

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

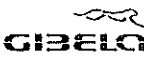
MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ?
				TC1	M4	M1	M2	M3	TC2		
<input type="checkbox"/>	DTR3000152645	AAD0001241033	Carshell Assembly TC	CB2210	X						<input checked="" type="checkbox"/>
<input type="checkbox"/>											
										PRA.CB2210.DTR3022331 9/3.V25	YES

REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	09/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Thanyani Mathegu	06/04/2018
1	2018/05/18	Team leader and Quality Technician to sign final signature from PME Manager to Quality manager Change	APPROVER	Itumeleng Modiba	2018/05/18
			CHECKER	Nosizo Pindela	2018/05/18
			REVISED BY	Ramokone Motama	2018/05/18
2	2018/06/18	MODIFICATION CONTENT	APPROVER	Itumeleng Modiba	2018/06/18
			CHECKER	Nosizo Pindela	2018/06/18
			REVISED BY	Ramokone Motama	2018/06/18
3	2018/12/12	Additional checkpoints	APPROVER	Itumeleng Modiba	2018/12/12
			CHECKER	Nosizo Pindela	2018/12/12
			REVISED BY	Ramokone Motama	2018/12/12
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	2019/11/03	Record D1 and D2 on Self - Inspection	APPROVER	Itumeleng Modiba	2019/11/03
			CHECKER	Nosizo Pindela	2019/11/03
			REVISED BY	Nosizo Pindela	2019/11/03
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	19/04/2020	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	Mohlame Amogelang	
			REVISED BY	Mohlame Amogelang	
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Mathapo Kelatone	
			REVISED BY	Mohlame Amogelang	
28	07/11/2023	Addition of welding traceability	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
232	TC 2	h/n/qa 471487	12/06/24	SI.CB2210.322.V28	16

2024-06-08

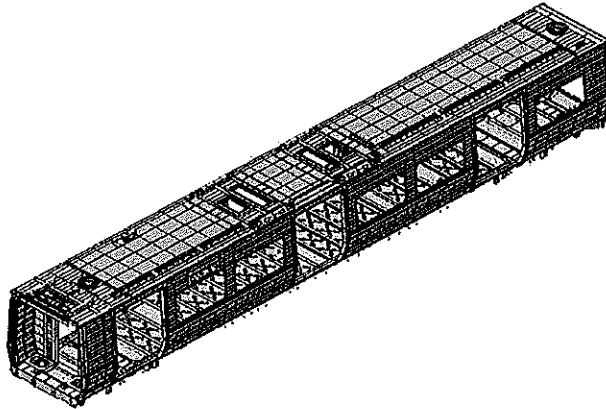
ORIGINAL QUALITY
MAINTENANCE

	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB2210.322.V28
		Date- 07/11/2023	

Car: TC1 & TC2

NCR:

Work station: CB2210



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
	8	5	4	3	2	1						
DTR30223319/3						X			✓		N/A	<i>[Signature]</i> 12/06/24

I.2 - Instruments Control


















Monitoring and Measuring Instrument Control - Used for Special Process

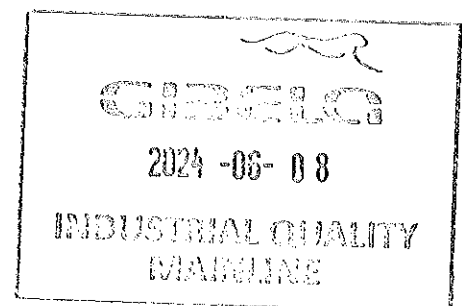
Instruments	Validation	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
TUBULAR	32625-2	15/03/24	✓		<i>[Signature]</i> 12/06/24	<i>[Signature]</i> 12/06/24
SONI TAPE	67181P0064	14/05/24	✓		<i>[Signature]</i> 12/06/24	<i>[Signature]</i> 12/06/24
LASER TAPE	125425924	08/01/24	✓		<i>[Signature]</i> 12/06/24	<i>[Signature]</i> 12/06/24


1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
ALUTRA 308LSI	15221880	MIG	✓		<i>[Signature]</i> 12/06/24	<i>[Signature]</i> 12/06/24
ER 309 G1	318344	MIG	✓		<i>[Signature]</i> 12/06/24	<i>[Signature]</i> 12/06/24

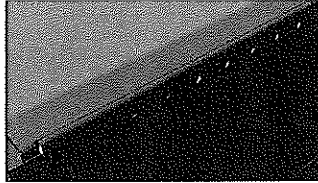
		DTR30223319/3 Carshell Assembly TC		Rev. V28	Project: PRASA		
				Date- 07/11/2023	SI.CB2210.322.V28		
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	DT00000284980	✓		 12/06/24	 12/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	OTD0000210675	✓		 12/06/24	 12/06/24
03		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓		 12/06/24	 12/06/24
04	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 12/06/24	 12/06/24
05	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 12/06/24	 12/06/24
06		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 12/06/24	 12/06/24
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.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658	✓		 12/06/24	 12/06/24



	DTR30223319/3 Garshell Assembly TC	Rev. V28	Project: PRA5A SI.CB2210.322.V28
		Date- 07/11/2023	

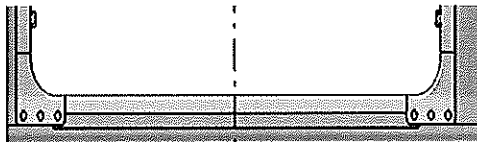
Welder traceability

Roof ring welds



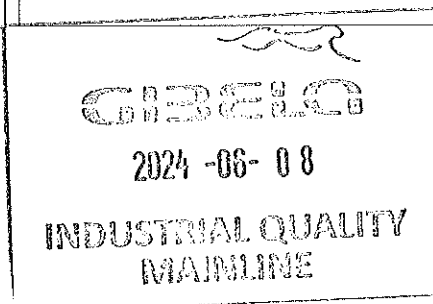
<u>LHS</u>	
Boiler maker (Name & Sign): <u>Timothy [Signature]</u>	Welder (Name & Sign): <u>Mthokozisi [Signature]</u>
<u>RHS</u>	
Boiler maker (Name & Sign): <u>Lawrence [Signature]</u>	Welder (Name & Sign): <u>Mthokozisi [Signature]</u>


Door ring welds

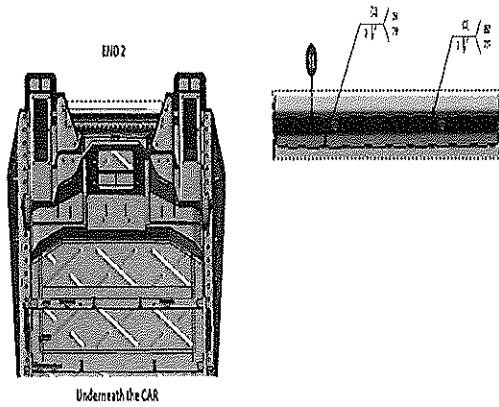


<u>LHS</u>	
Boiler maker (Name & Sign): <u>Lawrence [Signature]</u>	
Welder (Name & Sign): <u>Bobbert [Signature]</u>	

<u>RHS</u>	
Boiler maker (Name & Sign): <u>Lawrence [Signature]</u>	
Welder (Name & Sign): <u>Keitu K. Moko [Signature]</u>	



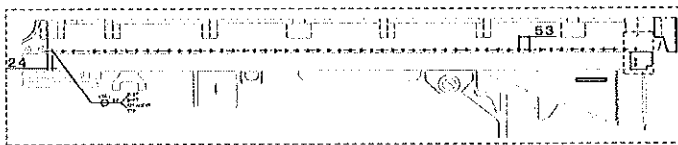
	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB2210.322.V28
		Date- 07/11/2023	



END 2

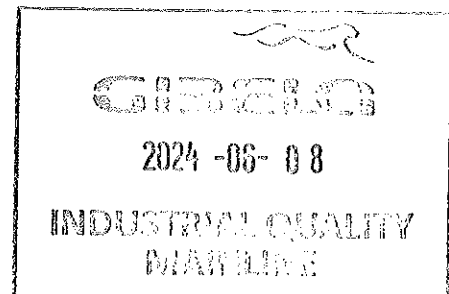
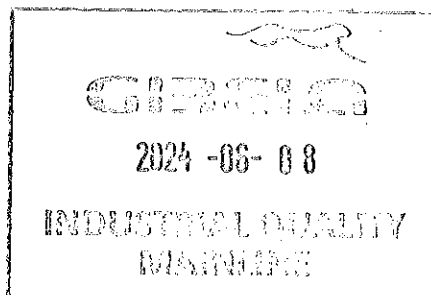
Boller maker (Name & Sign): Gerald M. M.

