
PRASA PROJECT

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

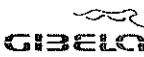
CONFIDENTIAL INFORMATION

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	CB1210	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	PRA.CB1210.DTR3022331 9/3.V25	YES

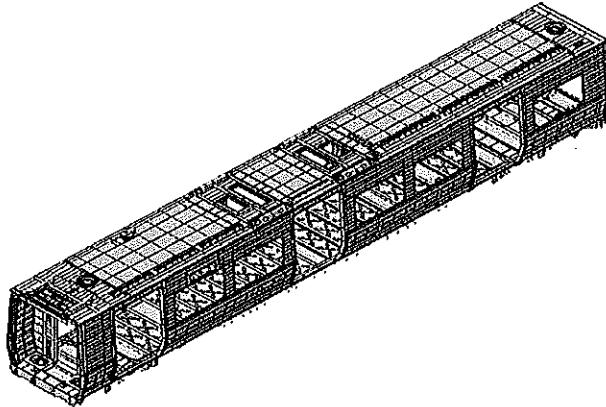
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	09/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Thanyani Mathegu	06/04/2018
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	2018/05/18
			CHECKER	Nosizo Pindela	2018/05/18
			REVISED BY	Ramokone Motama	2018/05/18
2	2018/06/18	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	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi Collins	17/08/2021
			CHECKER	Mpho Mulaudzi	
			REVISED BY	Mpho Mulaudzi	
25	21/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombi Collins	21/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/04/2023	Addition of welding consumable traceability	APPROVER	Ntuli Vanessa	14/04/2023
			CHECKER	Mohlampe Amogelang	
			REVISED BY	Mohlampe Amogelang	
27	27/07/2023	Added verification of loaded parts	APPROVER	Nggbeni Tyson	27/07/2023
			CHECKER	Mathapo Kelebene	
			REVISED BY	Mohlampe 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
TS2008	TC1	P. MALATJI 409964	16/05/24	SI.CB1210.322.V28	16

	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB1210.322.V28
		Date: 07/11/2023	

Car: TC1 & TC2	NCR:	Work station: CB1210
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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	Q	S	X	D					
DTR30223319/3	X						29			N/A	16/03/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process




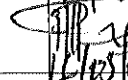

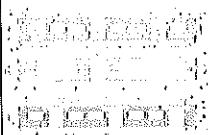











Instruments	Validation	Calibration or Verification Validation Date	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
TUBULAR	37823-2	15/03/25	✓		
LAFER TAPE	105405904	08/01/25	✓		
CON TAPE	ENBTP0102	18/11/24	✓		16/03/24

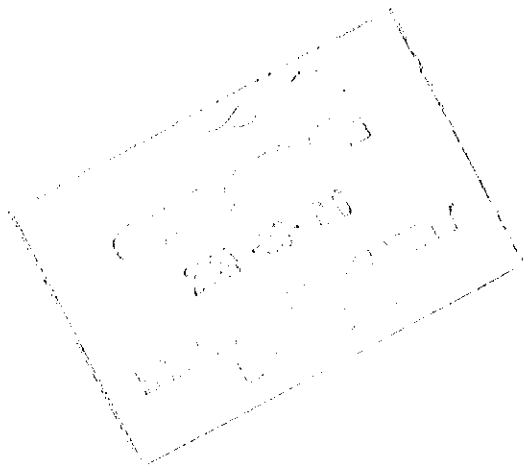
I.3 Consumables


Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 L61	314018-34097	MIG	✓		
ER 308 L	299687-70302	TIG	✓		16/03/24

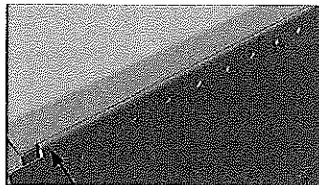
30-03-25

		DTR30223319/3 Carshell Assembly TC		Rev. V28	Project: PRASA		
				Date- 07/11/2023	SI.CB1210.322.V28		
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NO	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	DT00000284980	✓		 16/05/24	 16/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓		 16/05/24	 16/05/24
03		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓		 16/05/24	 16/05/24
04	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 16/05/24	 16/05/24
05	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 16/05/24	 16/05/24
06		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 16/05/24	 16/05/24
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	✓		 16/05/24	 16/05/24



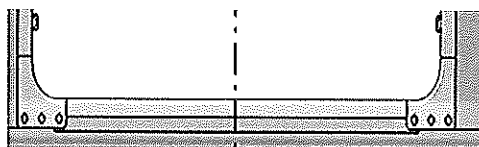
	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB1210.322.V28
		Date- 07/11/2023	
Welder traceability			

Roof ring welds



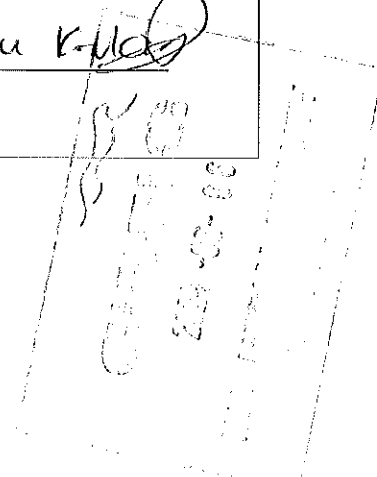
<u>LHS</u>	
Boiler maker (Name & Sign): <u>LUNGA [Signature]</u>	Welder (Name & Sign): <u>Siphonazi [Signature]</u>
<u>RHS</u>	
Boiler maker (Name & Sign): <u>Tunewo [Signature]</u>	Welder (Name & Sign): <u>Siphonazi [Signature]</u>


Door ring welds



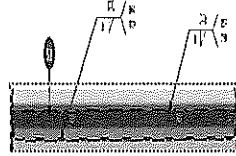
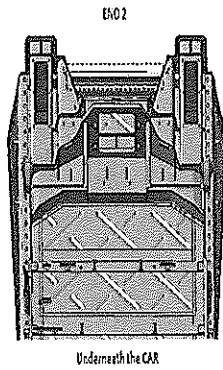
<u>LHS</u>	
Boiler maker (Name & Sign): <u>Tunewo [Signature]</u>	
Welder (Name & Sign): <u>Keru K-Mad</u>	

<u>RHS</u>	
Boiler maker (Name & Sign): <u>Tunewo [Signature]</u>	
Welder (Name & Sign): <u>Keru K-Mad</u>	



