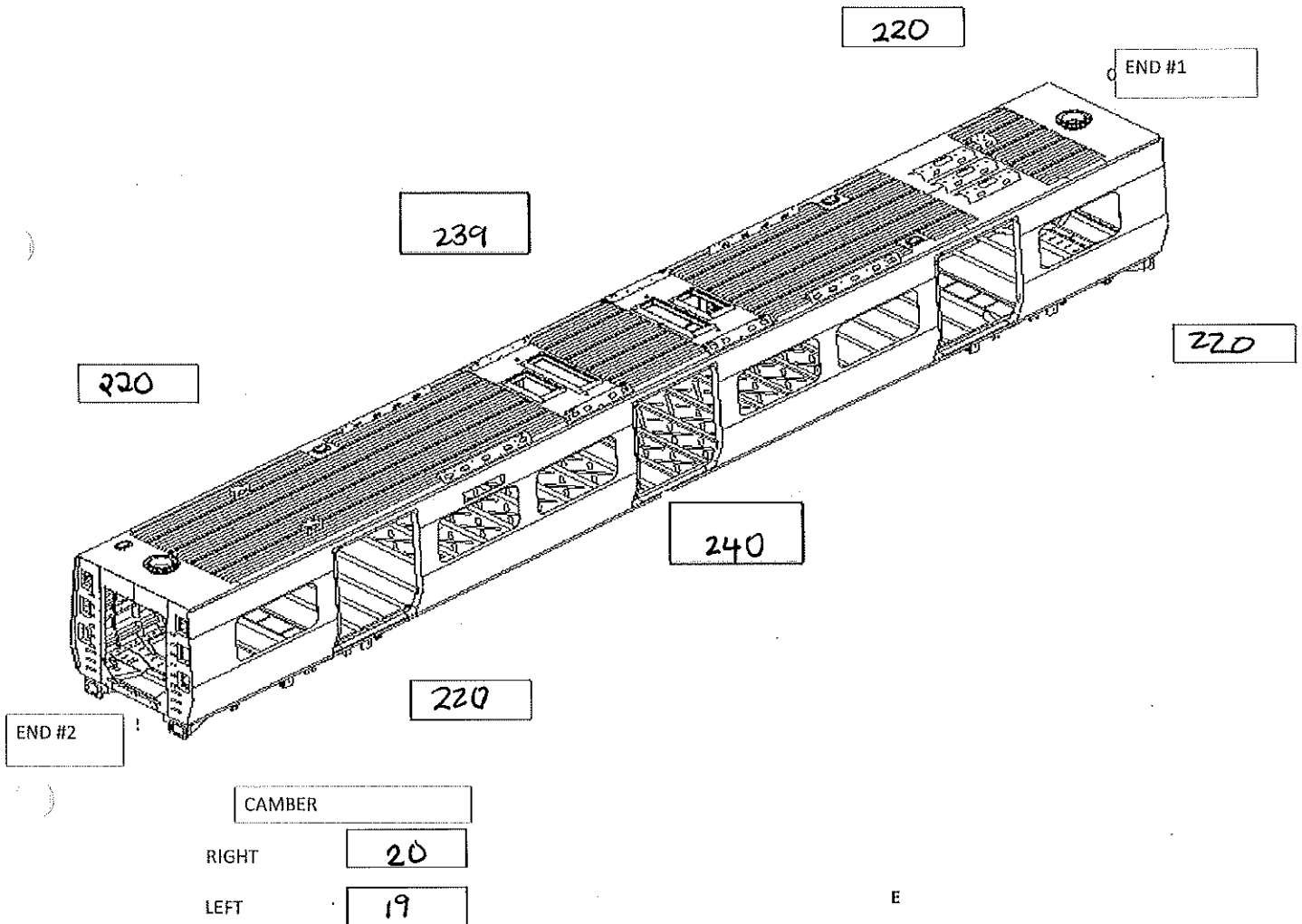
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END #1