Welder (Name & Sign): Siphokazi B.

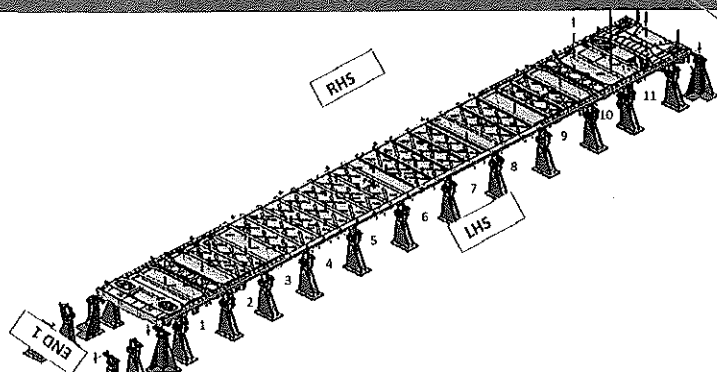


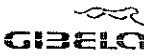
FEDOLI

Operator: Lawrence M. M.



Specifications of Details for CBS measurement




	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	

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

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

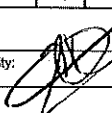
After Loading Underframe and Clamping.

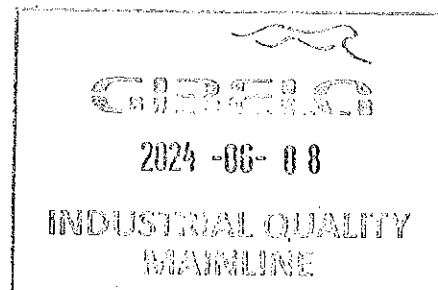
	1	2	3	4	5	6	7	8	9	10	11	12
Left Hand Side	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	0	0	0	0	0	0

Signature Operations:  Date: 12/06/24

After Welding.

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

Signature Industrial Quality:  Date: 12/06/24





DTR30223319/3 Carshell Assembly TC

Rev.

V28

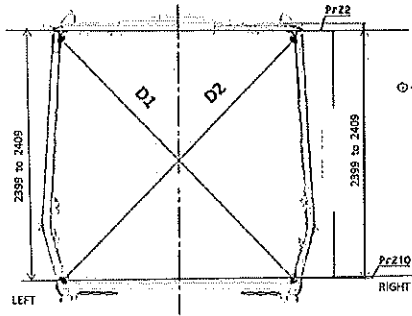
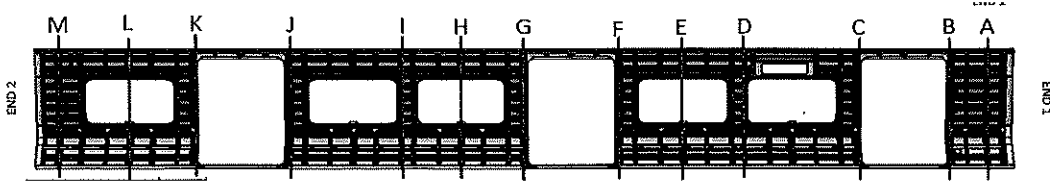
Date-

07/11/2023

Project: PRASA

SI.CB2210.322.V28

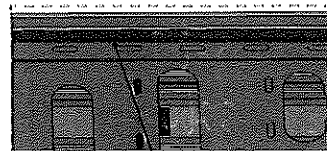
Specifications of Details for CBS measurement



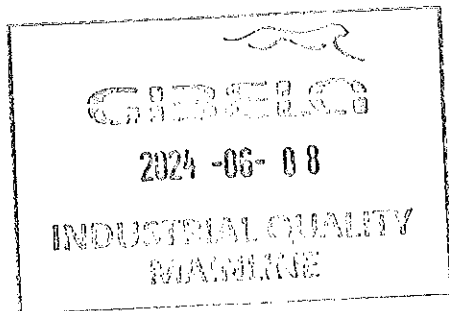
Measurement positions on roof rail and sidewall omega corner.

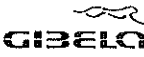


Measurement positions on sidewall and side sill corner.

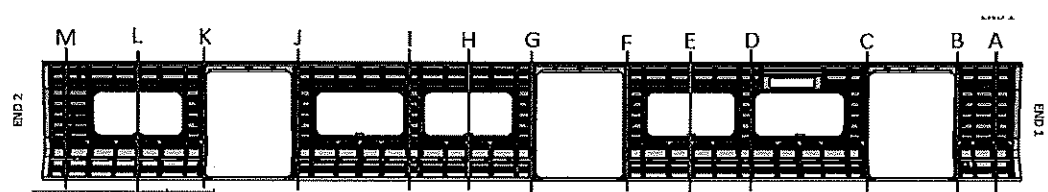


Reinforcement area measurement positions on roof reinforcement area.



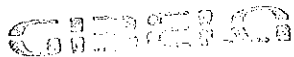
	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB2210.322.V28
		Date- 07/11/2023	
		Specifications of Details for CBS measurement	

BEFORE WELDING



PME: 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	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3269	3270	1	2403	2404	1
B	3268	3268	0	2406	2406	0
C	3269	3268	1	2403	2406	1
D	3266	3266	0	2404	2403	1
E	3265	3266	1	2406	2406	0
F	3269	3268	1	2406	2404	2
G	3268	3267	1	2405	2407	2
H	3266	3264	2	2406	2405	1
I	3266	3266	0	2405	2405	0
J	3269	3269	0	2406	2406	0
K	3270	3268	2	2405	2404	1
L	3269	3265	4	2406	2406	0
M	3268	3270	2	2407	2407	0



2024-06-08

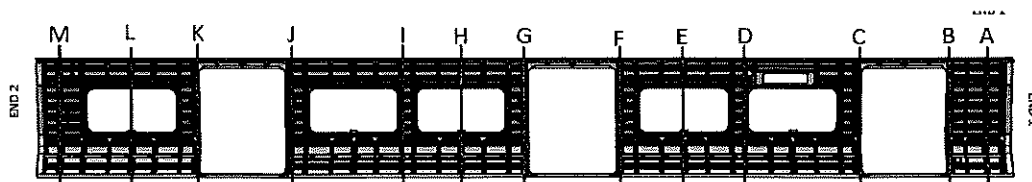
INDUSTRIAL QUALITY

WAPLINE

	DTR30223319/3 Carshell Assembly TC	Rev. V28 Date- 07/11/2023	Project: PRASA SI.CB2210.322.V28
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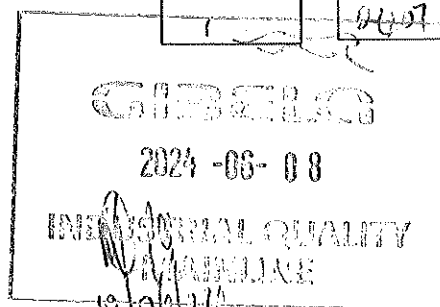
Specifications of Details for CBS measurement