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	Sl.CB1210.322.V28

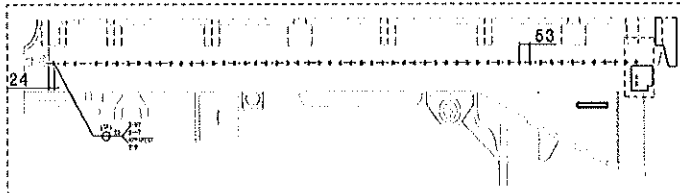
EUJ Reinforcement Plates



END 2

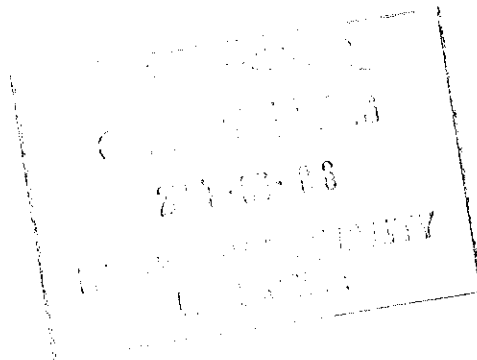
Boiler maker (Name & Sign): SEAN B


Welder (Name & Sign): Thabang

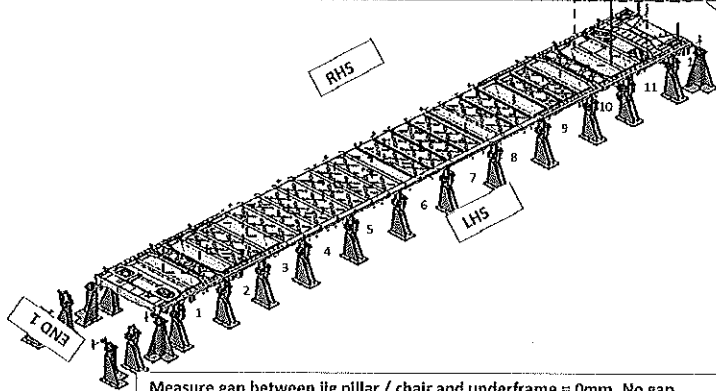


FEDOLI

Operator: SIPHEAZI



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB1210.322.V28
		Date- 07/11/2023	
Specifications of Details for CBS measurement			




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

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

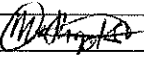
After Loading Underframe and Clamping.

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

Signature Operations:  Date: 16/05/24

After Welding.

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

Signature Industrial Quality:  Date: 16/05/24

Handwritten notes and signatures in the bottom right corner, including a large signature and some illegible text.



DTR30223319/3 Carshell Assembly TC

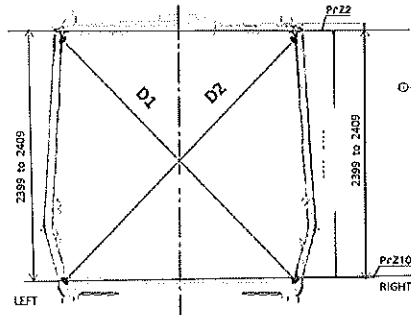
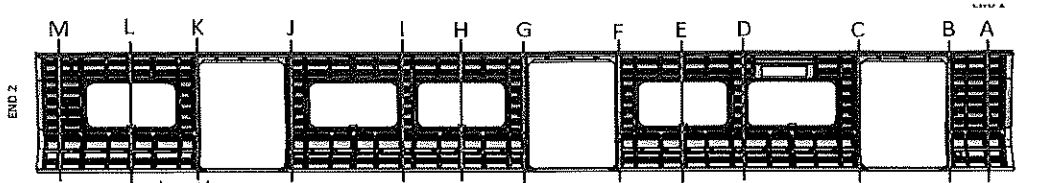
Rev.
V28

Project: PRASA

Date-
07/11/2023

SI.CB1210.322.V28

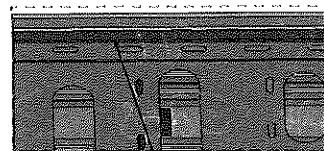
Specifications of Details for CBS measurement



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.

838-02-48
1001-01-020001
L. 00110.



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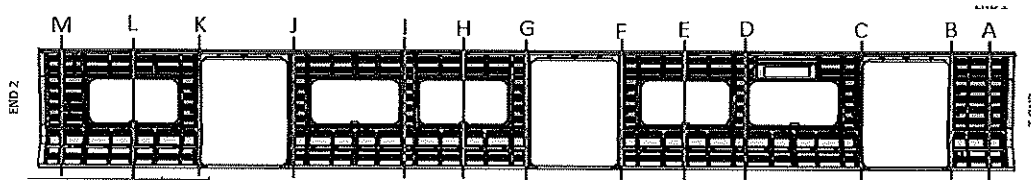
Date-

07/11/2023

SI.CB1210.322.V28

Specifications of Details for CBS measurement


BEFORE WELDING



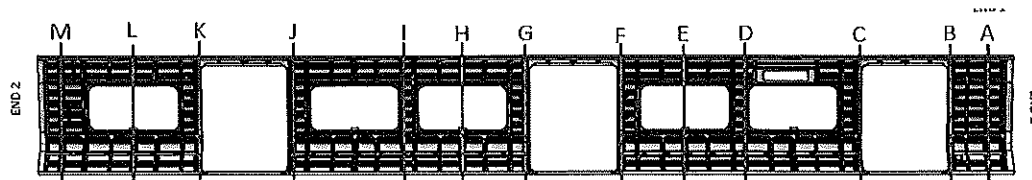
PME: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3269	3268	1	2404	2404	0
B	3270	3270	0	2405	2404	1
C	3266	3268	2	2406	2404	2
D	3271	3269	2	2405	2405	0
E	3270	3269	1	2404	2406	2
F	3269	3269	0	2404	2403	1
G	3268	3266	2	2404	2404	0
H	3267	3268	1	2405	2404	1
I	3269	3267	2	2406	2404	2
J	3269	3269	0	2404	2404	0
K	3268	3269	1	2404	2403	1
L	3268	3267	1	2404	2405	1
M	3266	3266	0	2404	2402	2

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	DTR30223319/3 Carshell Assembly TC	Rev. V28 Date- 07/11/2023	Project: PRASA SI.CB1210.322.V28
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.

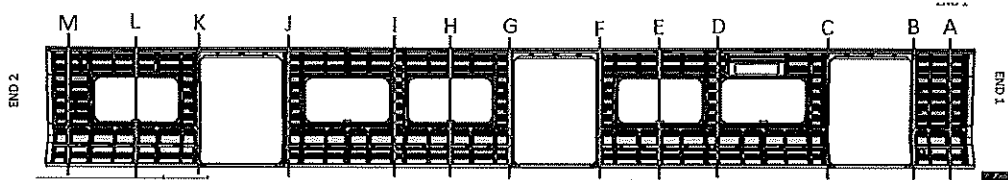
	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3269	3268	1	2404	2405	1
B	3295	3296	1	2406	2404	2
C	3298	3297	1	2405	2404	1
D	3268	3267	1	2404	2404	0
E	3269	3268	1	2404	2406	2
F	3296	3298	2	2404	2403	1
G	3297	3298	1	2404	2404	0
H	3268	3268	0	2406	2404	2
I	3269	3268	1	2405	2404	1
J	3296	3298	2	2403	2404	1
K	3297	3297	0	2405	2405	0
L	3269	3268	1	2404	2406	2
M	3296	3296	0	2404	2403	1



