


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

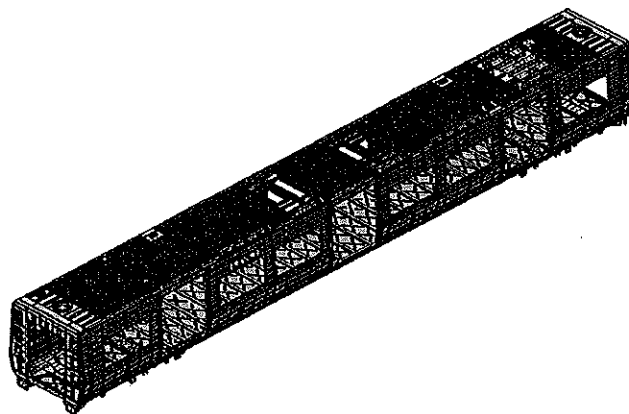
MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE							WORK INSTRUCTION	SAFETY ? 		
				TC1	MA	MA	M2	MA	TC2					
<input type="checkbox"/>	DTR3000152647	AAD0001413329	CARBODYSHELL M2 ASSEMBLY	cb2210									PRA.cb2210.DTR313744 97/3.V25	YES
<input type="checkbox"/>														
REV	DATE	MODIFICATION CONTENT			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 cb2210			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 10.2.5			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			Mhombi collins			17/08/2021			
					CHECKER			Mpho Mulaudzi						
					REVISED BY			Mpho Mulaudzi						
25	21/02/2022	New Baseline change 10.3.1			APPROVER			Mhombi 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						
232	M2	Gerald Mwanisi		10/6/24	SI.CB2210.247.V28			17						

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB2210.247.V28
		Date 07/11/2023	

Car: M2	RCR:	Work station: CB2210
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Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
	D	E	S	M	L	U						
DTR31374497/3			✓						✓		N/A	10/6/24 11/06/24

I.2 - Instruments Control

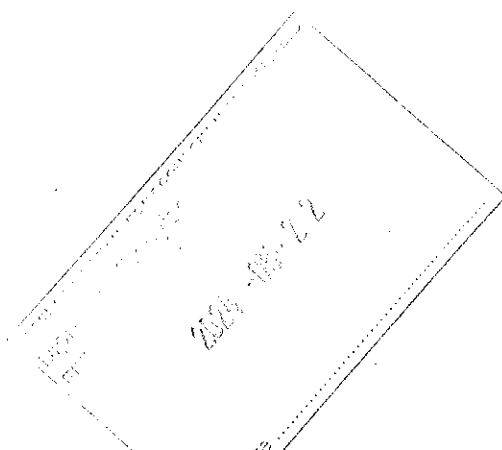
Monitoring and Measuring Instrument Control - Used for Special Process










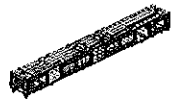


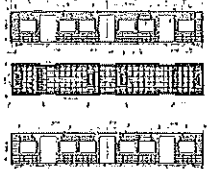




Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubercle	32823-2	15/03/24	✓		10/6/24	10/6/24
100er tape	125425924	08/01/25	✓		10/6/24	10/6/24
30m tape	G18TP0102	18/11/24	✓		10/6/24	10/6/24

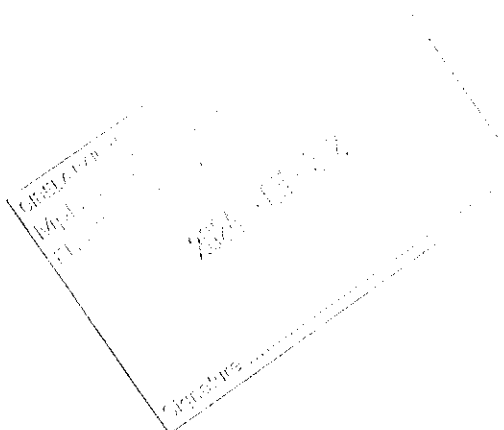
1.3 - Consumables


Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSi	314018-740917	MIG	✓		10/6/24	10/6/24
ER 308 L	244687 70322	TIG	✓		10/6/24	10/6/24

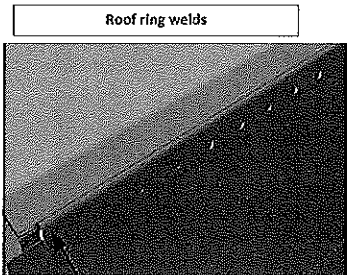


		CARBODYSHELL M2 ASSEMBLY DTR31374497/3		Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.247.V28		
II - Self Inspection - Items to Check							
II.1 - Items to check							
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	AA00001375051	✓		 10/6/24	 11/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓		 10/6/24	 11/06/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 10/6/24	 11/06/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 10/6/24	 11/06/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 10/6/24	 11/06/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓		 10/6/24	 11/06/24
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.	✓		 10/6/24	 11/06/24

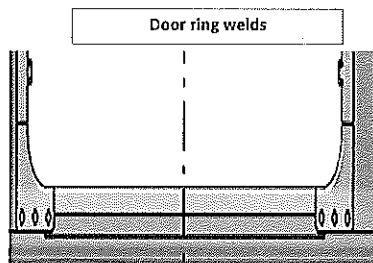


	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB2210.247.V28
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Welder traceability




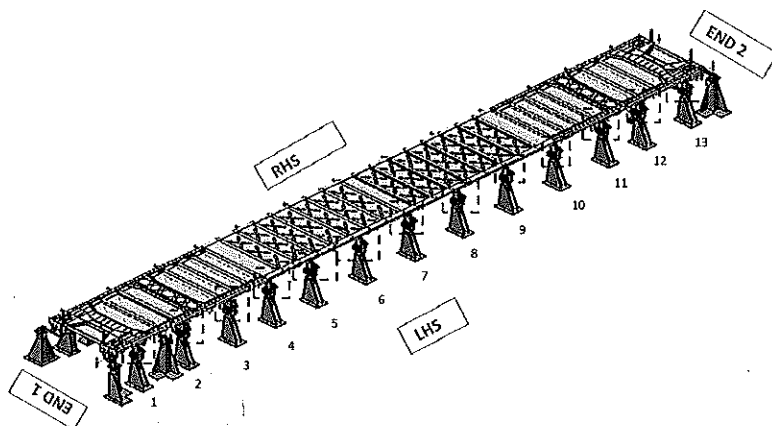
<div style="text-align: right; margin-bottom: 5px;"><u>LHS</u></div> Boiler maker (Name & Sign): <u>[Signature]</u>	<div style="text-align: right; margin-bottom: 5px;"><u>LHS</u></div> Welder (Name & Sign): <u>Mthokozisi</u>
<div style="text-align: right; margin-bottom: 5px;"><u>RHS</u></div> Boiler maker (Name & Sign): <u>[Signature]</u>	<div style="text-align: right; margin-bottom: 5px;"><u>RHS</u></div> Welder (Name & Sign): <u>Mthokozisi</u>



<div style="text-align: right; margin-bottom: 5px;"><u>LHS</u></div> Boiler maker (Name & Sign): <u>[Signature]</u>	<div style="text-align: right; margin-bottom: 5px;"><u>RHS</u></div> Boiler maker (Name & Sign): <u>[Signature]</u>
<div style="text-align: right; margin-bottom: 5px;"><u>LHS</u></div> Welder (Name & Sign): <u>[Signature]</u>	<div style="text-align: right; margin-bottom: 5px;"><u>RHS</u></div> Welder (Name & Sign): <u>Ketso K...</u>

[illegible]

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA St.CB2210.247.V28
		Date 07/11/2023	
Specifications of Details for CBS measurement			

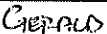


Measure gap between jig pillar / chair and underframe = 0mm. No

After loading and clamping

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


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

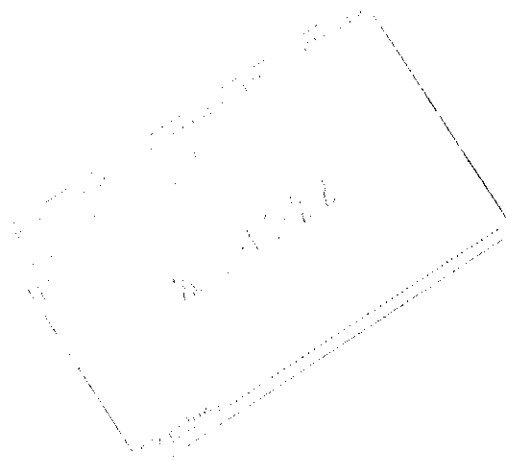
Signature Operations:  Date: 10/08/24

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													
Right Hand Side													

Signature Industrial Quality:  Date: 11/06/24





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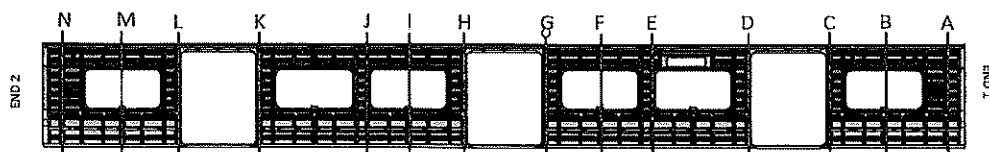
Date

07/11/2023

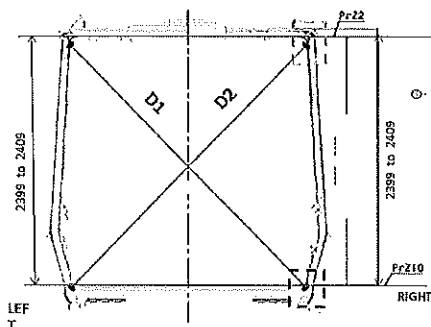
Project: PRASA

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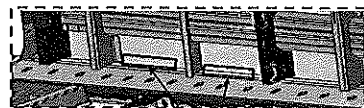
Specifications of Details for CBS measurement



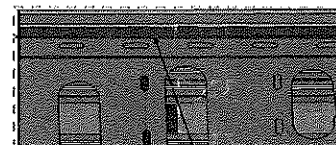
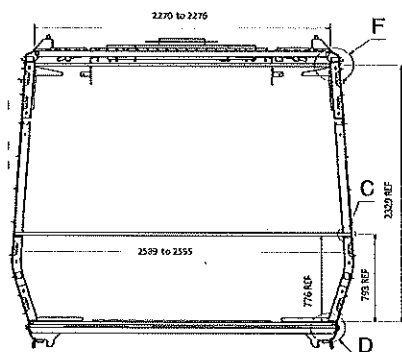
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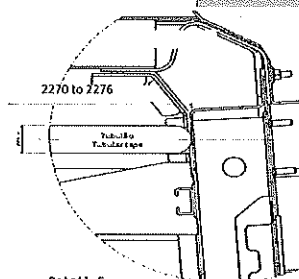
Measurement positions on roof rail and sidewall omega corner.