END. #2

Specifications of Details for CBS measurement CB1230

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





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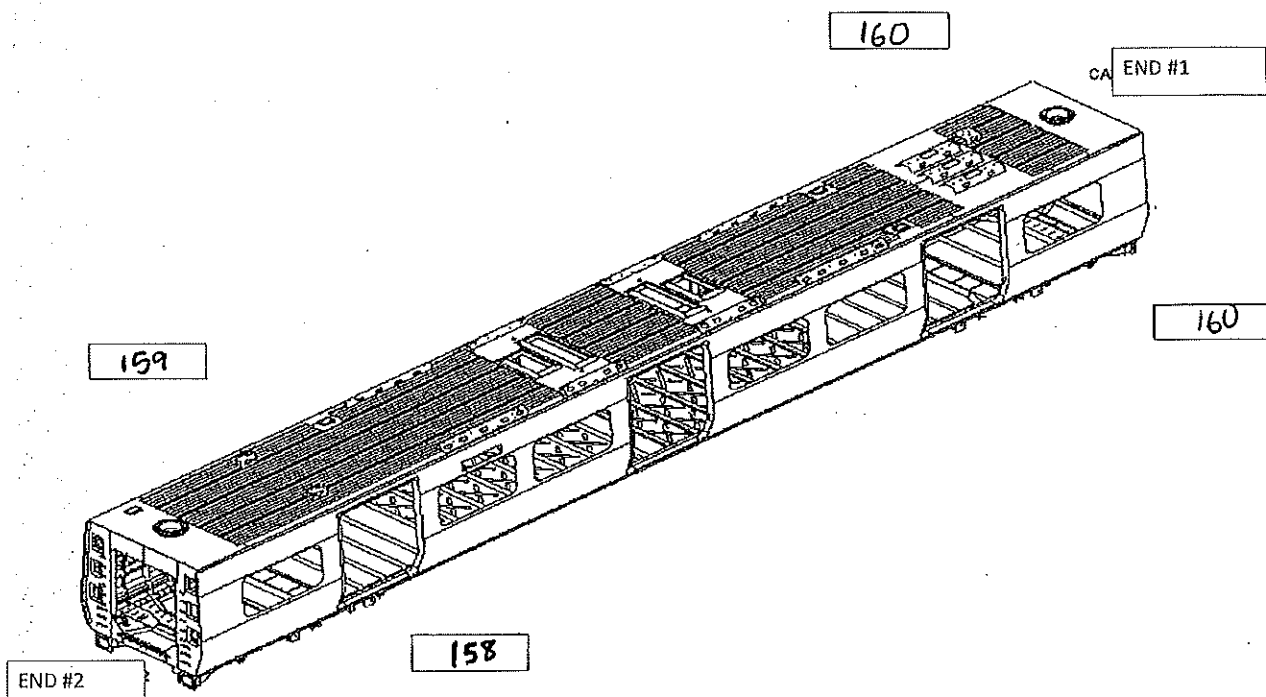
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Specifications of Details for CBS measurement CB1230

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.