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15/05/24

CBS measurement

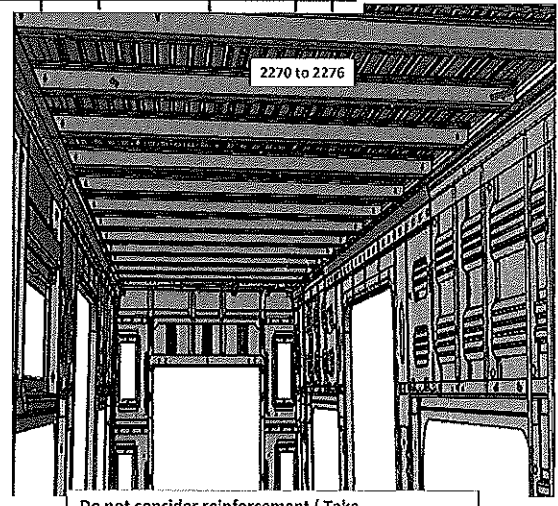
BEFORE WELDING



2270 to 2276

2268 a 2274

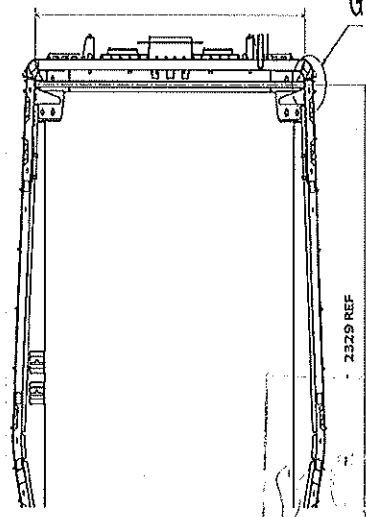
- A 2270
- B 2276
- C 2270
- D 2276
- E 2275
- F 2273
- G 2275
- H 2276
- I 2275
- J 2270
- K 2270
- L 2275
- M 2270



2270 to 2276

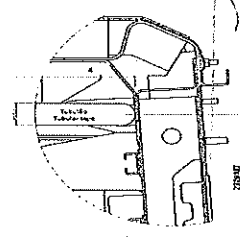
Do not consider reinforcement (Take measurements top area of zee profile

2265 to 2271



2329 REF

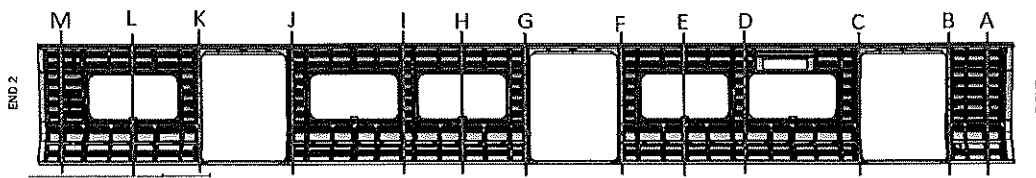
2265 to 2271



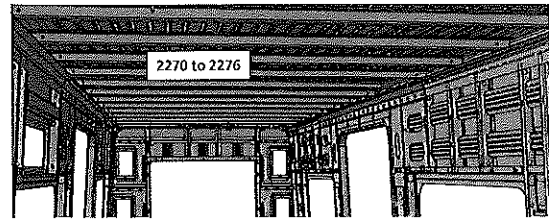
Detail G
Considering the reinforcement plate

Handwritten signature and date: 4099618 16/05/24

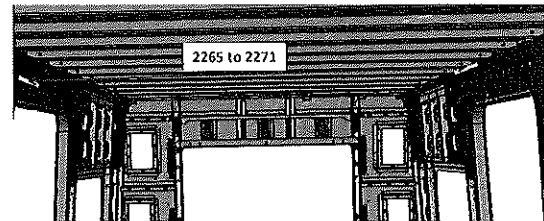
AFTER WELDING



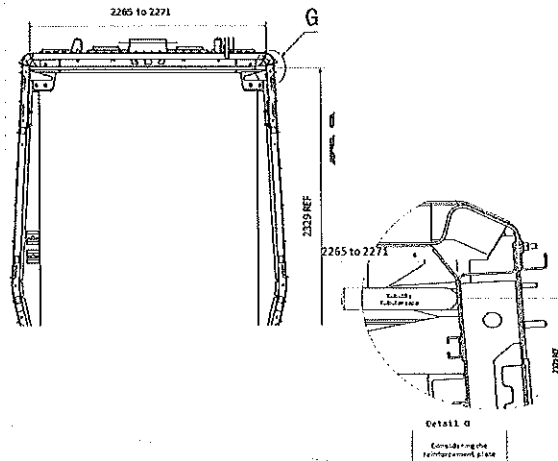
	2265 to 2271	2270 to 2276
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C	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
E	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
G	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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K	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
L	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
M	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>





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



Take measurement close to radius (considering reinforcement)




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16/05/20


20/05/23
QUALITY



DTR30223319/3 Carshell Assembly TC

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V28

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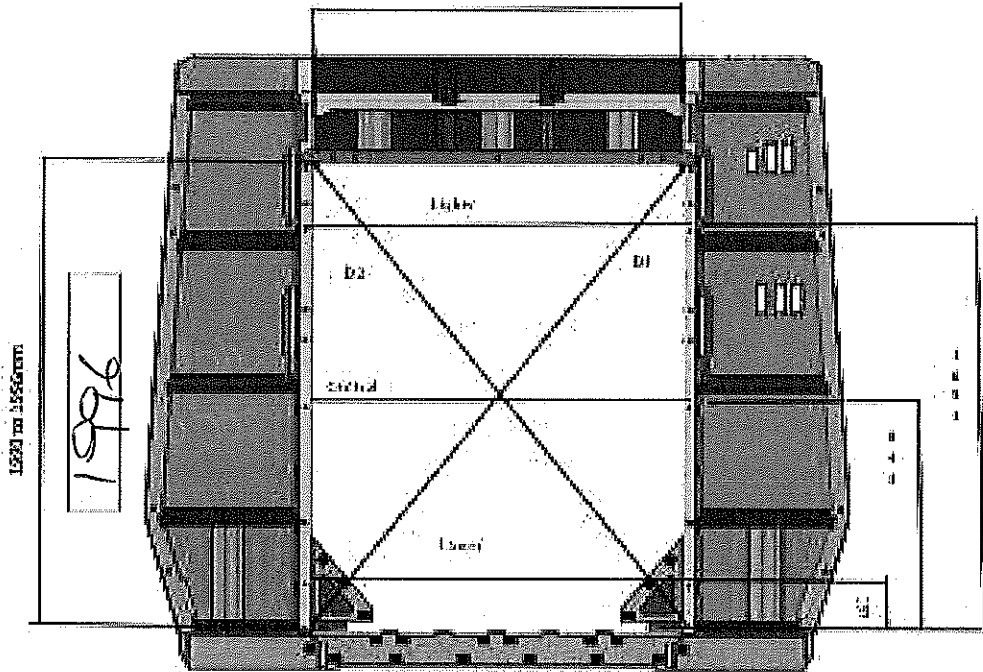
Date-