Measurement positions on sidewall and side sill corner.

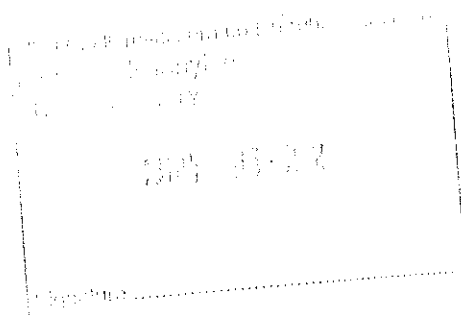


Reinforcement area measurement positions on roof reinforcement area.



Detail F

Don't considering the reinforcement



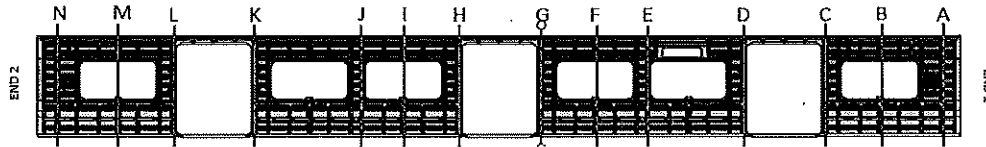


CARBODYSHELL M2 ASSEMBLY DTR31374497/3

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Specifications of Details for CBS measurement

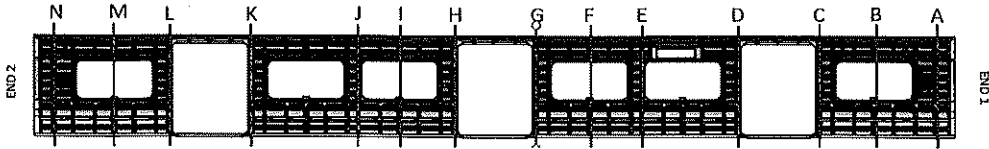
BEFORE WELDING



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

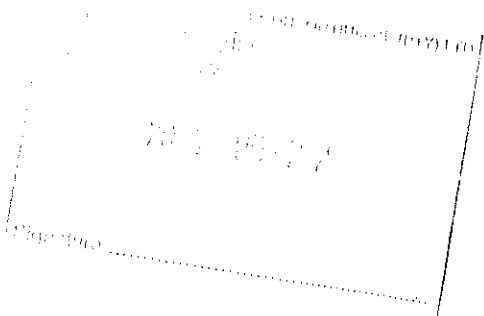
	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3265	3265	0	2406	2405	0
B	3268	3266	2	2406	2405	1
C	3268	3268	0	2405	2406	0
D	3266	3266	0	2405	2405	0
E	3266	3265	1	2406	2406	0
F	3267	3267	0	2406	2405	1
G	3266	3267	1	2405	2405	0
H	3265	3265	0	2406	2405	1
I	3266	3266	0	2405	2405	0
J	3268	3267	1	2406	2405	1
K	3267	3267	0	2406	2406	0
L	3267	3266	1	2404	2404	0
M	3266	3266	0	2405	2405	0
N	3266	3265	1	2406	2405	1


AFTER WELDING



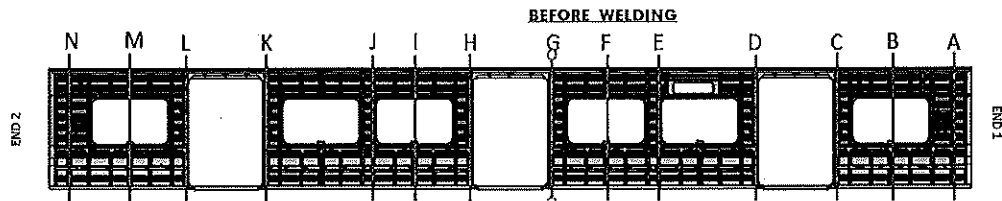
Note: The difference in Height values measured on the LHS and RHS should be ≤2MM on each point.

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3295	3295	0	2406	2405	1
B	3266	3266	0	2405	2405	0
C	3298	3298	0	2404	2406	0
D	3296	3297	1	2405	2404	1
E	3268	3268	0	2405	2405	0
F	3266	3265	1	2406	2405	1
G	3296	3295	1	2406	2404	0
H	3296	3296	0	2405	2405	0
I	3266	3266	0	2406	2405	1
J	3267	3266	1	2406	2406	0
K	3298	3297	1	2406	2405	1
L	3297	3297	0	2405	2405	0
M	3265	3265	0	2406	2405	1
N	3298	3298	0	2405	2405	0

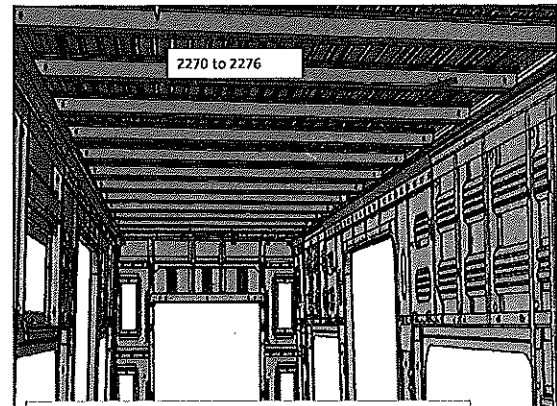


	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB2210.247.V28
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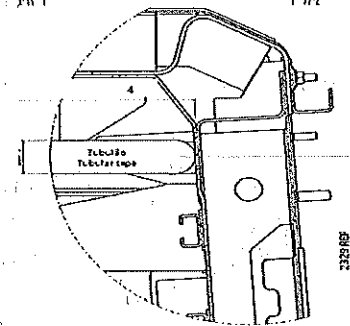
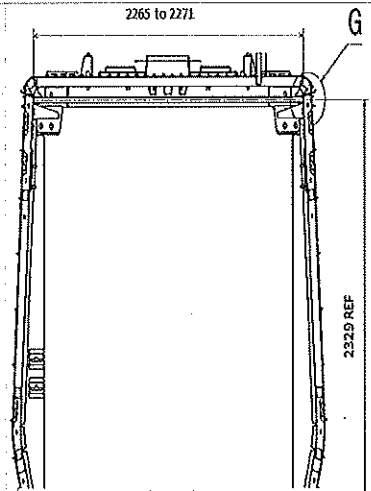
CBS measurement



	2270 to 2276
A	2275
B	2273
C	2272
D	2276
E	2275
F	2274
G	2271
H	2273
I	2276
J	2274
K	2274
L	2273
M	2272
N	2274



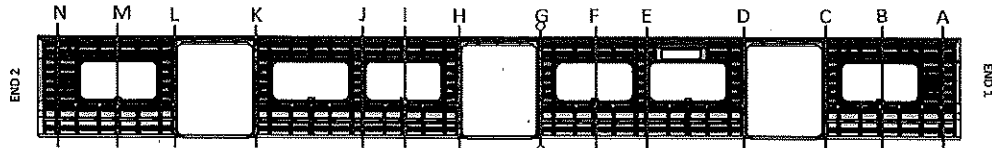
Do not consider reinforcement (Take measurements top area of zee profile



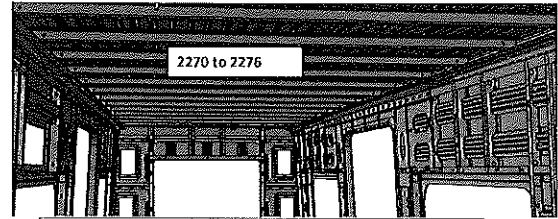
Detail G

Considering the reinforcement plate

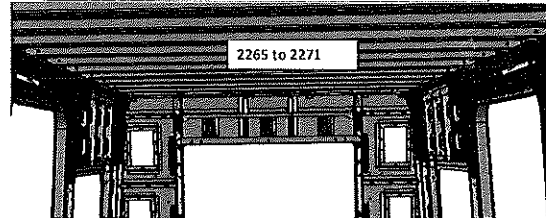
AFTER WELDING



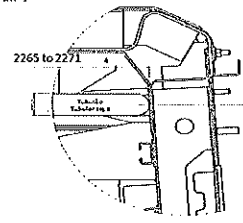
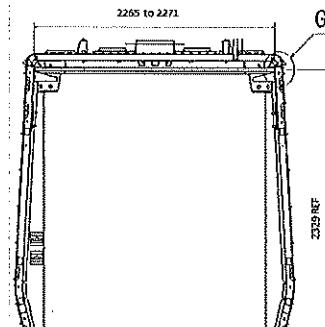
	2265 to 2271	2270 to 2276
A	2270	N/A
B	N/A	2275
C	2271	N/A
D	2270	N/A
E	N/A	2274
F	N/A	2273
G	2270	N/A
H	2271	N/A
I	N/A	2275
J	N/A	2276
K	2269	N/A
L	2270	N/A
M	N/A	2274
N	2269	N/A



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



Take measurement close to radius (considering reinforcement)