AFTER WELDING



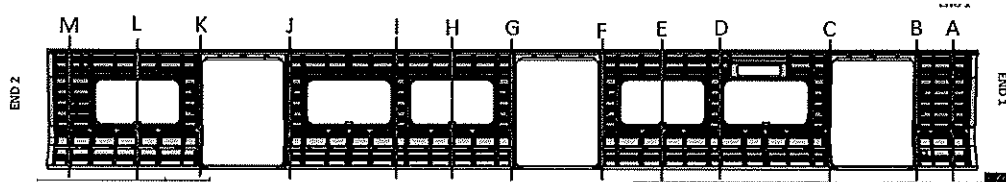
PME: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3268	3269	1	2408	2408	1
B	3294	3295	1	2406	2406	0
C	3295	3295	0	2405	2404	1
D	3266	3266	0	2406	2404	2
E	3265	3266	1	2405	2406	1
F	3295	3296	1	2406	2404	0
G	3296	3294	2	2405	2404	1
H	3265	3264	1	2406	2405	1
I	3266	3266	0	2405	2407	2
J	3294	3295	1	2406	2406	0
K	3295	3295	0	2405	2406	1
L	3269	3265	4	2406	2406	0
M	3294	3295	1	2407	2407	0



	DTR30223319/3 Carshell Assembly TC	Rev. V28 Date- 07/11/2023	Project: PRASA SI.CB2210.322.V28
CBS measurement			

BEFORE WELDING



2270 to 2276

2268 a 2274

A 2274

B 2270

C 2272

D 2276

E 2275

F 2273

G 2272

H 2276

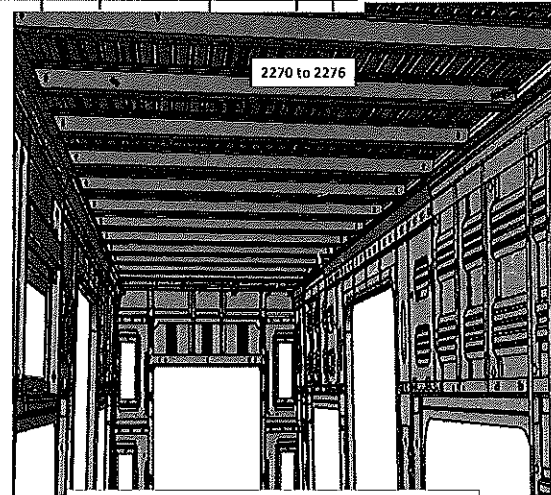
I 2277

J 2271

K 2273

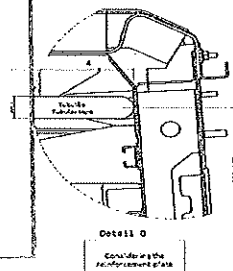
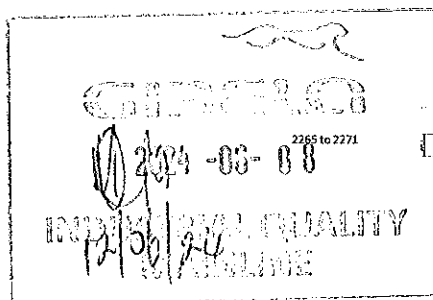
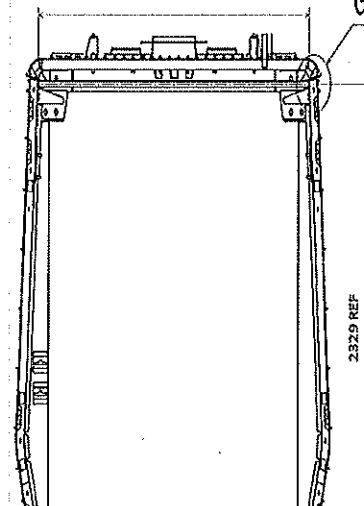
L 2275

M 2272



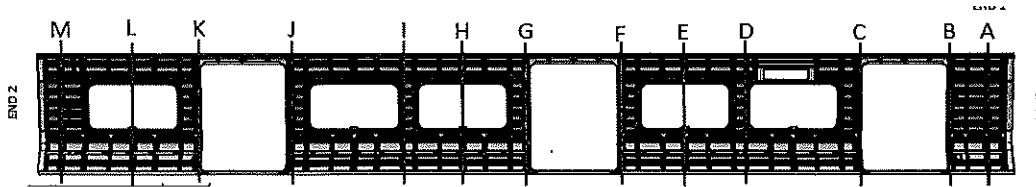
Do not consider reinforcement (Take measurements top area of zee profile)

2265 to 2271

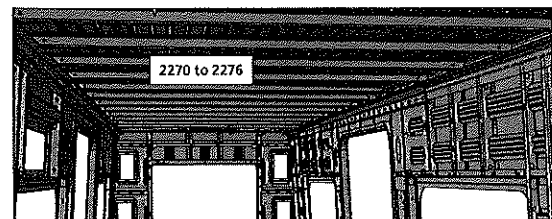


Detail 0
Consider the reinforcement plate

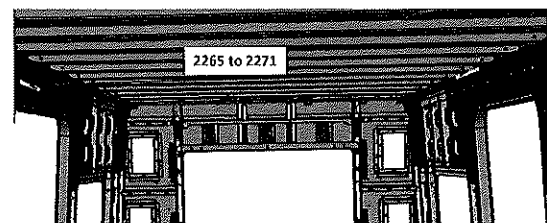
AFTER WELDING



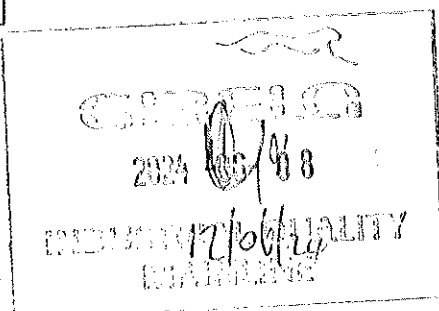
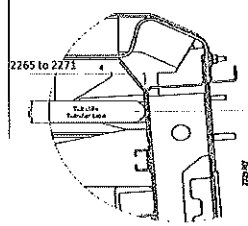
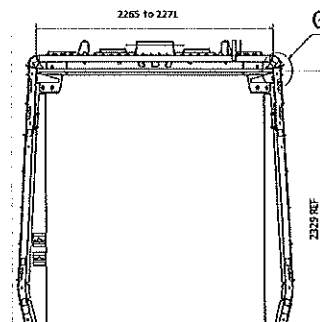
	2265 to 2271	2270 to 2276
A	N/A	2274
B	2268	N/A
C	2265	N/A
D	N/A	2276
E	N/A	2273
F	2268	N/A
G	2267	N/A
H	N/A	2276
I	N/A	2276
J	2266	N/A
K	2267	N/A
L	N/A	2273
M	2265	N/A