07/11/2023

SI.CB1210.322.V28

Specifications of Details for CBS measurement

Endframe 2



THEORETICAL

DIAGONAL DIFFERENCE $D1-D2 \leq 3mm$

Higher Diagonal

1381

D1

2416

Central Diagonal

1381

D2

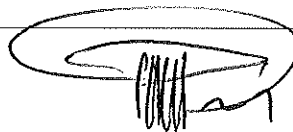
2416

Lower Diagonal

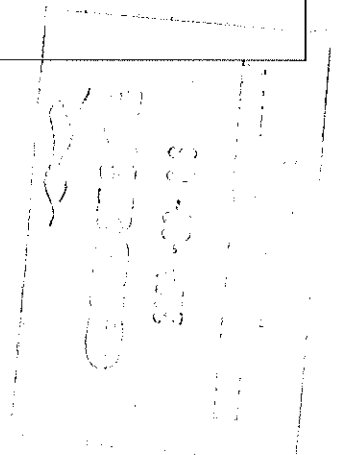
1382

D1-D2

0


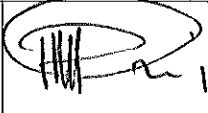



409964
16/05/24



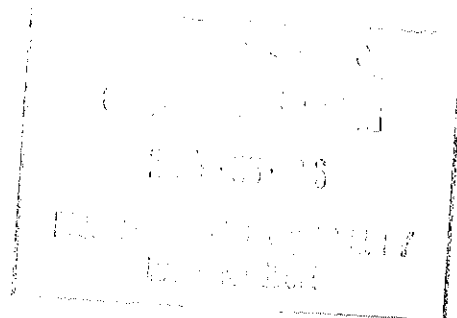
40096p
16/05/24


[Faint handwritten signature]

		DTR30223319/3 Carshell Assembly TC		Rev. V28 Date- 07/11/2023	Project: PRASA SI.CB1210.322.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!	16/05/24	Portico		
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.	16/05/24	Kelebone		
	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	Action	Responsible	Due date	Status	

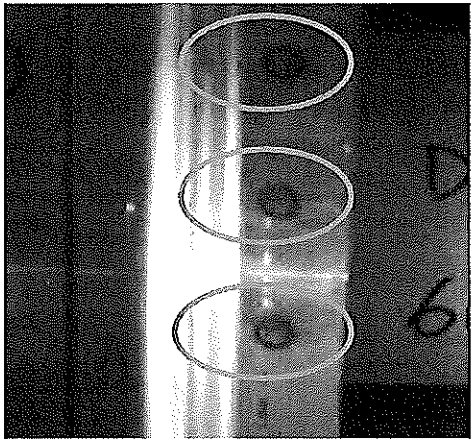
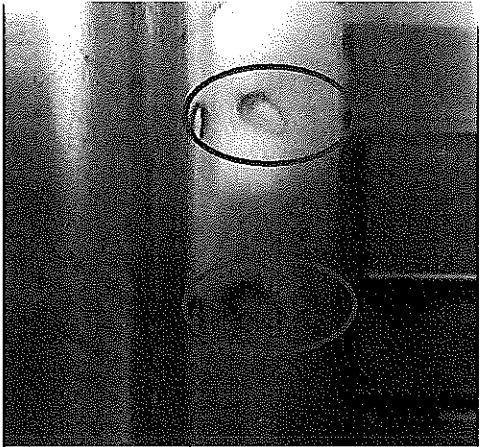
Operations


Quality




	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB1210.322.V28
		Date: 07/11/2023	

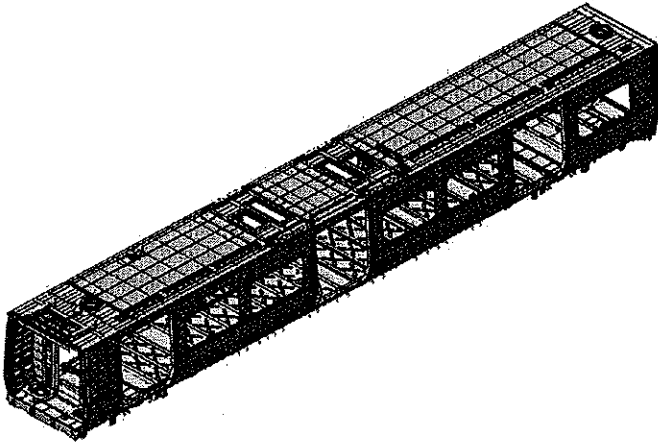
ANNEXURE A: Spot Welding Quality Acceptance Standard



	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date- 28/10/2023	

Carro Car:	TC1, TC2	NCR:	
		Work station:	CB1220


Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
	1	2	3	4	5						
DTR30223319/2	✓					29		✓		N/A	17/03/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process



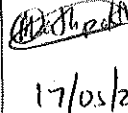
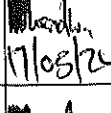
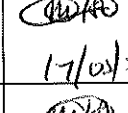
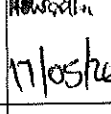
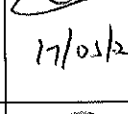
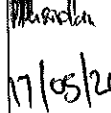
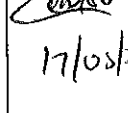
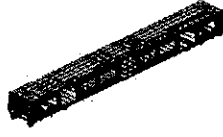
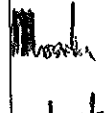
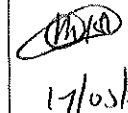
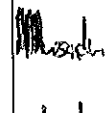
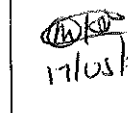

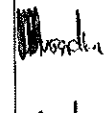
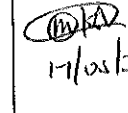
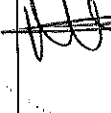
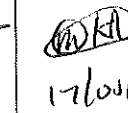
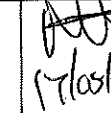
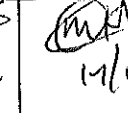
Instruments	Validation	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Probar	32823-3	15/03/2025	✓		M. S. S.	17/03/24
Measuring tape	61870399	16/04/2025	✓		M. S. S.	17/03/24


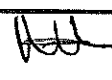

1.3 Consumables

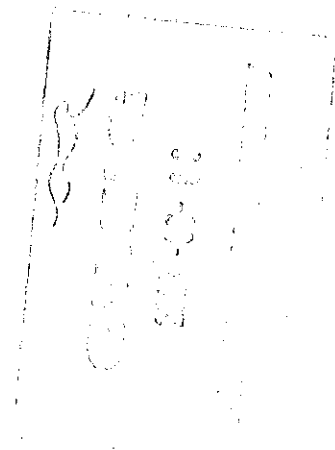
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
308 1.0mm		MIG	✓		M. S. S.	17/03/24