Detail G
Consider reinforcement plate



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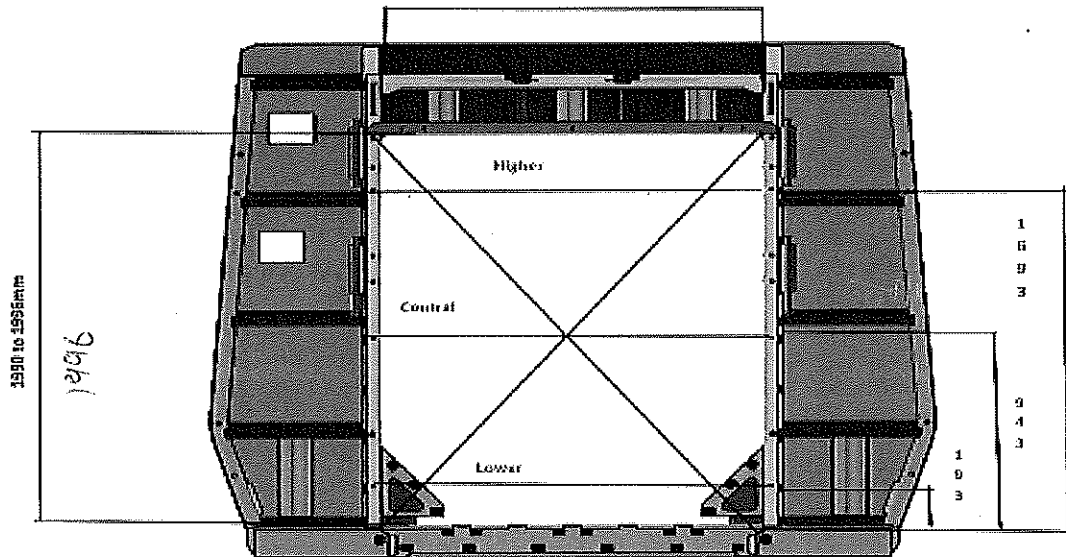
Project: PRASA
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Date
07/11/2023

CBS measurement

End frame 1

1380 to 1382 mm



1380 to 1382 mm

DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension

1380

D1

2915

Central Dimension

1380

D2

2915

Lower Dimension

1380

D1-D2

0



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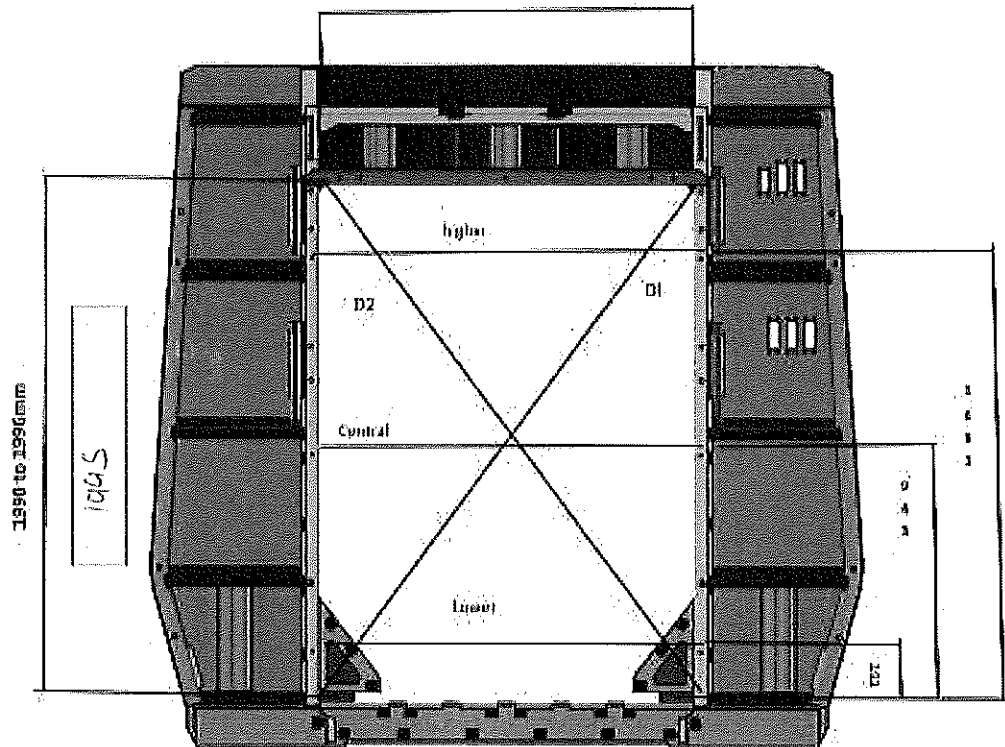
Date

07/11/2023

Project: PRASA

SI.CB2210.247.V28

End frame 2



1380 to 1382 mm

DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension

1380

D1

2915

Central Dimension

1381

D2

2916

Lower Dimension

1380

D1-D2

1



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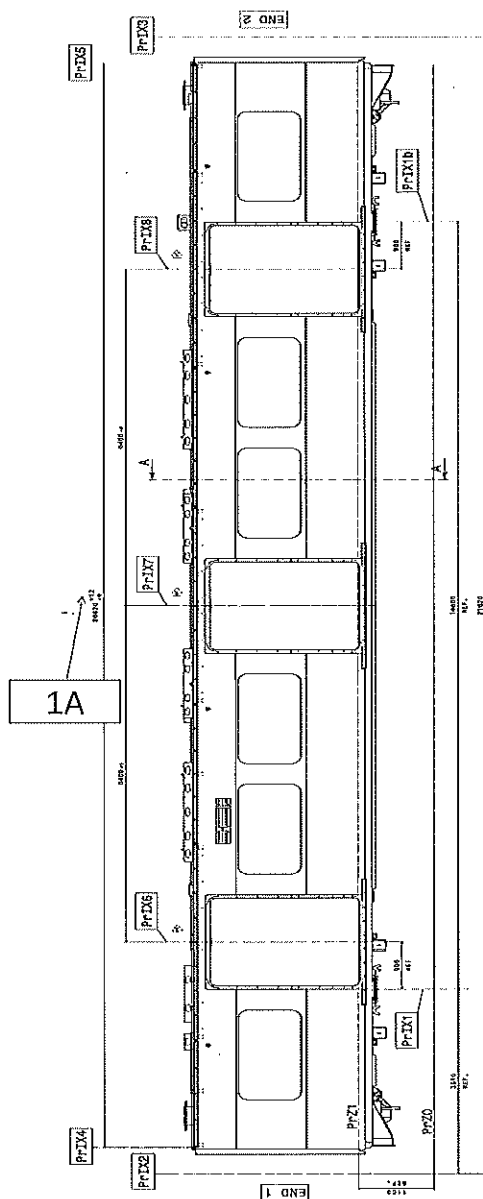
Project: PRASA

SI.CB2210.247.V28

Date

07/11/2023

Specifications of Details for CBS measurement




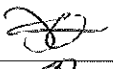

LEFT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20612

RIGHT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20613

Dye penetrant test

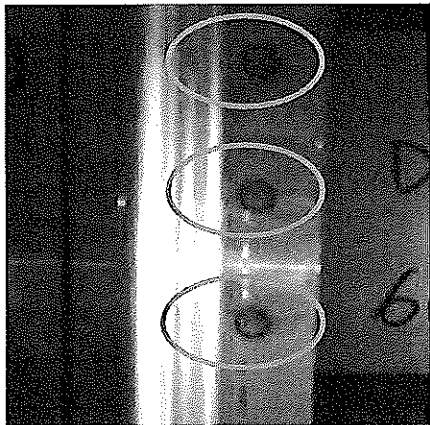
Dye-penetration test to be performed by quality personnel

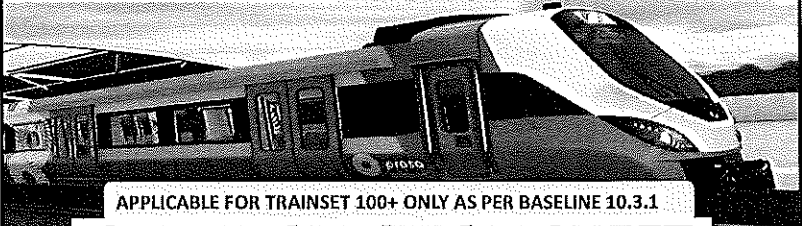




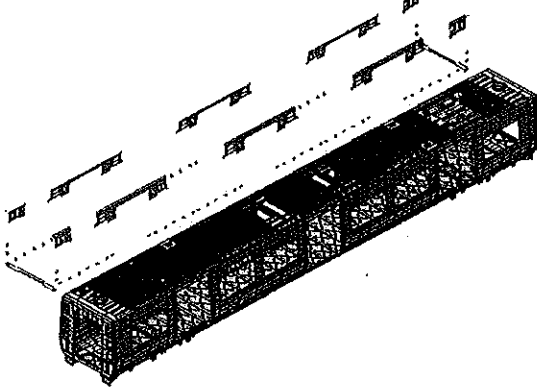
		CARBODYSHELL M2 ASSEMBLY DTR31374497/3		Rev. 28	Project: PRASA SI.CB2210.247.V28	
				Date 07/11/2023		
Self Inspection - Final Result						
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT		GO	(If activities are not complete, the missing activities must not impact the next stage!)	11/10	Andean Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	11/06/24	Sibusso Industrial Quality	
	NO GO	There are activities pendings 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	
			<div style="display: flex; justify-content: space-between;"> Operations Quality </div>			

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB2210.247.V28
		Date 07/11/2023	


ANNEXURE A: Spot Welding Quality Acceptance Standard





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 ?	
				TCL	M1	M2	M3	M4	TCL			
<input type="checkbox"/>	DTR33374497/2	ADD0001413329	CARBODYSHELL M2 ASSEMBLY	CB2220				X			PRA.CB2220.DTR3137 4497/2.V21	YES
<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	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	Ramokone 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	Ramokone 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 Remove		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							
				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	20/02/2022	New Baseline change 10.3.1		APPROVER	Mbhombi Collins	20/02/2022						
				CHECKER	Andani Muthelo							
				REVISED BY	Andani Muthelo							
26	14/06/2022	Update minimum temperature requirement for sealant application		APPROVER	Mbhombi Collins	14/06/2022						
				CHECKER	Andani Muthelo							
				REVISED BY	Andani Muthelo							
27	17/10/2022	Addition of traceability for sealant application and welding.		APPROVER	Mbhombi Collins	17/10/2022						
				CHECKER	Ntokoza Zwane							
				REVISED BY	Amogelang Mholampe							
28	14/04/2023	Added sealant batch number & welding consumables traceability		APPROVER	Vanessa Ntuli	14/04/2023						
				CHECKER	Ntokoza Zwane							
				REVISED BY	Amogelang Mholampe							
29	28/10/2023	Addition of bracket quantity		APPROVER	Ngobeni Tyson	28/10/2023						
				CHECKER	Mathapo Kelebone							
				REVISED BY	Mholampe Amogelang							
TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES							
232	M02	Levi 483003	11/06/2024	SI.CB2220.276.V29	15							