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

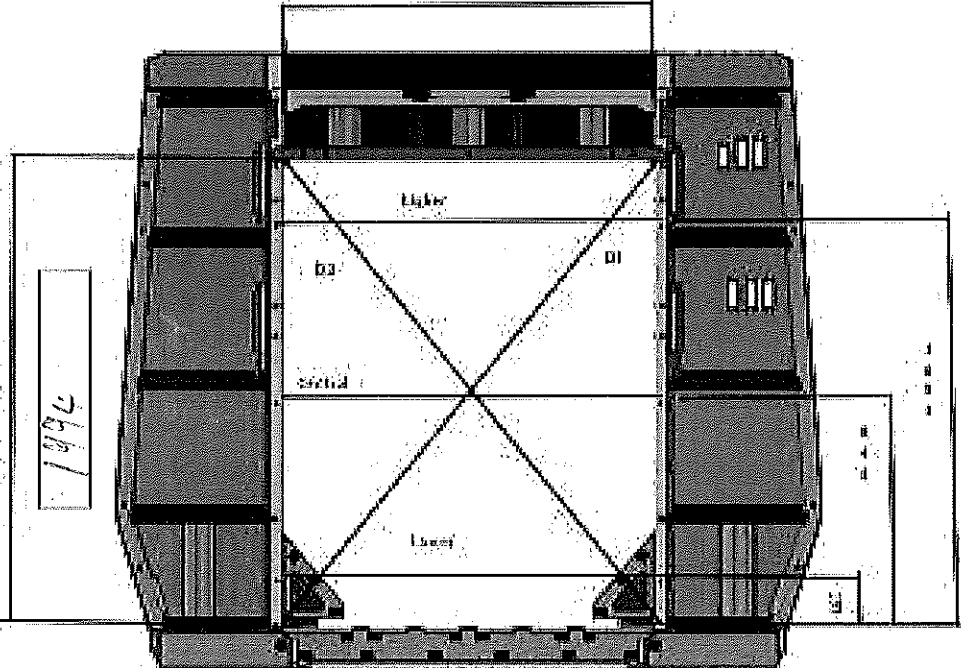


Take measurement close to radius (considering reinforcement)



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	SI.CB2210.322.V28
		Specifications of Details for CBS measurement	

Endframe 2



Upper Dimension

Central Dimension

Lower Dimension

1382

1381

1551

DIAGONAL DIFFERENCE $D1-D2 \leq 3mm$

D1


2414


D2

2414

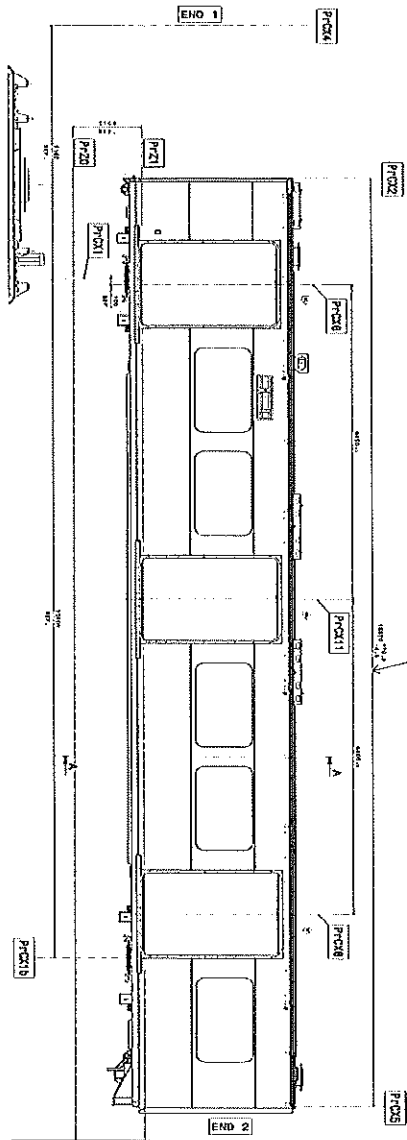
D1-D2

0


12/06/24


2024-06-08
INDUSTRIAL QUALITY
MAINLINE

Specifications of Details for CBS measurement

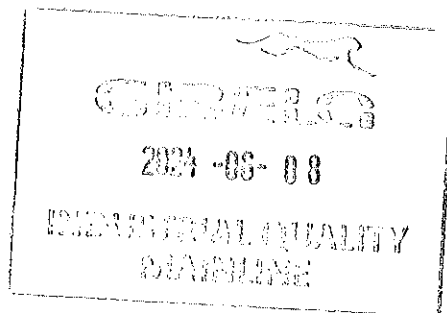



LEFT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	18870 $\begin{matrix} +10.5 \\ -4.5 \end{matrix}$	18872

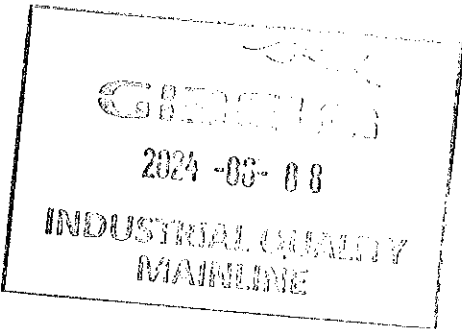
RIGHT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	18870 $\begin{matrix} +10.5 \\ -4.5 \end{matrix}$	18871




Dye penetrant test

Dye-penetration test to be performed by quality personnel



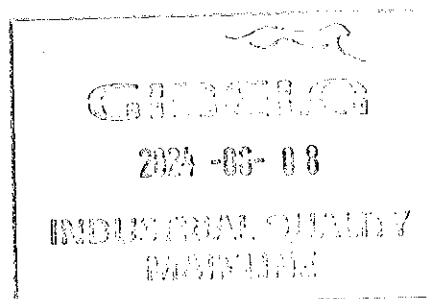
		DTR30223319/3 Carshell Assembly TC		Rev. V28 Date- 07/11/2023	Project: PRASA SI.CB2210.322.V28			
Item	Description of the Issue				OK	Signature/Date (Manufacturing)		Signature/Date (Quality)
III.2 - Check List REX								
Check List Items								
Item	Picture/Drawing	Description	Criteria /Record	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX					




		DTR30223319/3 Carshell Assembly TC		Rev. V28	Project: PRASA	
				Date- 07/11/2023	SI.CB2210.322.V28	
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!	12/06/24	Lunga Operations		
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	12/06/24	Aimo Quality		
		There are activities pendings 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)		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	Action	Responsible	Due date	Status	

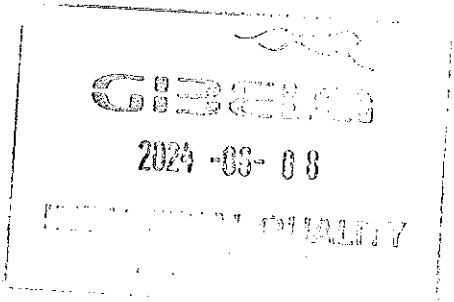
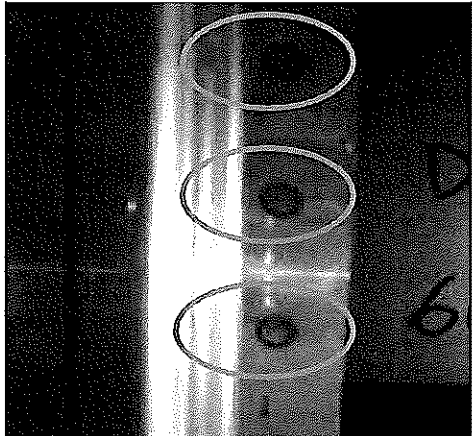
Operations


Quality



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB2210.322.V28
		Date- 07/11/2023	