17/03/24

	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA									
		Date- 28/10/2023	SI.CB1220.323.V29									
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.CB1220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	DTR30223319/2	✓	 17/05/24	 17/05/24						
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓	 17/05/24	 17/05/24						
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓	 17/05/24	 17/05/24						
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓	 17/05/24	 17/05/24						
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓	 17/05/24	 17/05/24						
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.	✓	 17/05/24	 17/05/24						
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	✓	 17/05/24	 17/05/24						
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"> <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% - 60%</td> </tr> </table>	Temperature Min - Max (I)	Min-Max	10°C - 35°C	Relative humidity Min - Max (I)	Min-Max	25% - 60%	Sealant Batch No: <u>B3497-103</u> Exp Date: <u>09/06/24</u> Actuals Temperature: <u>24</u> Humidity: <u>45</u>	✓	 17/05/24	 17/05/24
Temperature Min - Max (I)	Min-Max	10°C - 35°C										
Relative humidity Min - Max (I)	Min-Max	25% - 60%										
09	NA	Verification of sealant application in certain regions in the drawing.	AAD0001241033	✓	 17/05/24	 17/05/24						

		DTR30223319/2 Carshell Assembly TC		Rev. 29	Project: PRASA SI.CB1220.323.V29				
				Date-					
				28/10/2023					
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	✓				 17/05/24 	17/05/24





DTR30223319/2 Carshell Assembly TC

Rev.

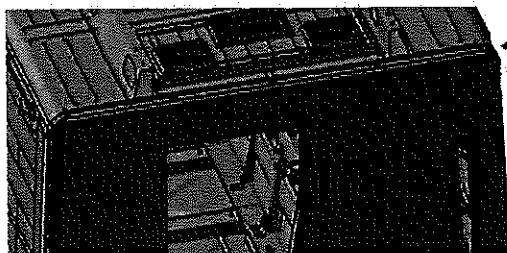
29

Project: PRASA

Date-

28/10/2023

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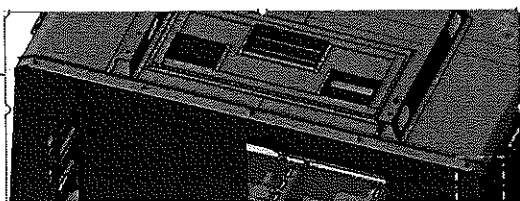
END 1 SEALANT


OPERATOR
(Name & sign):

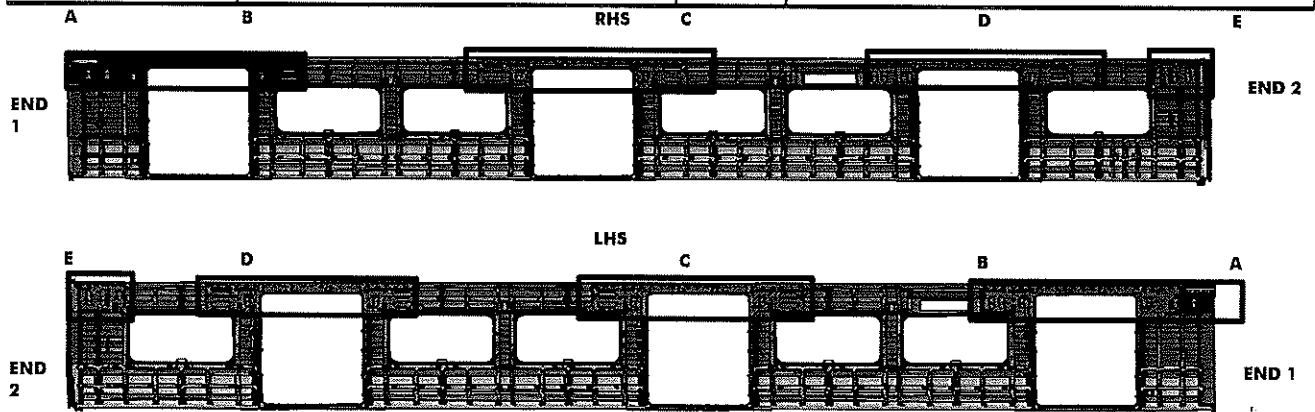
Mt Vukobzisi

OPERATOR
(Name & sign):






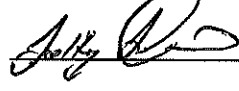


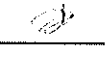
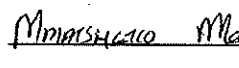
Mt Vukobzisi



	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date-	
		28/10/2023	



REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>LINDO</u> 	<u>LINDO</u> 
B	Operator (Name&sign): <u>LINDO</u> 	<u>Mandla</u> 
C	Operator (Name&sign): <u>Julius</u> 	<u>Julius</u> 
D	Operator (Name&sign): <u>Mkhice</u> 	<u>Mmarshaco</u> 
E	Operator (Name&sign): <u>Mkhice</u> 	<u>Mmarshaco</u> 

8/10/2023
S.1.2.3.4
C.S.

BRACKETING

C-RAILS: Operator: INSTALLATION
Melechorre: All

Operator: _____

DOOR MECHANISMS: Operator: Machado
Machado

Operator: _____

TAPPING PADS Operator: Melice
et al

Operator: _____

INSTALLATION & VERIFICATION

SEAT & LUGGAGE BRACKETS: Operator: Machado
Machado

Operator: _____

SEAT BRACKETS VERIFICATION: Operator: Melechorre: All

Operator: _____

WELDING

AREA LHS

ENDI

A (Seat brackets) : Operator (Name&sign): Lindo
(All)

(C-rails, Luggage and earth bushes) : Operator (Name&sign): _____

B (Seat brackets) : Operator (Name&sign): Machado
Machado

(C-rails, Luggage and earth bushes) : Operator (Name&sign): Machado
Machado

C (Seat brackets) : Operator (Name&sign): Felipe
Felipe

(C-rails, Luggage and earth bushes) : Operator (Name&sign): Machado
Machado

D (Seat brackets) Operator (Name&sign): Machado
Machado

(C-rails, Luggage and earth bushes) : Operator (Name&sign): Machado
Machado

RHS

Lindo
(All)

Lindo
(All)