		CARBODYSHELL M2 ASSEMBLY DTR31374497/2		Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.276.V29	
Cart: M2		NCR:		Work station:		CB2220
 Safety Related						
						
(- Documentation and Instruments Control						
L1 - Documentation Control						
		Type of car TCI WC MC NC SC PC				
Document		Revision	Observation	OK		Signature/Date (Manufacturing)
DTR31374497/2		29	28/10/2023			N/A 11/06/24
						11/06/24
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)
Tubular	32823-2	15/05/2024 - 15/03/2025	X		L. S. 11/06/24	
Measuring Tape	45877052	17/04/2024 - 17/04/2025	X		L. S. 11/06/24	11/06/24
1.3 Consumables						
Welding Consumable Control - Used for Special Process						
Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Welding 308 LSi	E221880	Mig	X			11/06/24

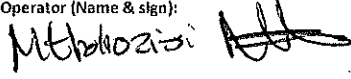
GIBELQ		CARBODYSHELL M2 ASSEMBLY DTR31374497/2		Rev. 28	Project: PRASA		
				Date 28/10/2023	SI.CB2220.276.V29		
II - Self Inspection - Items to Check							
II.1 - Items to check							
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)	
01	N/A	Assembly according to Instruction Engineering n° PRA.CB2220. DTR31374497/2 Verification of fitment for all reinforcement brackets	PRA.CB2220. DTR31374497/2	✓			11/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DT00000210675	✓			11/06/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			11/06/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			11/06/24
05		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓			11/06/24
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 DT00000210658.	As the welding procedure IND-SAL-WMS-018 and DT00000210658.	✓			11/06/24
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 Min - Max (%) 25% - 60%	Sealant Batch No: <u>B4197</u> Exp Date: <u>16/06/24</u> Actuals: Temperature: <u>10</u> Humidity: <u>60</u>	✓			11/06/24
08	NA	Verification of sealant application in certain regions in the drawing	AAD0001413329	✓			11/06/24

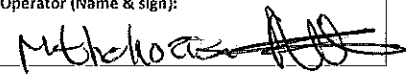
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		29	
		Date	
		28/10/2023	
		SI.CB2220.276.V29	


SEALANT APPLICATION



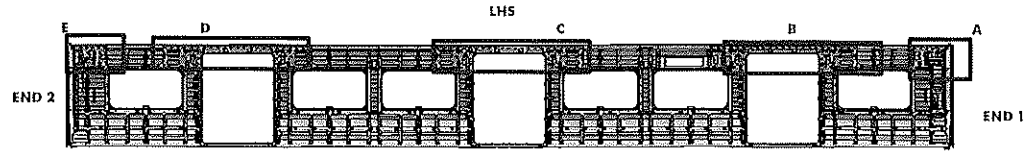
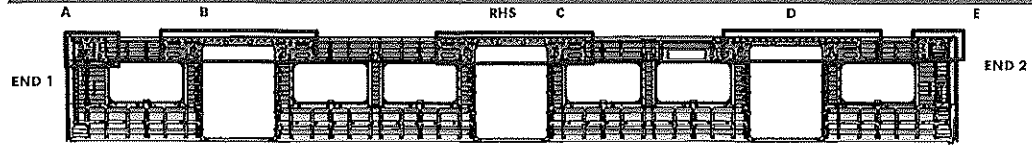
AREA 1 & 2 END 1

Operator (Name & sign):




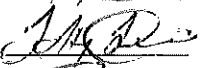

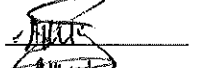

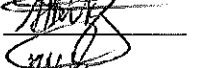
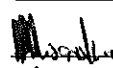
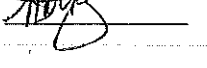

Operator (Name & sign):



	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA SI.CB2220.276.V29
		28	
		Date	
		28/10/2023	

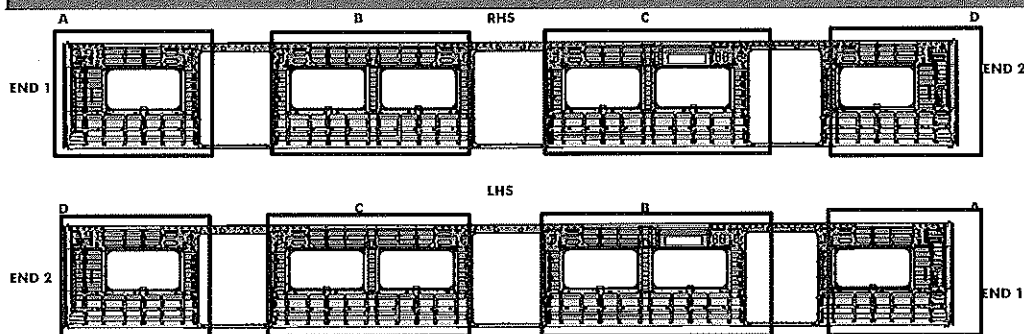
II - Self Inspection - Items to Check



REINFORCEMENT WELDING


AREA	LHS	RHS
A	Operator (Name&sign): 	LINDO 
B	Operator (Name&sign): 	LINDO 
C	Operator (Name&sign): 	LINDO 
D	Operator (Name&sign): 	
E	Operator (Name&sign): 	

	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA SI.CB2220.276.V29
		29	
		Date	
		28/10/2023	
II - Self Inspection - Items to Check			

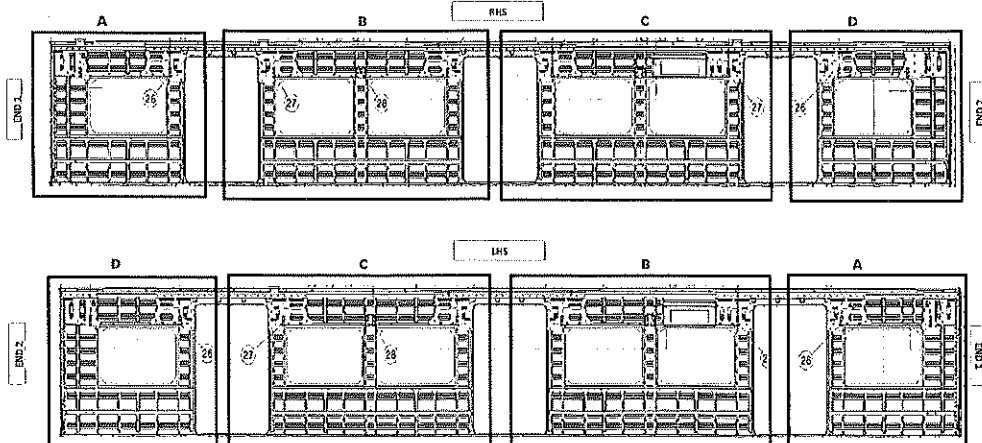


BRACKETING

C-RAILS:		Operator:	INSTALLATION Pmsellu GIBELA
DOOR MECHANISMS:		Operator:	Mthoko
TAPPING PADS		Operator:	Mthoko
		Operator:	
INSTALLATION & VERIFICATION			
SEAT & LUGGAGE BRACKETS:		Operator:	hemi
		Operator:	hemi
SEAT BRACKETS VERIFICATION:		Operator:	hemi
		Operator:	
WELDING			
AREA		LHS	RHS
A	(Seat brackets)	: Operator (Name&sign):	S. Magoni
	(C-rails, Luggage and earth bushes)	: Operator (Name&sign):	Thulani
B	(Seat brackets)	: Operator (Name&sign):	Thulani
	(C-rails, Luggage and earth bushes)	: Operator (Name&sign):	Thulani
C	(Seat brackets)	: Operator (Name&sign):	S. Magoni
	(C-rails, Luggage and earth bushes)	: Operator (Name&sign):	Thulani
D	(Seat brackets)	: Operator (Name&sign):	Thulani
	(C-rails, Luggage and earth bushes)	: Operator (Name&sign):	Thulani
ENDS			
END 1 TAPPING PADS WELDING:		Operator (Name&sign):	S. Magoni
END 2 TAPPING PADS WELDING:		Operator (Name&sign):	S. Magoni

	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA
		26	
		Date	SI.CB2220.276.V29
		28/10/2023	


M2 BRACKET INSTALLATION



QUANTITIES (M2)


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

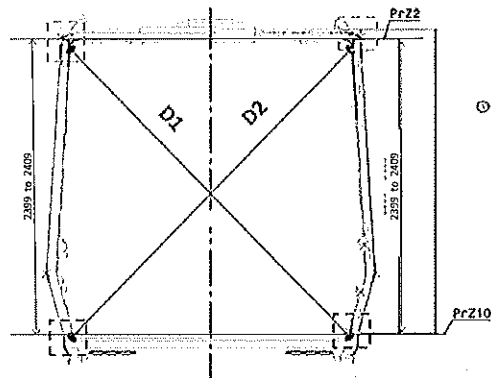
VERIFICATION BY: 



CARBODYSHELL M2 ASSEMBLY DTR31374497/2

Rev.
29
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28/10/2023

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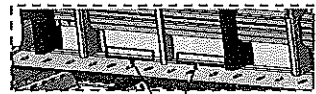
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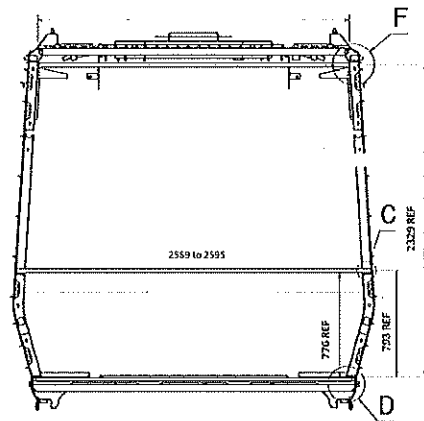
Measurement positions on roof rail and sidewall corner.