ANNEXURE A: Spot Welding Quality Acceptance Standard

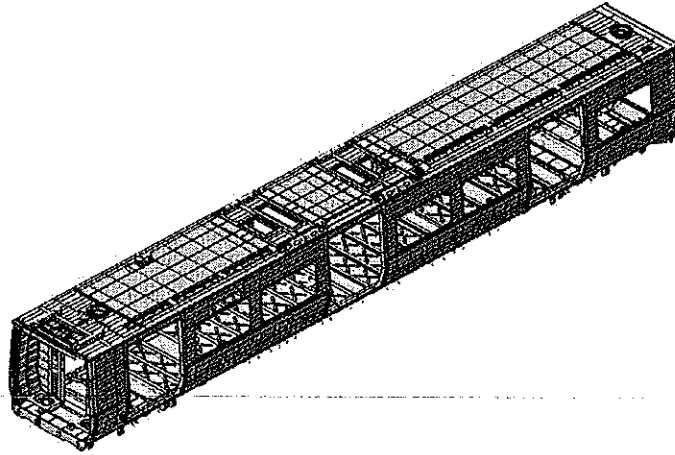


	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date- 28/10/2023	

Carro Car: TC1, TC2	NCR:	Work station: CB2220
------------------------	------	----------------------



Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
	D	M	N	M	M	TC						
DTR30223319/2						✓	29	11/06/24	✓	N/A	11/06/24	11/06/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process







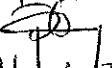

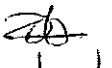
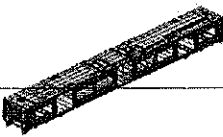
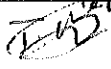
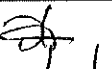







Instruments	Validation	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Turbular	32823-2	15/03/25	✓		11/01/24	11/06/24
Measuring Tape	GIBTA0346	12/04/25	✓		11/01/24	11/06/24



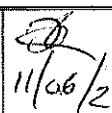
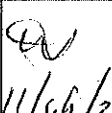
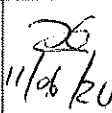
I.3 Consumables

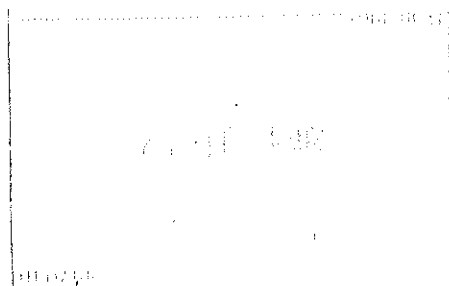
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Welding Wire	E231067	MIG welding	✓		11/06/24	11/06/24

2024-06-11 11:06:24

		DTR30223319/2 Carshell Assembly TC		Rev. 29	Project: PRASA SI.CB2220.323.V29								
				Date-									
				28/10/2023									
II - Control Activities of Production													
II.1 - Items to check													
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK		Signature/Data (Manufacturing)	Signature/Data (Quality)						
01	N/A	Assembly according to Instruction Engineering n° PRA.CB2220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	DTR30223319/2	✓		 11/06/24	 11/06/24						
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓		 11/06/24	 11/06/24						
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 11/06/24	 11/06/24						
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 11/06/24	 11/06/24						
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 11/06/24	 11/06/24						
06	N/A	Functionals 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	 11/06/24						
07		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	✓		 11/06/24	 11/06/24						
08	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: <table border="1" data-bbox="422 1848 678 1937"> <tr> <td>Temperature Min - Max (I)</td> <td>Min-Max</td> <td>10°C - 35°C</td> </tr> <tr> <td>Relative humidity Min - Max (I)</td> <td>Min-Max</td> <td>25% - 80%</td> </tr> </table>	Temperature Min - Max (I)	Min-Max	10°C - 35°C	Relative humidity Min - Max (I)	Min-Max	25% - 80%	Sealant Batch No: <u>B2197</u> Exp Date: <u>01/07/24</u> Actuals Temperature: <u>13.1</u> Humidity: <u>41.6</u>	✓		 11/06/24	 11/06/24
Temperature Min - Max (I)	Min-Max	10°C - 35°C											
Relative humidity Min - Max (I)	Min-Max	25% - 80%											

		DTR30223319/2 Carshell Assembly TC		Rev. 29	Project: PRASA			
				Date- 28/10/2023	SI.CB2220.323.V29			
09	NA	Verification of sealant application in certain regions in the drawing.	AAD0001241033	✓			 11/06/24	 11/06/24
10	NA	Verification of sealant application on the roof and sidewall finishers	Sealant must be: -Applied straight and even (1.5mm) -Free of gaps,cracks,damage and debris (flashes, dirt, dust) Refer to Annexure B	✓			 11/06/24	 11/06/24





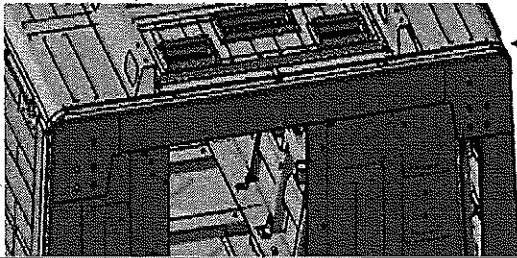
DTR30223319/2 Carshell Assembly TC

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29

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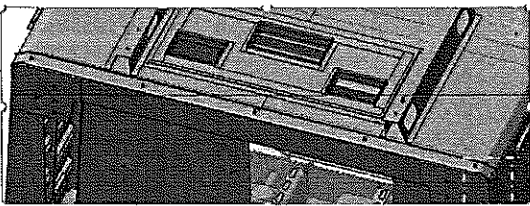
END 1
SEALANT


OPERATOR
(Name & sign):

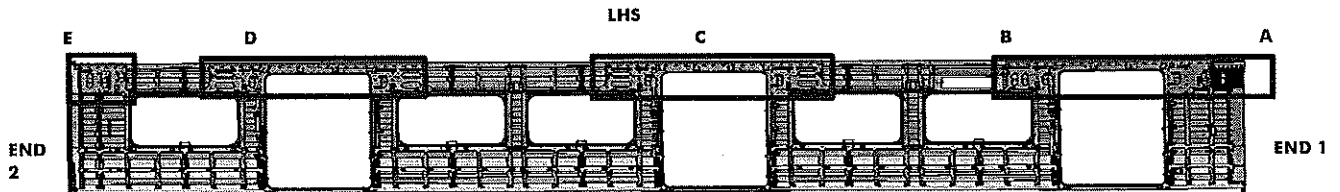
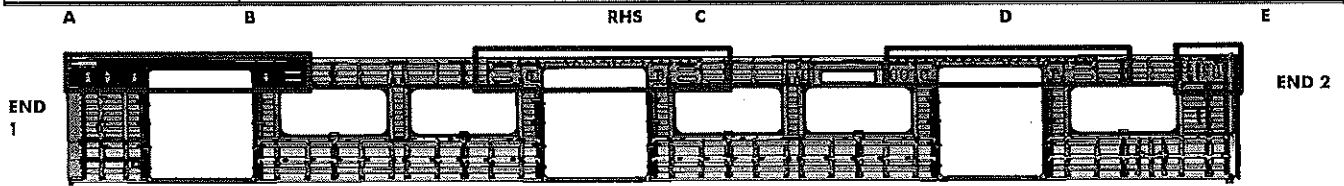
Winnie 

OPERATOR
(Name & sign):