Machado
Machado

Felipe
Felipe

Machado
Machado

Machado
Machado

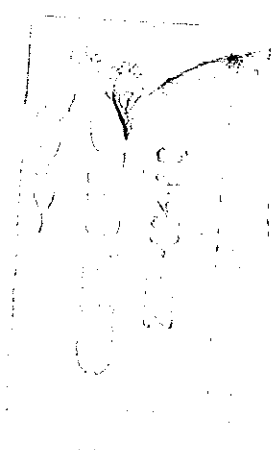
Felipe
Felipe


	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date-	
		28/10/2023	

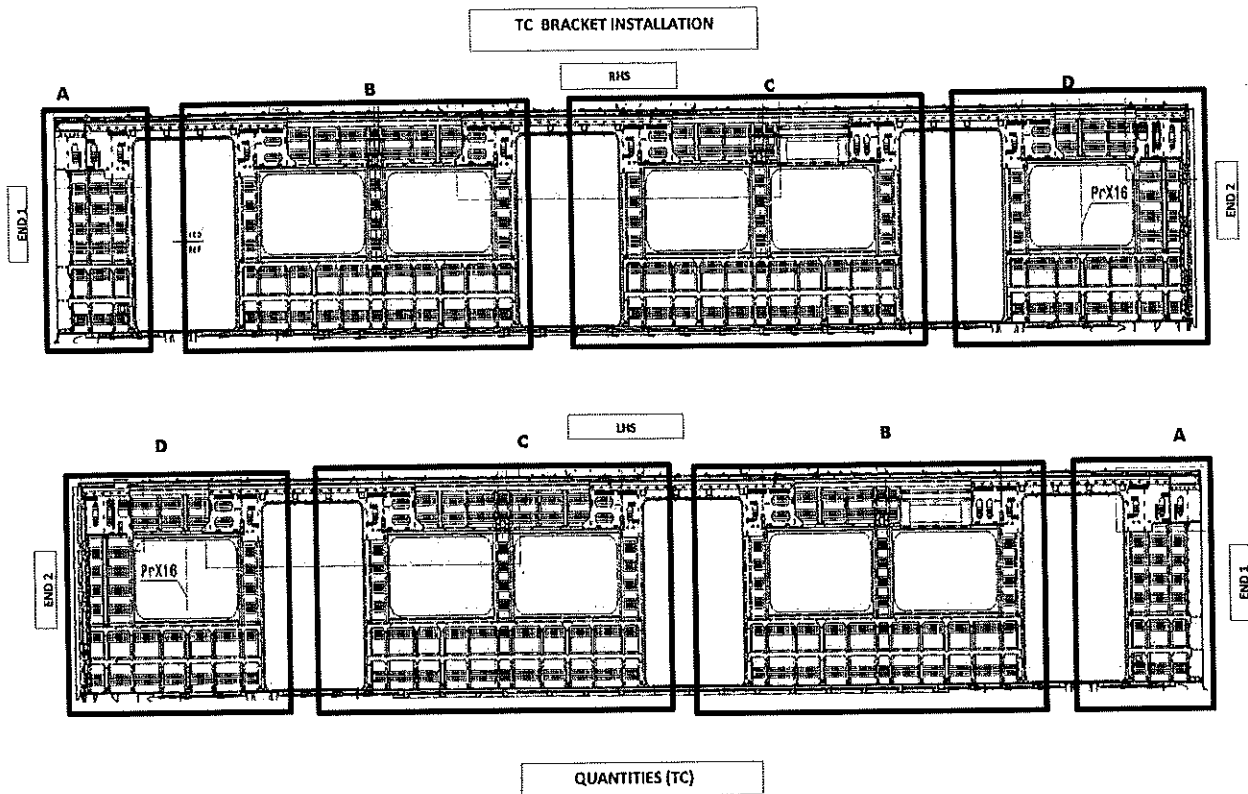
ENDS

END 1 TAPPING PADS WELDING: Operator (Name&sign): N/D

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



	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date- 29/10/2023	



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: Mashudh

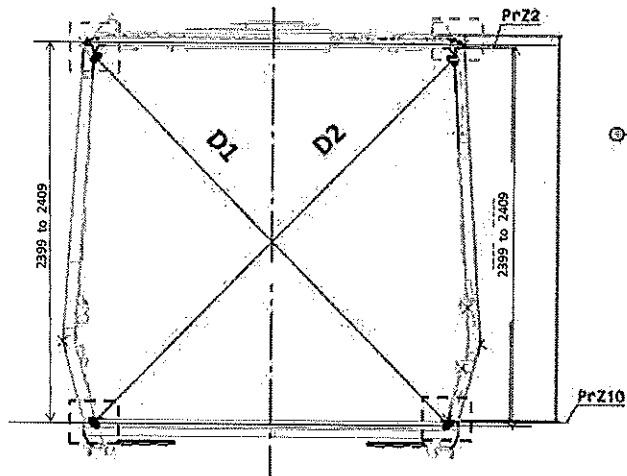
LHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	4	✓	
	B	8	✓	
	C	4	✓	
	D	8	✓	
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: Mashudh

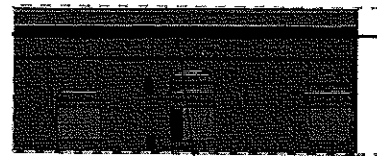
2023-10-29
 10:00 AM
 10:00 AM



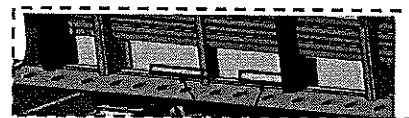
Take measurement close to radius



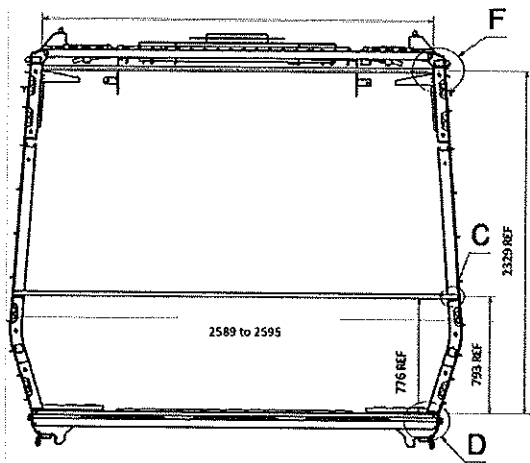
Measurement positions on roof rail and sidewall omega corner



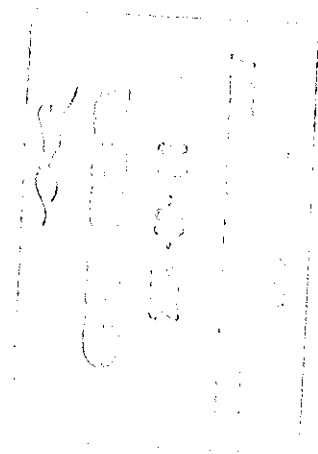
Reinforcement area measurement positions on roof reinforcement area