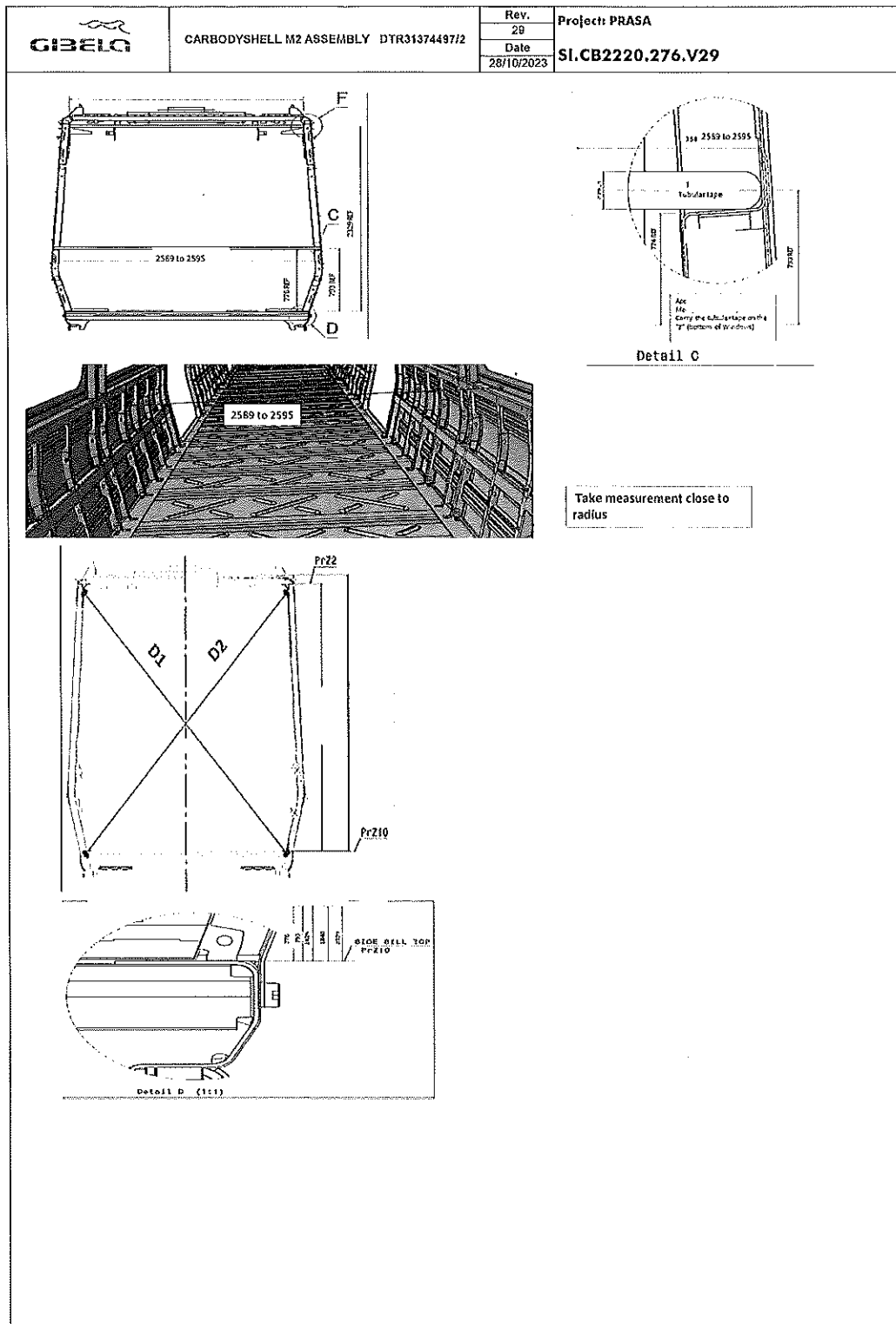



Reinforcement area measurement positions on roof reinforcement area.

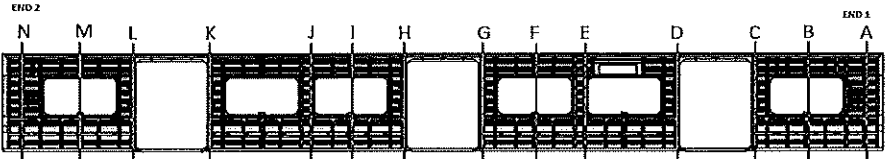


Measurement positions on sidewall and side sill corner.






	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA SI.CB2220.276.V29
		Date 28/10/2023	
		CBS measurement	

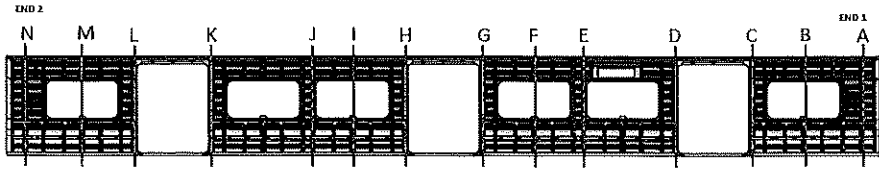


BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3213	3216	3	
B	3268	3263	5	
C	3297	3299	2	
D	3297	3293	4	
E	3270	3266	4	
F	3269	3267	2	
G	3292	3296	4	
H	3295	3294	1	
I	3266	3266	2	
J	3266	3268	2	
K	3295	3296	1	
L	3294	3296	2	
M	3266	3267	1	
N	3296	3293	3	

	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA SI.CB2220.276.V29
		29	
		Date	
		28/10/2023	

CBS measurement



AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3295	3297	2	2595
B	3265	3267	2	2589
C	3295	3791	2	2589
D	3292	3293	1	2592
E	3263	3264	1	2593
F	3263	3262	1	2592
G	3290	3292	2	2592
H	3293	3294	1	2589
I	3263	3264	1	2592
J	3264	3265	1	2594
K	3296	3298	1	2595
L	3293	3294	1	2590
M	3265	3265	0	2590
N	3293	3295	2	2595



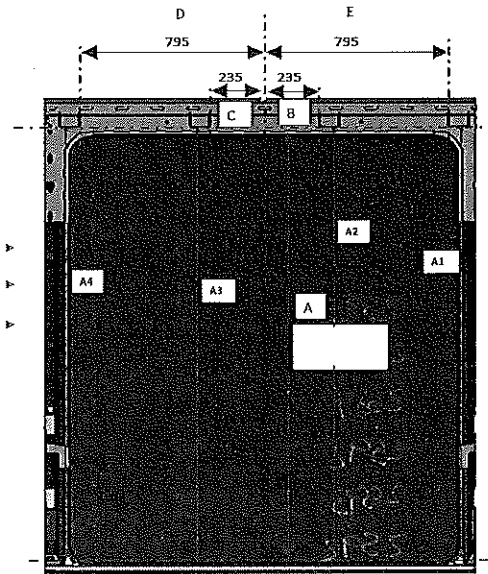
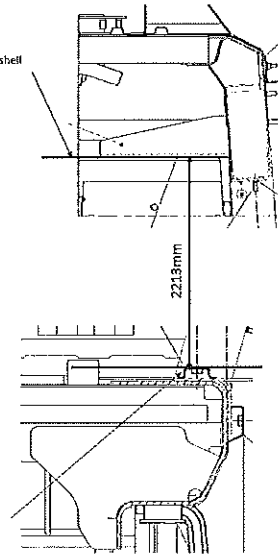
CARBODYSHELL M2 ASSEMBLY DTR31374497/2

Rev.	29
Date	28/10/2023

Project: PRASA


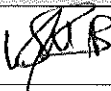

SI.CB2220.276.V29

Specifications of Details for CBS measurement CB1220

Brackets Carbodyshell
U Type SupportsBrackets Carbodyshell
Channel Assy


DOOR 1 - LHS			DOOR 2 - LHS			DOOR 3 - LHS		
VALUE		ACTUAL	VALUE		ACTUAL	VALUE		ACTUAL
A1	2230 to 2232	2230	A1	2230 to 2232	2230	A1	2230 to 2232	2231
A2	2230 to 2232	2230	A2	2230 to 2232	2231	A2	2230 to 2232	2230
A3	2230 to 2232	2231	A3	2230 to 2232	2231	A3	2230 to 2232	2231
A4	2230 to 2232	2231	A4	2230 to 2232	2230	A4	2230 to 2232	2230
B	234 to 236	235	B	234 to 236	235	B	234 to 236	235
C	234 to 236	235	C	234 to 236	235	C	234 to 236	235
D	794 to 796	795	D	794 to 796	795	D	794 to 796	795
E	794 to 796	795	E	794 to 796	795	E	794 to 796	795

DOOR 1 - RHS			DOOR 2 - RHS			DOOR 3 - RHS		
VALUE		ACTUAL	VALUE		ACTUAL	VALUE		ACTUAL
A1	2230 to 2232	2230	A1	2230 to 2232	2230	A1	2230 to 2232	2230
A2	2230 to 2232	2231	A2	2230 to 2232	2231	A2	2230 to 2232	2231
A3	2230 to 2232	2231	A3	2230 to 2232	2231	A3	2230 to 2232	2230
A4	2230 to 2232	2230	A4	2230 to 2232	2230	A4	2230 to 2232	2230
B	234 to 236	235	B	234 to 236	235	B	234 to 236	235
C	234 to 236	235	C	234 to 236	235	C	234 to 236	235
D	794 to 796	795	D	794 to 796	795	D	794 to 796	795
E	794 to 796	795	E	794 to 796	795	E	794 to 796	795