1/

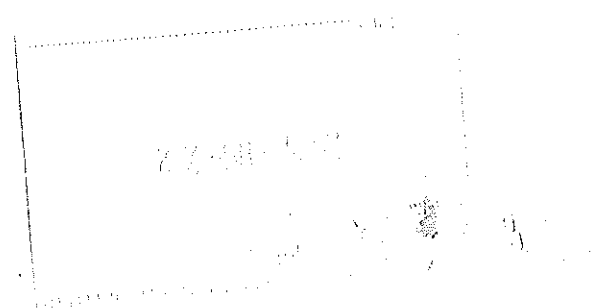



	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date-	
		28/10/2023	

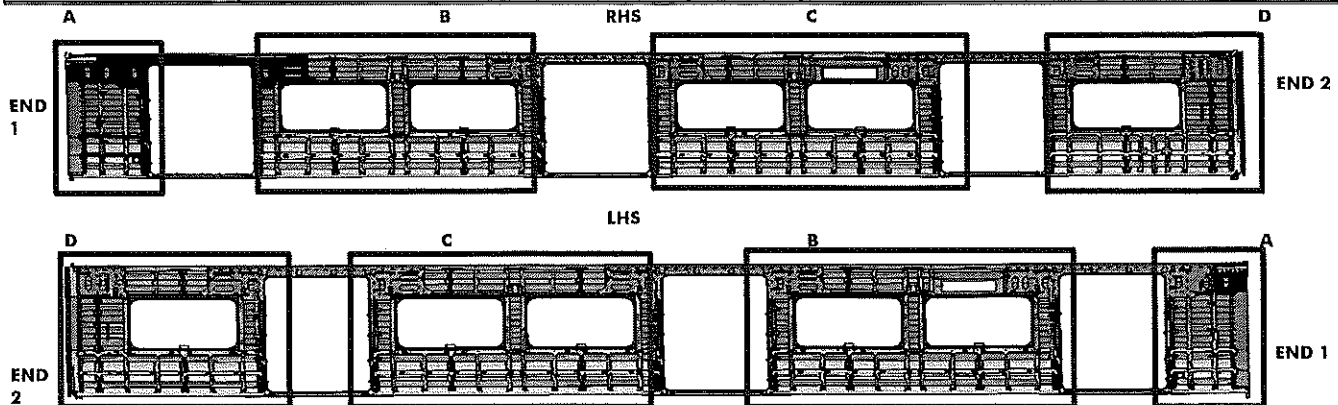


REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): _____	_____
B	Operator (Name&sign): <u>Nokulunga</u>	<u>[Signature]</u>
C	Operator (Name&sign): <u>[Signature]</u>	<u>[Signature]</u>
D	Operator (Name&sign): <u>Sibiga</u>	<u>THULANI</u>
E	Operator (Name&sign): <u>Sibiga</u>	<u>THULANI</u>




	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date-	
		28/10/2023	




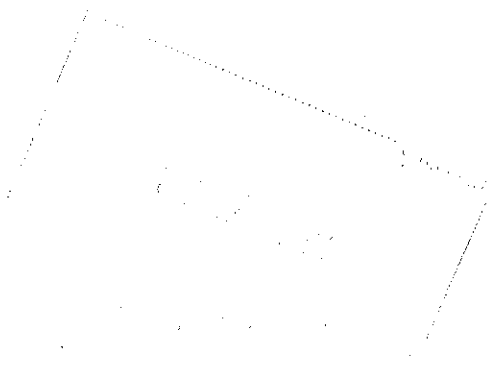
BRACKETING

C-RAILS:		Operator:	<div>INSTALLATION</div> <i>Pascilla</i> <i>Casen</i>
		Operator:	
DOOR MECHANISMS:		Operator:	<i>Pascilla</i> <i>Casen</i>
		Operator:	
TAPPING PADS		Operator:	<i>Thulani</i> <i>(L)</i>
		Operator:	
INSTALLATION & VERIFICATION			
SEAT & LUGGAGE BRACKETS:	Operator:	<i>Mkhosini</i> <i>Ab</i>	
	Operator:	<i>1</i>	
SEAT BRACKETS VERIFICATION:	Operator:	<i>Mkhosini</i> <i>Ab</i>	
	Operator:	<i>1</i>	
WELDING			
AREA	LHS	RHS	
A (C-rails, Luggage and earth bushes) :	Operator (Name&sign):		
B (Seat brackets) :	Operator (Name&sign):		
(C-rails, Luggage and earth bushes) :	Operator (Name&sign):		
C (Seat brackets) :	Operator (Name&sign):		
(C-rails, Luggage and earth bushes) :	Operator (Name&sign):		
D (Seat brackets) :	Operator (Name&sign):		
(C-rails, Luggage and earth bushes) :	Operator (Name&sign):		
ENDS			

	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date-	
		28/10/2023	

END 2 TAPPING PADS WELDING: Operator (Name&sign):

THULANI 

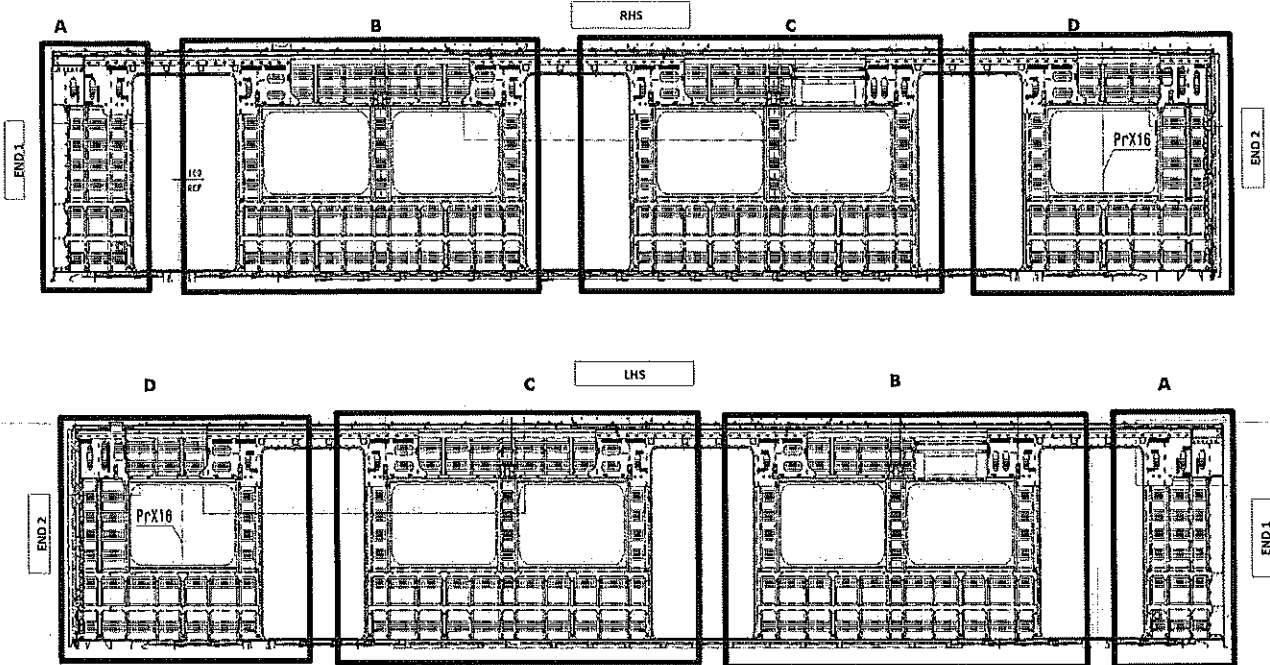




DTR30223319/2 Carshell Assembly TC

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28/10/2023Project: PRASA
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TC BRACKET INSTALLATION



QUANTITIES (TC)

RHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	4	✓	
	B	4	✓	
	C	8	✓	
	D	12	✓	
SEAT BRACKETS	A	0	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	1	✓	
	B	4	✓	
	C	5	✓	
	D	4	✓	