Measurement positions on sidewall and side sill corner



Take measurement close to radius





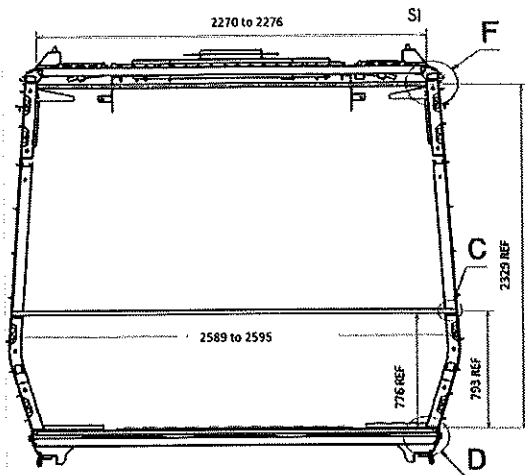
DTR30223319/2 Carshell Assembly TC

Rev.
29

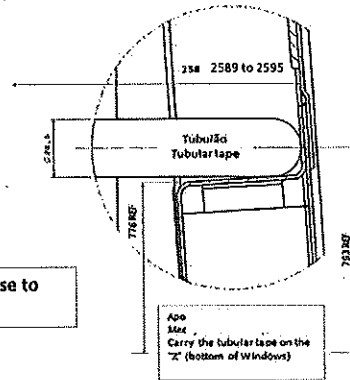
Date-
28/10/2023

Project: PRASA

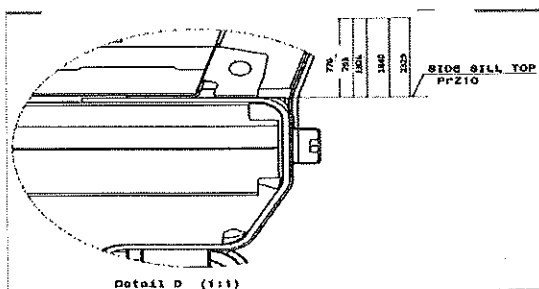
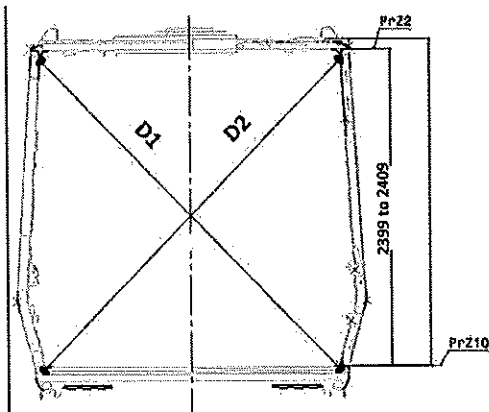
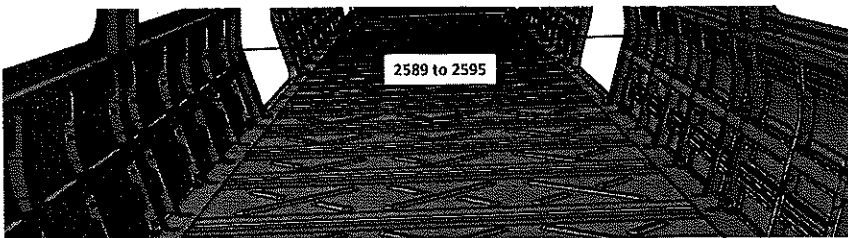
SI.CB1220.323.V29



Take measurement close to
radius

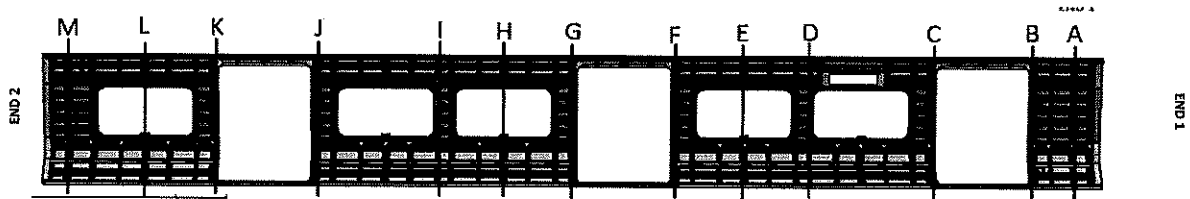


Detail C



Detail D (1:1)





BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3294	3298	4	—
B	3296	3299	3	—
C	3294	3299	5	—
D	3265	3266	1	—
E	3265	3266	1	—
F	3298	3294	4	—
G	3298	3293	5	—
H	3264	3262	2	—
I	3268	3264	4	—
J	3298	3294	4	—
K	3299	3296	3	—
L	3269	3265	4	—
M	3299	3294	5	—

Handwritten notes and a signature in the bottom right corner.



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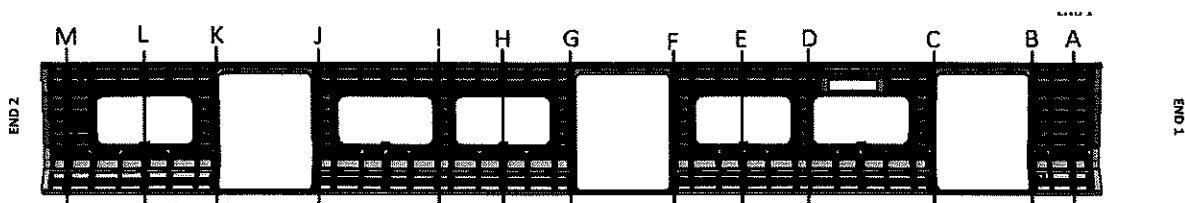
Rev.
29

Project: PRASA

Date:

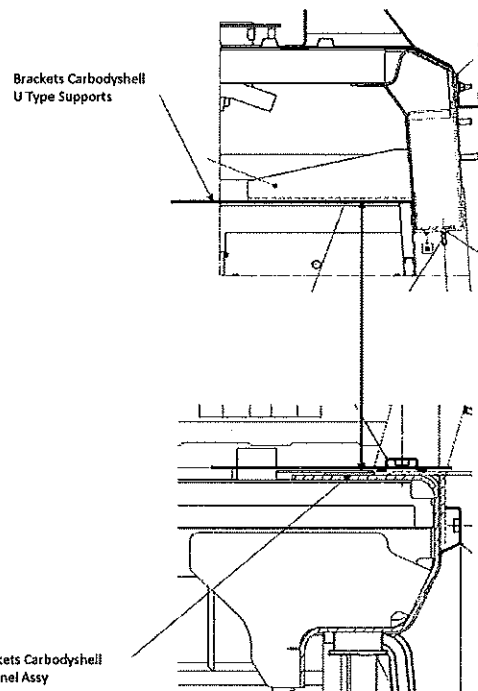
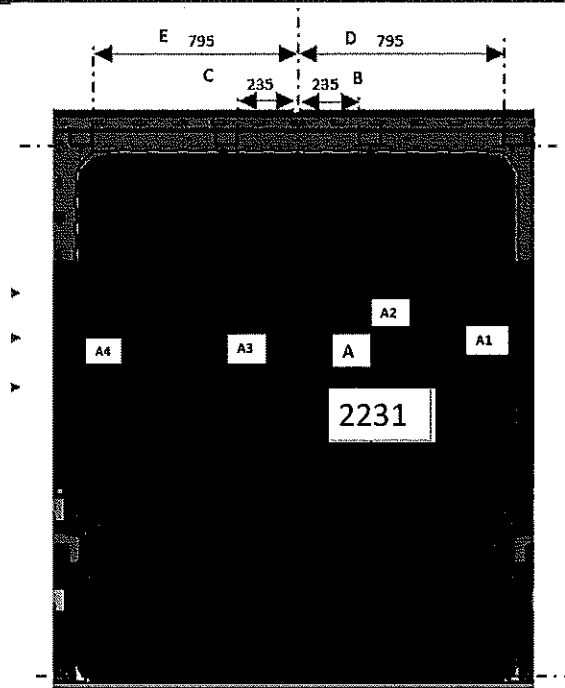
28/10/2023

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**AFTER WELDING**

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3296	3294	2	2594
B	3294	3297	3	2594
C	3297	3294	3	2591
D	3264	3265	1	2594
E	3267	3265	2	2591
F	3296	3298	2	2593
G	3294	3297	3	2590
H	3264	3263	1	2593
I	3265	3268	3	2594
J	3294	3298	4	2593
K	3294	3298	4	2595
L	3267	3263	4	2594
M	3294	3299	5	2593

Handwritten notes and stamps at the bottom of the page, including a date stamp "2023-10-28" and a signature.