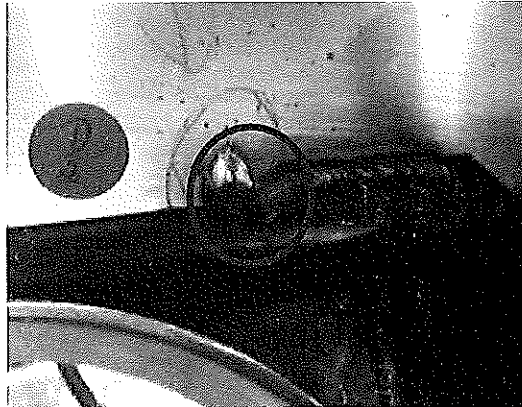
		CARBODYSHELL M2 ASSEMBLY DTR31374497/2		Rev. 29	Project: PRASA	
				Date 28/10/2023	SI.CB2220.276.V29	
		Self Inspection - Final Result				
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT		GO	(If activities are not complete, the missing activities must not impact the next stage)	11/06/24	Léni Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party	11/06/24	Richardson 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			
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	

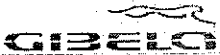
Operations

Quality

 GIBEL	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA
		29	
		Date	
		28/10/2023	
		SI.CB2220.276.V29	

ANNEXURE A: Arc Welding Quality Acceptance Standard





APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1


SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

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	M2	M3	M4	M5	TC2		
<input type="checkbox"/>	AA00001374497	CARBODYSHELL M2 ASSEMBLY	CB1230					X			PRA CB1230.AA00001374497.V20	YES
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
	DATE	MODIFICATION CONTENT							RESPONSIBLE	NAME	DATE	
0	2018/08/02	GIBELA NEW CREATION	APPROVER							Philipe 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	
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		
25	20/02/2022	New Baseline change 10.3.1	APPROVER							Collins Mbombhi	20/02/2022	
			CHECKER							Andani Muthelo		
			REVISED BY							Andani Muthelo		
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER							Collins Mbombhi	14/06/2022	
			CHECKER							Andani Muthelo		
			REVISED BY							Andani Muthelo		
27	26/07/2022	Threshold measurement addition	APPROVER							Collins Mbombhi	27/07/2022	
			CHECKER							Andani Muthelo		
			REVISED BY							Andani Muthelo		
28	17/10/2022	Addition of traceability for sealant application	APPROVER							Collins Mbombhi	17/10/2022	
			CHECKER							Ntokozo Zwane		
			REVISED BY							Amogelang Mohlampe		
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER							Vanessa Ntuli	14/04/2023	
			CHECKER							Ntokozo Zwane		
			REVISED BY							Amogelang Mohlampe		
30	06/11/2023	Added traceability on thresholds for boiler makers and welders	APPROVER							Ngebeni Tyson	06/11/2023	
			CHECKER							Andani Muthelo		
			REVISED BY							Ntokozo Zwane		
TRAINSET	CAR	OPERATOR NAME & ALPS NO		DATE		SELF INSPECTION NUMBER			PAGES			
232	MU2	Nonhlantla 4127423		13/06/24		SI.CB1230.277.V29			11			

~~CONFIDENTIAL~~

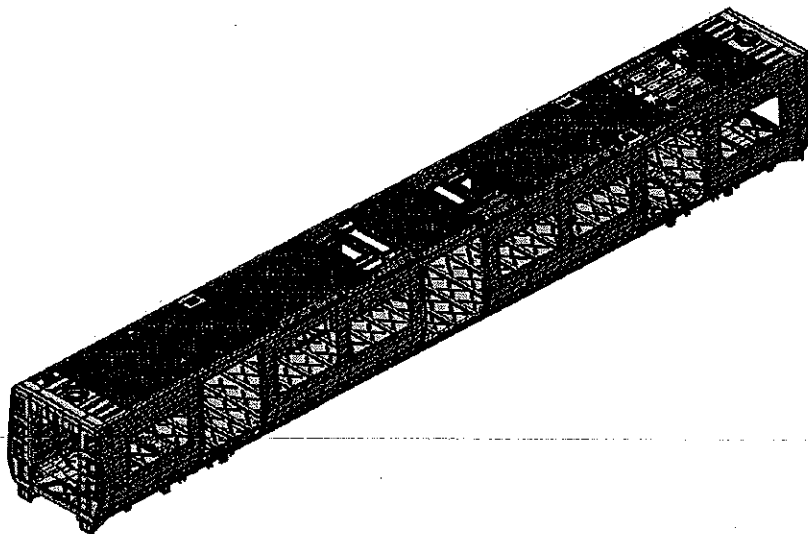
2024 -06- 12

INDUSTRIAL QUALITY
MAINTENANCE

	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA SI.CB1230.277.V29
		Date 06/11/2023	
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)
	TC1	M1	M2	M3	M4	TC2						
PRA.CB1230.AA00001374497							30		✓	N/A	13/06/24	13/06/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instrument	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Operations)	Signature/Date (Quality)
Turular	22316	02/07/2024	✓		13/06/24	13/06/24
Combination Square	GIBCS3472	02/08/2024	✓		13/06/24	13/06/24
Measuring Tape	GIBSP0049	24/08/2024	✓		13/06/24	13/06/24

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	314018-707	MIG	✓		13/06/24	13/06/24



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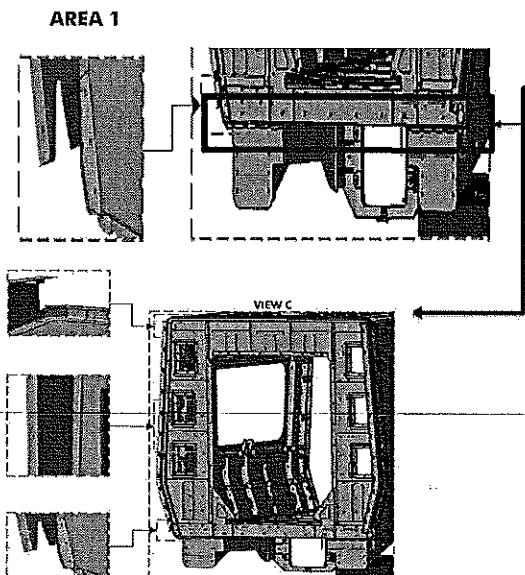
II - Self Inspection - Items to Check

II.1 - Items to check

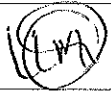
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK			Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.AA00001374497 Verification of fitment for all brackets.	PRA.CB1230.AA00001374497	✓			 13/06/24	 13/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			 13/06/24	 13/06/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			 13/06/24	 13/06/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			 13/06/24	 13/06/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below. 	✓			 13/06/24	 13/06/24
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 DTD0000210658.	INDUSTRIAL QUALITY As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓			 13/06/24	 13/06/24
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 (1) Min-Max 10°C - 35°C Relative humidity Min - Max (1) Min-Max 25% - 60%	Sealant Batch No: 105386 Exp Date: 08/07/24 Actuals Temperature: 12.2°C Humidity: 57%	✓			 13/06/24	 13/06/24
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	✓			 13/06/24	 13/06/24

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END 2 SEALANT




OPERATOR
(Name & sign):

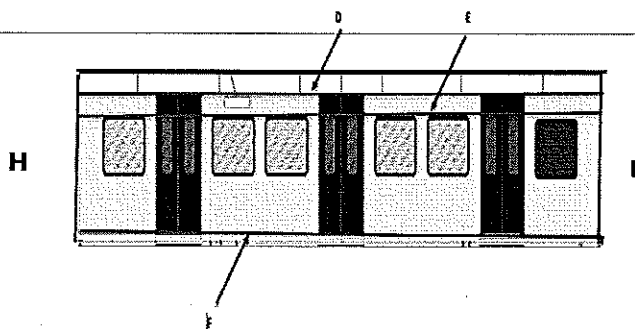
LERATO 

OPERATOR
(Name & sign):

LERATO 

OPERATOR
(Name & sign):

LERATO 



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

Operator (Name & sign):


LHS


F

RHS

F

Operator (Name & sign):





Operator (Name & sign):

DE, H, I

DE, H, I

Operator (Name & sign):

Tshenolo

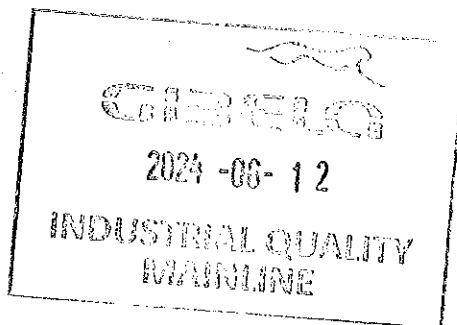
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Operator (Name & sign):





Operator (Name & sign):