ROOF ENDS:
CRAILS 2 OFF END 2
EARTH BUSH 4 OFF END 2

VERIFICATION BY: Tetelo

LHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	4	✓	
	B	8	✓	
	C	4	✓	
	D	6	✓	
SEAT BRACKETS	A	0	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	1	✓	
	B	4	✓	
	C	4	✓	
	D	2	✓	

ROOF ENDS:
CRAILS 2 OFF END 2
EARTH BUSH 4 OFF END 2

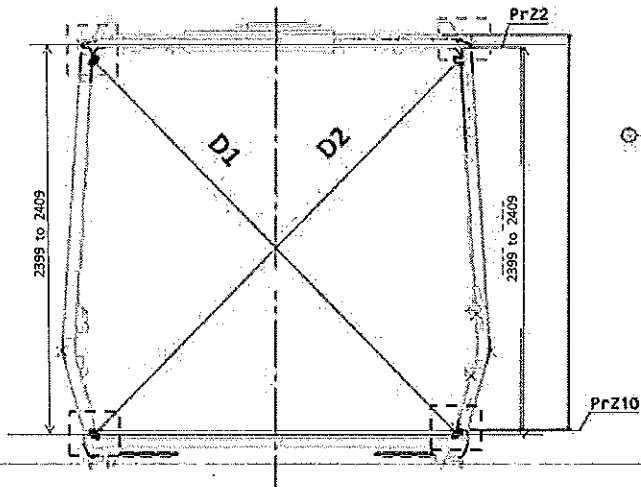
VERIFICATION BY: Tetelo



DTR30223319/2 Carshell Assembly TC

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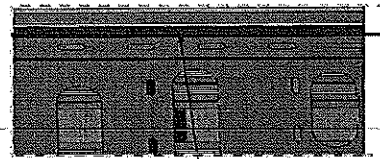
Project: PRASA
SI.CB2220.323.V29



Take measurement close to radius



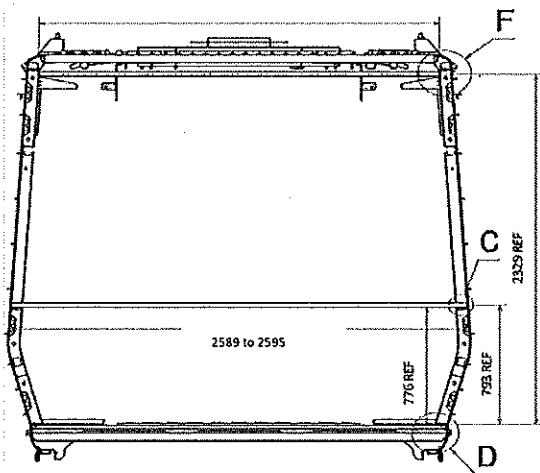
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.



Measurement positions on sidewall and side sill corner.



Take measurement close to radius



DTR30223319/2 Carshell Assembly TC

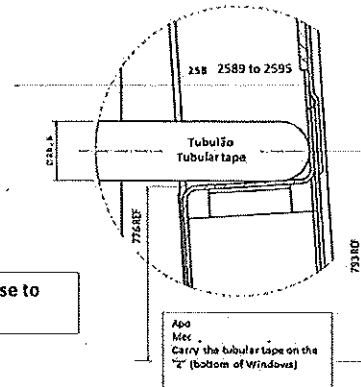
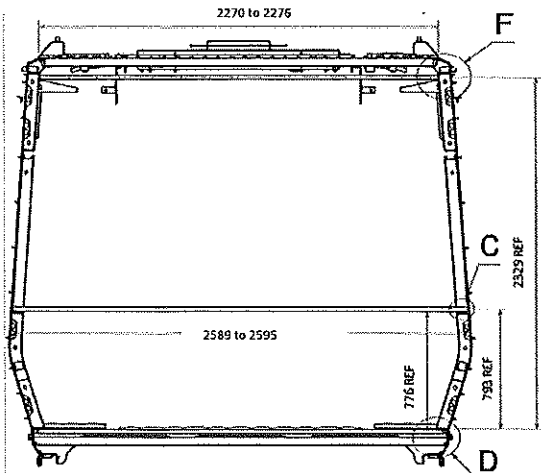
Rev.
29

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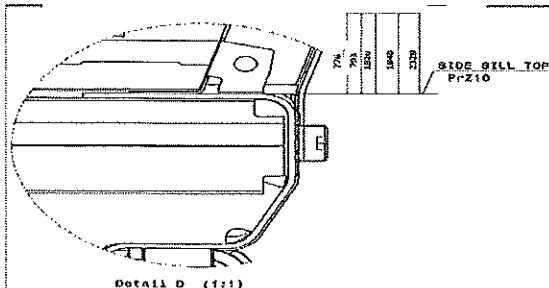
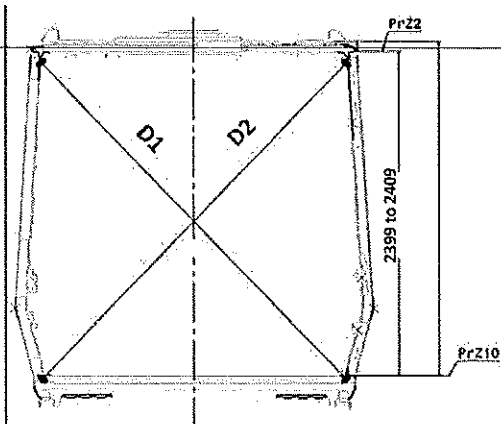
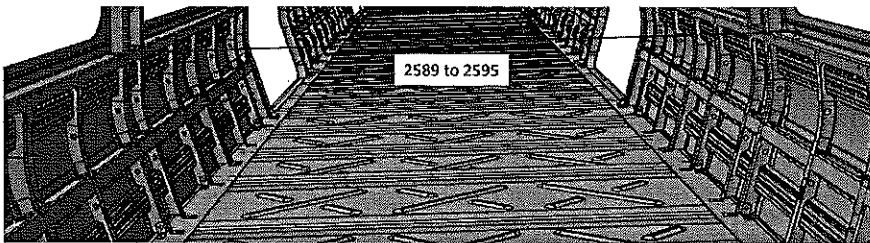
Date-

SI.CB2220.323.V29

28/10/2023



Detail C



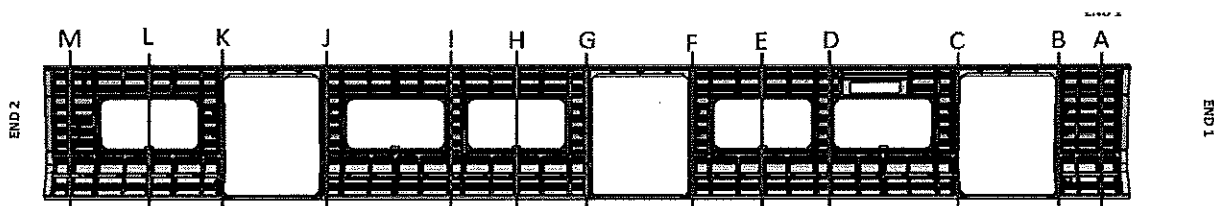
Detail D (1:1)



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BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3267	3266	1	—
B	3298	3296	2	—
C	3300	3298	2	—
D	3265	3266	1	—
E	3267	3268	1	—
F	3298	3297	1	—
G	3297	3298	1	—
H	3265	3266	1	—
I	3266	3267	1	—
J	3298	3297	1	—
K	3297	3298	1	—
L	3268	3266	2	—
M	3299	3297	2	—