TWIST FOUND ON END 1

TRANVERSE

0

LONGITUDINAL

2

TWIST FOUND ON END 2

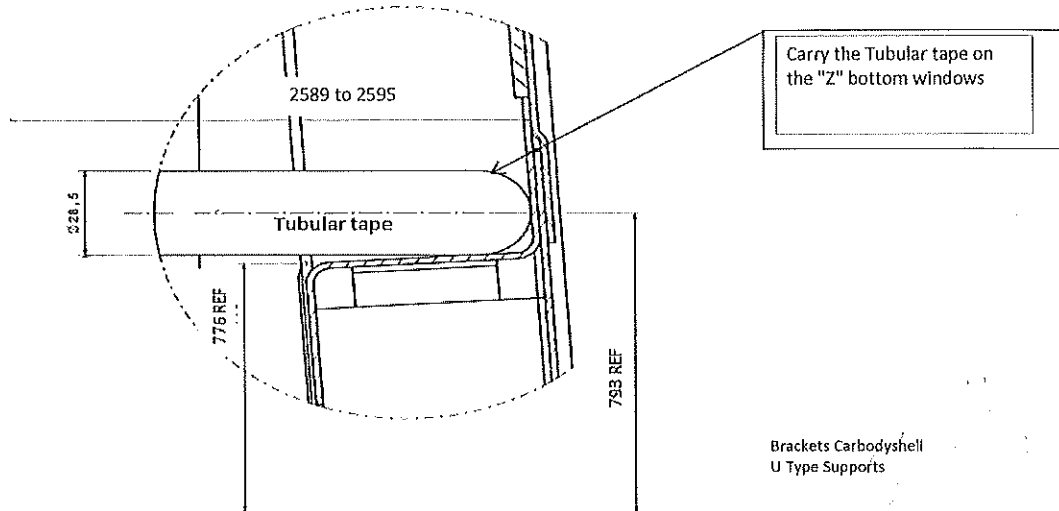
TRANVERSE

1

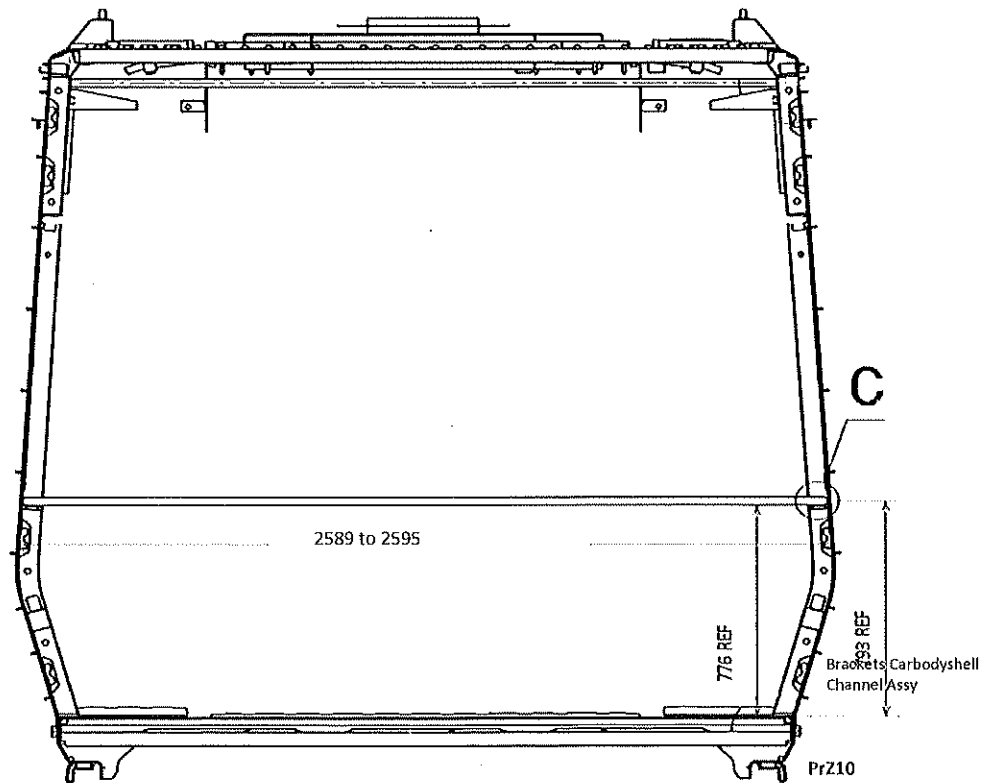
LONGITUDINAL

1

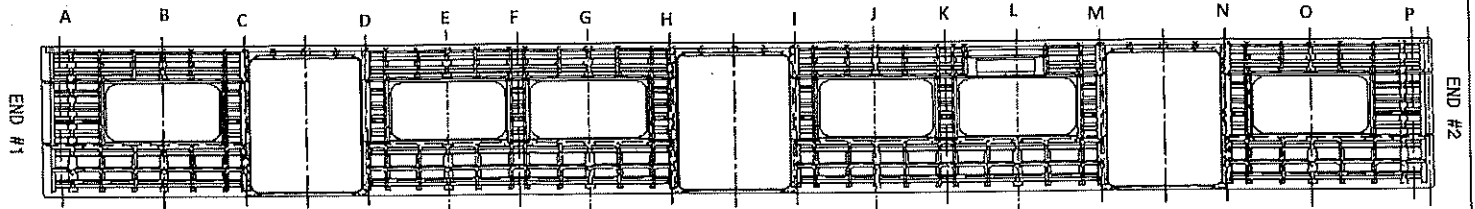
Specifications of Details for GBS measurement CB1230



Detail C

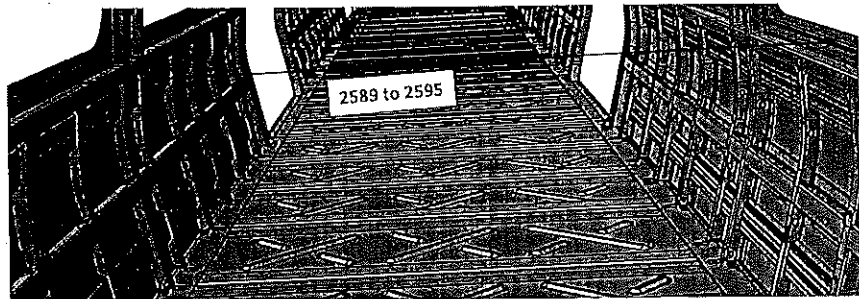


Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



Threshold verification				Nominal value :38	
Door 1		Door 2		Door 3	
L	R	L	R	L	R
38	39	38	38	39	39
Door 4		Door 5		Door 6	
L	R	L	R	L	R
38	38	38	39	38	37

BOILER MAKER: Nmatnapelo

Mesa

WELDER:

Zanele



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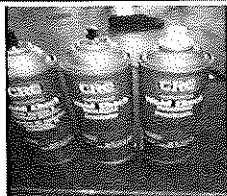
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Dye penetrant test

Dye-penetration test to be performed by quality personnel





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Specifications of Details for CBS measurement

Item	Description of the issue	OK	Signature/Date (Operations)	Signature/Date (Quality)

II.2 - Check List REX

Check List Items

Item	Picture/Drawing	Description	Criteria /Record	OK	NO	Not done	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX					



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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

HOLD POINT

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

12/02/24

Sihle

Operations

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

15/02/2024

Amogelang

Industrial Quality

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

In case of "NO GO", describe blocking problems

10 boxes installation incomplete (End 2) - Completed 15/02/2024

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

Item	Description	Responsible	Due date	Status

Operations

Quality