CARBODYSHELL M2 ASSEMBLY AA00001374497

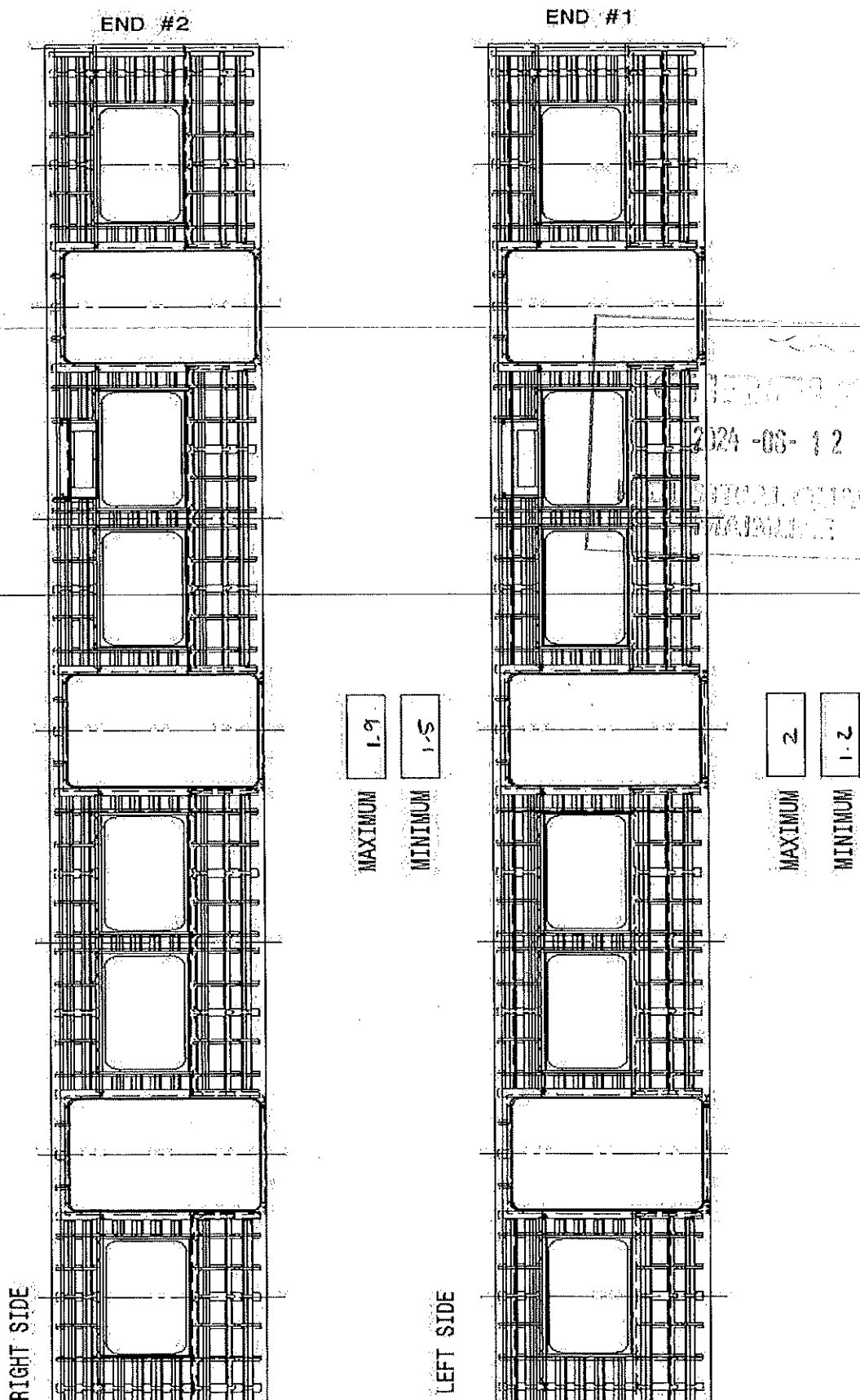
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Specifications of Details for CBS measurement CB1230



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

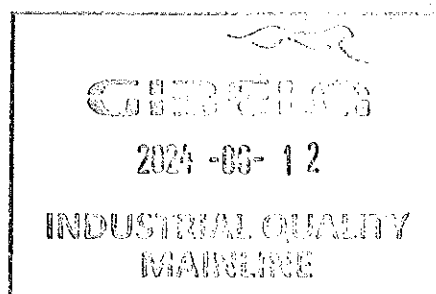
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END #1



END #2





CARBODYSHELL M2 ASSEMBLY AA00001374497

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Date

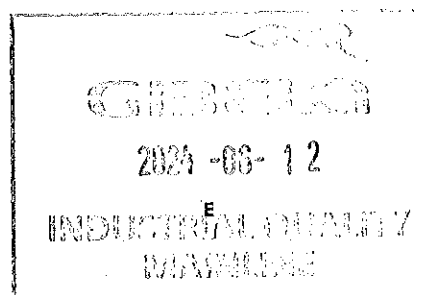
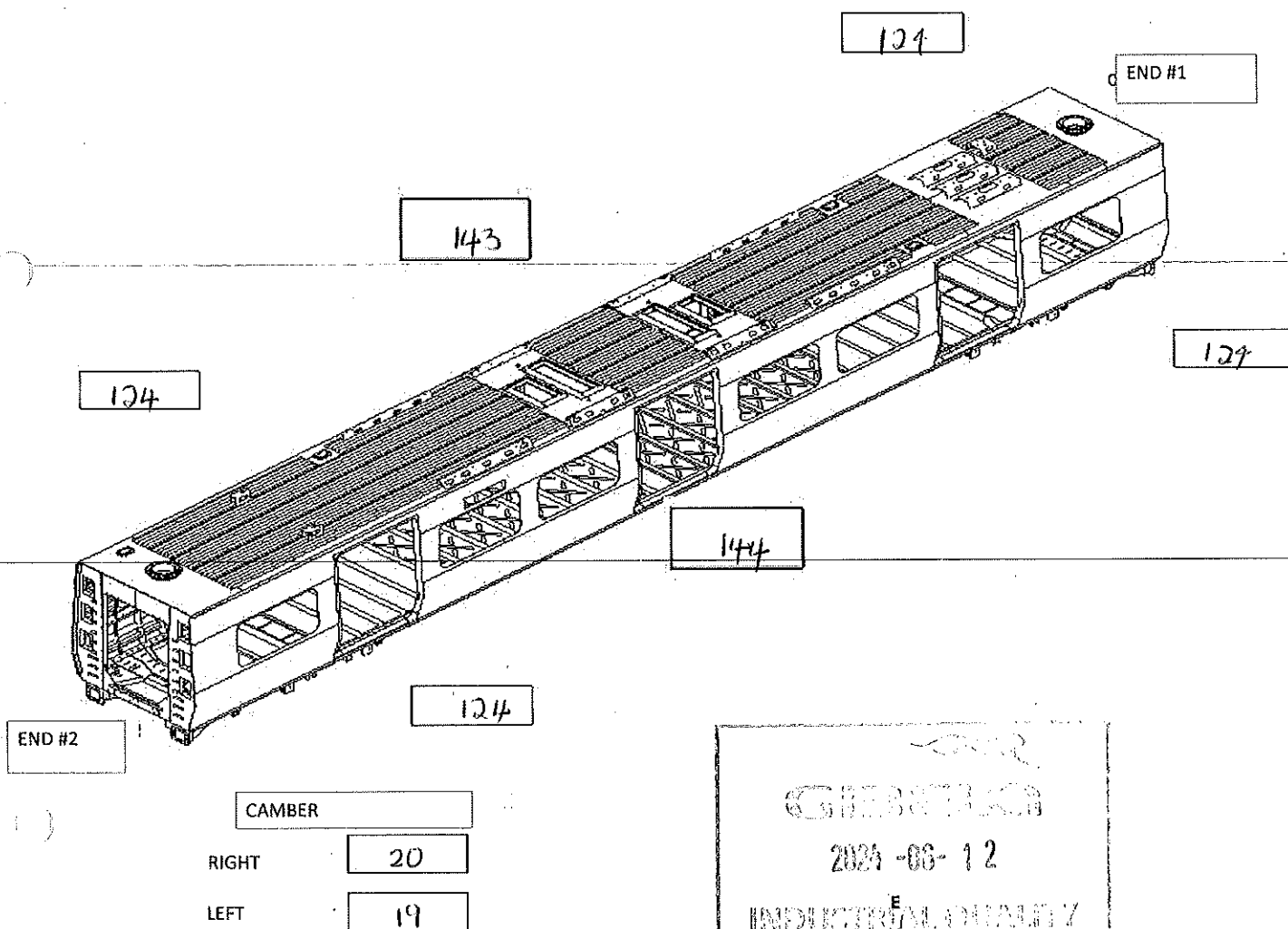
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Specifications of Details for CBS measurement CB1230

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





CARBODYSHELL M2 ASSEMBLY AA00001374497

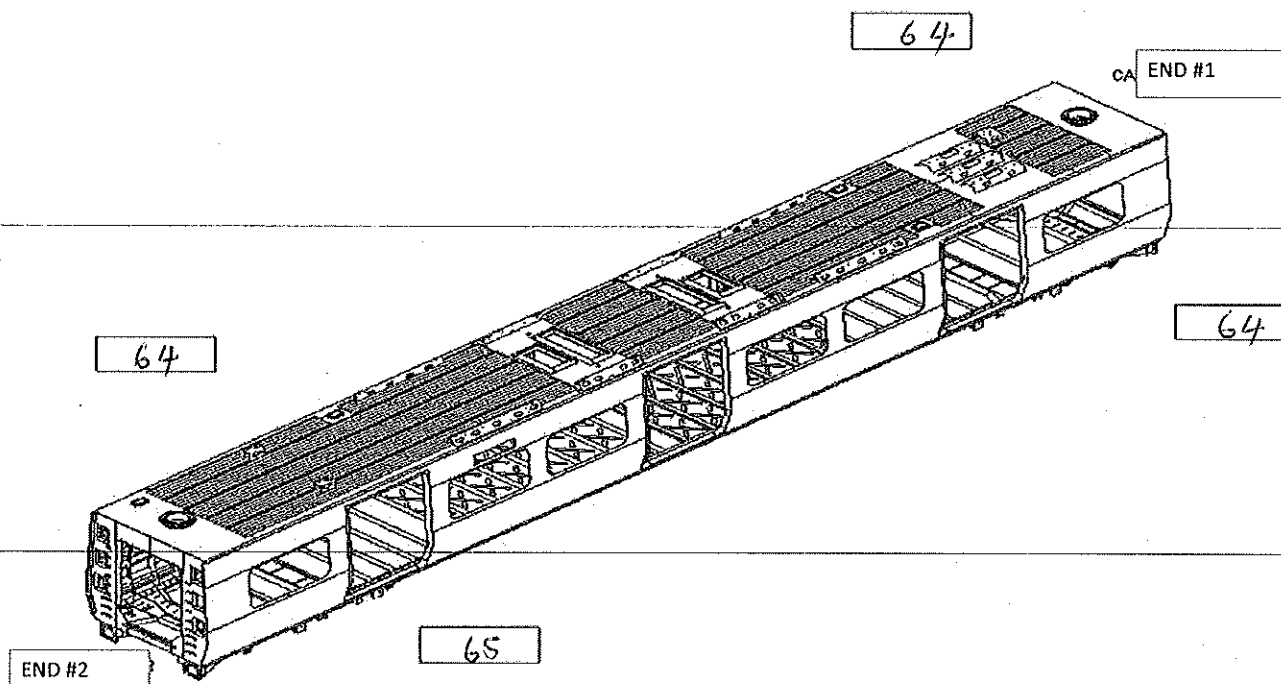
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Specifications of Details for CBS measurement CB1230