DTR30223319/2 Carshell Assembly TC

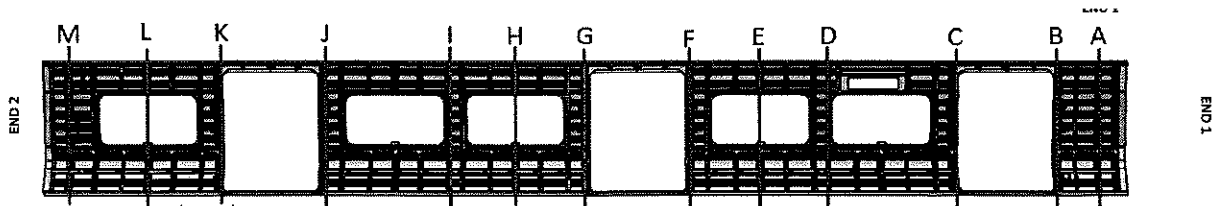
Rev.
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Project: PRASA

Date-

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28/10/2023



AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3266	3265	1	2590
B	3299	3297	2	2591
C	3300	3298	2	2592
D	3298	3297	1	2594
E	3268	3267	1	2591
F	3297	3296	1	2590
G	3300	3298	2	2593
H	3266	3265	1	2592
I	3265	3267	2	2592
J	3298	3297	1	2594
K	3299	3297	2	2591
L	3268	3267	1	2591
M	3300	3297	3	2590



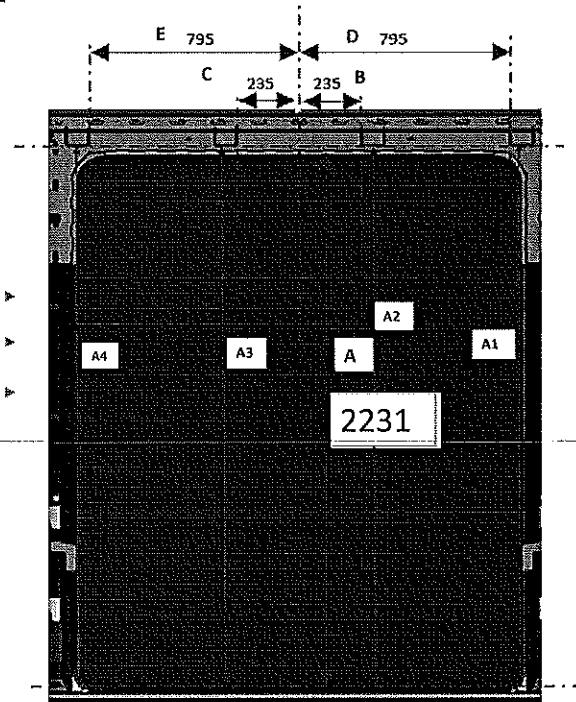
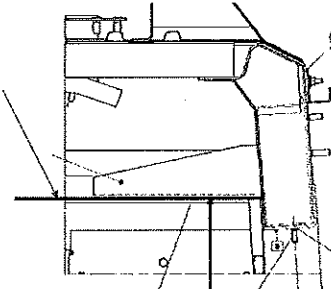
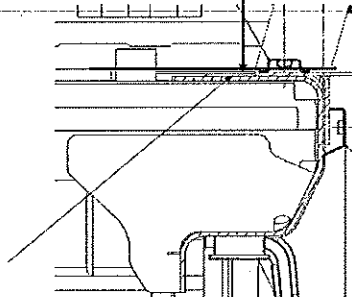
DTR30223319/2 Carshell Assembly TC

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29
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28/10/2023

Project: PRASA

SI.CB2220.323.V29

Specifications of Details for CBS measurement

Brackets Carbodyshell
U Type SupportsBrackets Carbodyshell
Channel Assy

DOOR 1 - LHS

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

DOOR 2 - LHS

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

DOOR 3 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	2231
A2	2230 to 2232	2232
A3	2230 to 2232	2230
A4	2230 to 2232	2231
B	234 to 236	236
C	234 to 236	239
D	794 to 796	795
E	794 to 796	796

DOOR 1 - RHS

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

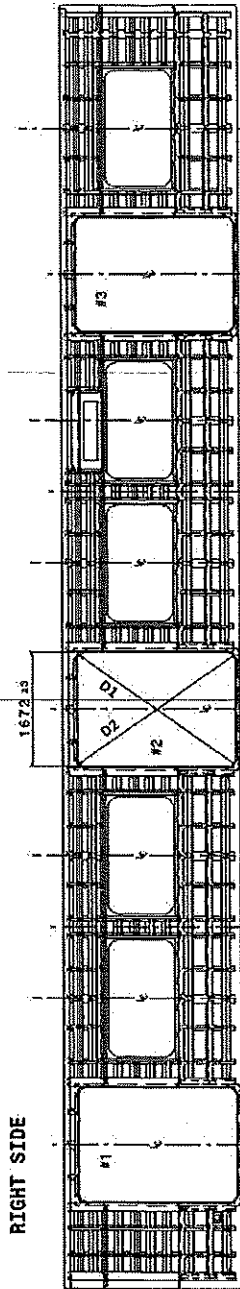
DOOR 2 - RHS

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

DOOR 3 - RHS

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

End #2



RIGHT SIDE

End #1

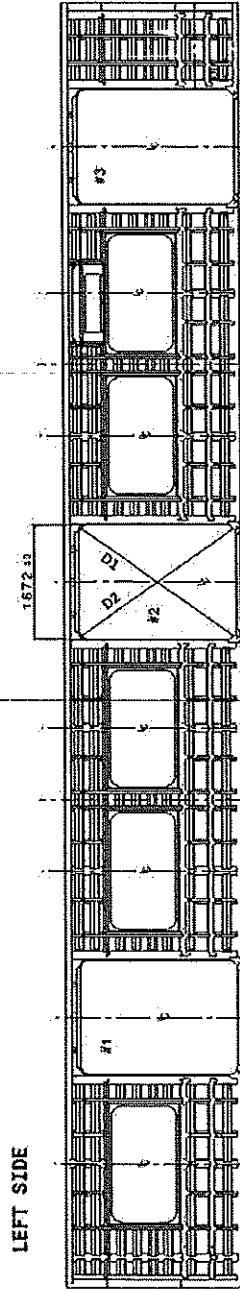
Doors diagonal D1-D2 maximum difference ≤ 4 mm

Doors length - 1672 ± 3 mm

	#1	#2	#3
D1	2750	2749	2748
D2	2750	2750	2750
D1-D2			

	#1	#2	#3
HIGHER DIMENSION	1673	1677	1673
CENTRAL DIMENSION	1672	1671	1672
LOWER DIMENSION	1671	1672	1673

End #1



LEFT SIDE


End #2

Diagonal de portas - diferença D1-D2 ≤ 4 mm

Vão de Portas - 1672 ± 3 mm

	#1	#2	#3
D1	2750	2751	2749
D2	2750	2750	2750
D1-D2			

	#1	#2	#3
DIMENSÃO SUPERIOR	1671	1671	1672
HIGHER DIMENSION	1672	1672	1673
CENTRAL DIMENSION	1673	1671	1671
LOWER DIMENSION			

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		28/10/2023		

Specifications of Details for CBS measurement

Dye penetrant test

Dye-penetration test to be performed by quality personnel



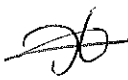


Item	Description of the Issue	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)

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!	11/06/24	Tetelo Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	11/06/24	Andani Industrial Quality	
		There are activities pending that impact/slow 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	Action	Responsible	Due date	Status

Operations

Quality

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		28/10/2023	

ANNEXURE A: Spot Welding Quality Acceptance Standard