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

1

TWIST FOUND ON END 2

TRANVERSE

1

LONGITUDINAL

0

GIBELQ

2024-03-12

INDUSTRIAL QUALITY
MAINLINE



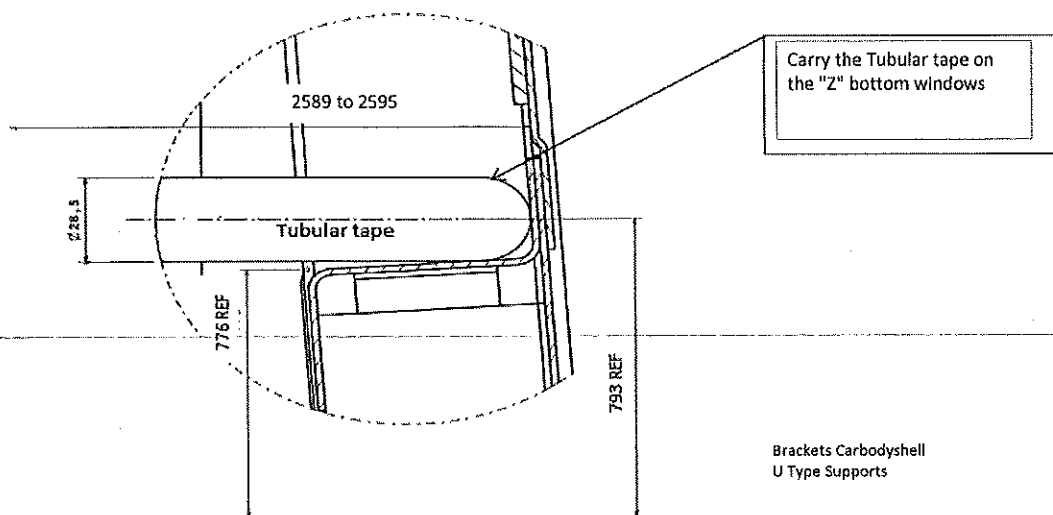
CARBODYSHELL M2 ASSEMBLY AA00001374497

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Date
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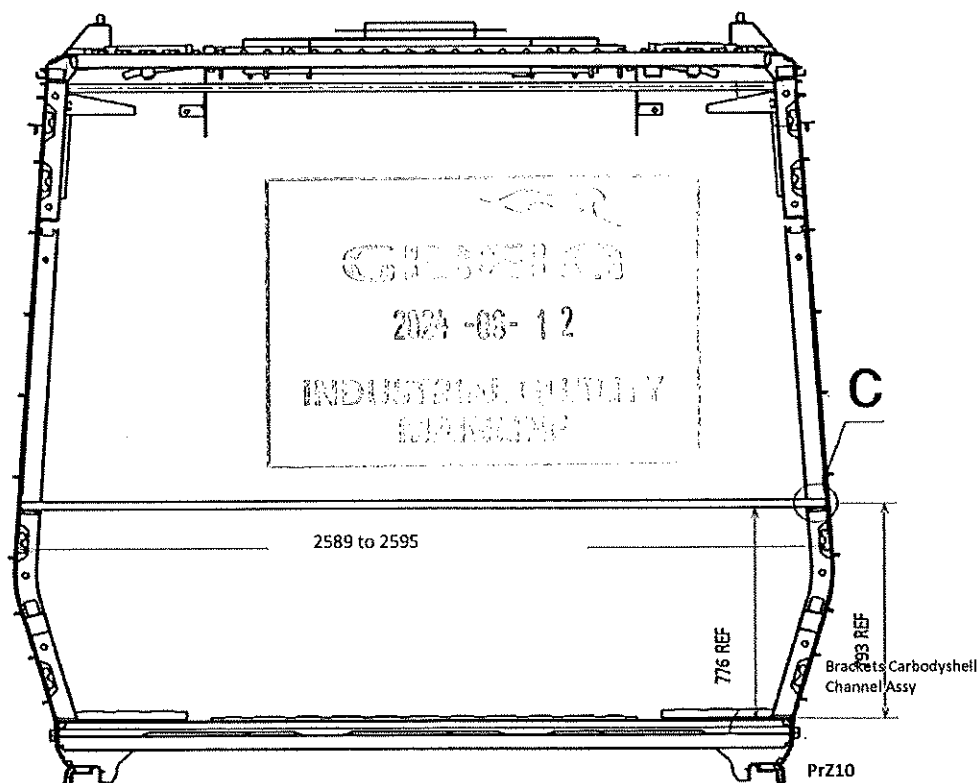
Project: PRASA

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Specifications of Details for CBS measurement CB1230



Detail C





CARBODYSHELL M2 ASSEMBLY AA00001374497

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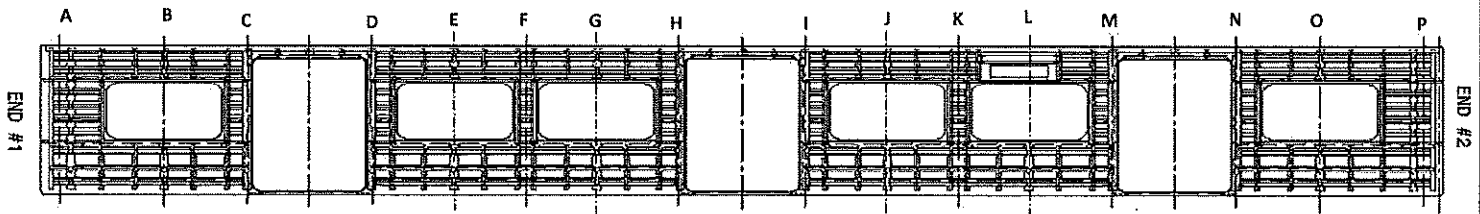
Date

06/11/2023

Project: PRASA

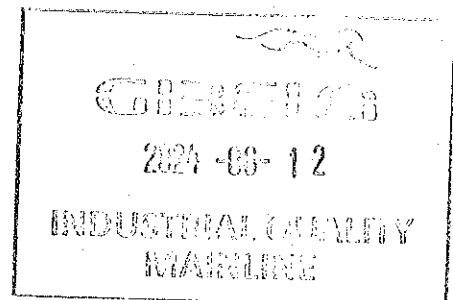
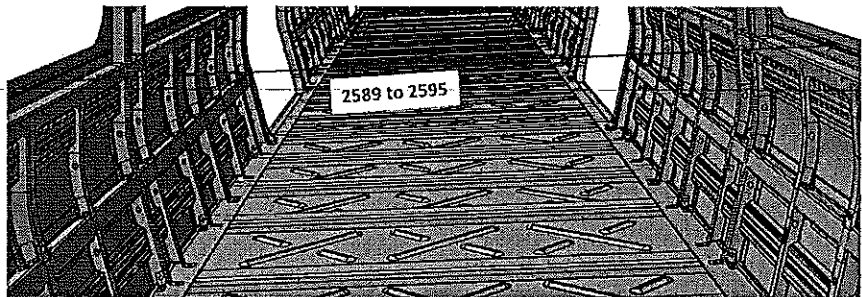
SI.CB1230.277.V29

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



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

BOILER MAKER: MKHIZE

WELDER: EMMANUEL



CARBODYSHELL M2 ASSEMBLY AA00001374497

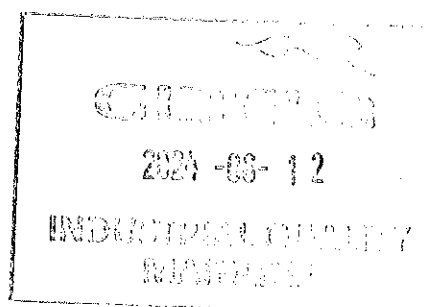
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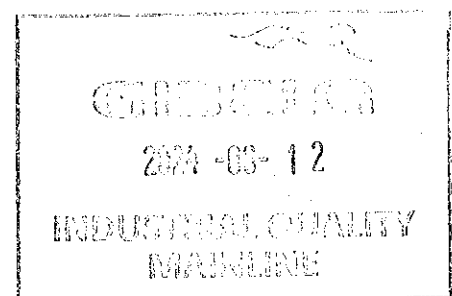
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		06/11/2023	

Dye penetrant test

Dye-penetration test to be performed by quality personnel





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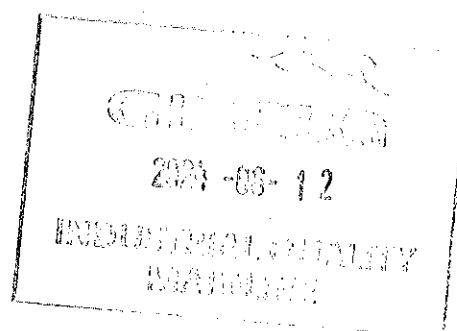
Specifications of Details for CBS measurement

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		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 AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	

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	GO	(If activities are not complete, the missing activities must not impact the next stage)	13/06/2024	NONHLA NHLA Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	13/06/2024	AMOGELANG Industrial Quality	
	NO GO	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	

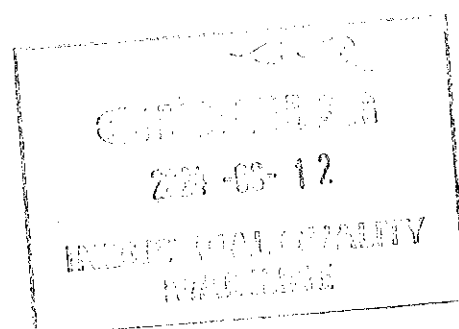
In case of "NO GO", describe blocking problems

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

Item	Description	Responsible	Due date	Status

Operations

Quality





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ANNEXURE A: Arc Welding Quality Acceptance Standard