DOOR 1 - LHS		
	VALUE	ACTUAL
A1	2230 to 2232	2233
A2	2230 to 2232	2232
A3	2230 to 2232	2232
A4	2230 to 2232	2233
B	234 to 236	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795

DOOR 2 - LHS		
	VALUE	ACTUAL
A1	2230 to 2232	2233
A2	2230 to 2232	2232
A3	2230 to 2232	2232
A4	2230 to 2232	2233
B	234 to 236	234
C	234 to 236	235
D	794 to 796	796
E	794 to 796	795

DOOR 3 - LHS		
	VALUE	ACTUAL
A1	2230 to 2232	2233
A2	2230 to 2232	2232
A3	2230 to 2232	2232
A4	2230 to 2232	2233
B	234 to 236	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795

DOOR 1 - RHS		
	VALUE	ACTUAL
A1	2230 to 2232	2233
A2	2230 to 2232	2231
A3	2230 to 2232	2231
A4	2230 to 2232	2232
B	234 to 236	235
C	234 to 236	236
D	794 to 796	795
E	794 to 796	794

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

DOOR 3 - RHS		
	VALUE	ACTUAL
A1	2230 to 2232	2231
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	794
E	794 to 796	795



DTR30223319/2 Carshell Assembly TC

Rev.

29

Project: PRASA

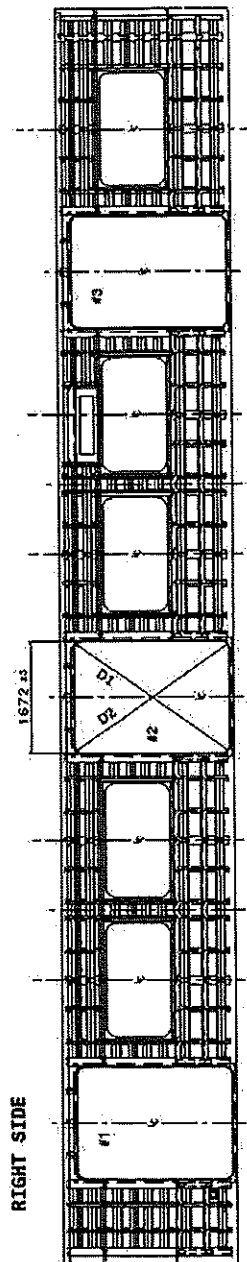
Date-

28/10/2023

SI.CB1220.323.V29

Specifications of Details for CBS measurement

End #2



End #1

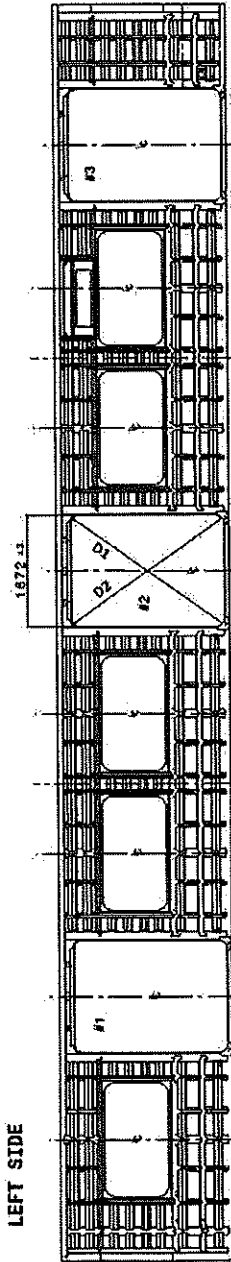
Doors diagonal D1-D2 maximum difference ≤ 4 mm

	#1	#2	#3
D1	2769	2768	2769
D2	2767	2767	2768
D1-D2	2	1	1

Doors length - 1672 ±3mm

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

End #1



End #2


Diagonal da portas - diferença D1-D2 ≤ 4 mm

	#1	#2	#3
D1	2769	2750	2769
D2	2767	2767	2768
D1-D2	2	3	1

Vão de Portas - 1672 ±3mm

Doors length - 1672 ±3mm

	#1	#2	#3
DIMENSÃO SUPERIOR	1674	1671	1672
HIGHER DIMENSION	1673	1671	1672
CENTRAL DIMENSION	1673	1671	1671
LOWER DIMENSION	1673	1671	1671

	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA	
		Date-		
		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			

	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA	
		Date-		SI.CB1220.323.V29
		28/10/2023		


Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)			DATE	NAME	SIGNATURE
HOLD POINT	GO	If activities are not complete, the missing activities must not impact the next stage!	17/05/2024	Moshirah	Moshirah
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	17/05/24	Moshirah Kellehane	Moshirah Kellehane
		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	Action	Responsible	Due date	Status

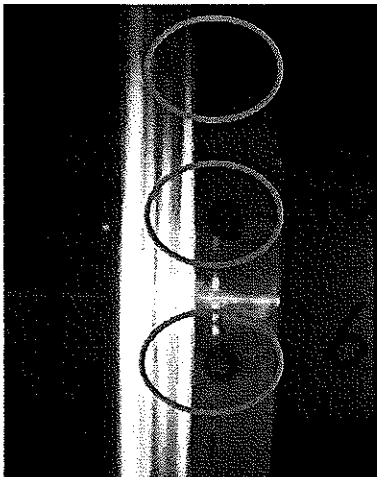
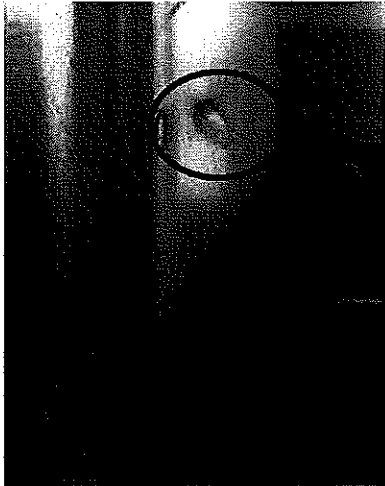
Operations


Quality

17/05/2024
 Moshirah Kellehane
 Moshirah Kellehane

	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date-	
		28/10/2023	

ANNEXURE A: Spot Welding Quality Acceptance Standard





APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION
 This document and the information 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		
DIR3000151695	A/D0001218953	DT00000223319 Carshell Assembly TC	CB1230	X						PRA.CB1230.DT0000012 23319.V20	YES
REV	DATE	MODIFICATION CONTENT			RESPONSIBLE			NAME		DATE	
0	06/04/2018	GIBELA NEW CREATION			APPROVER			Itumeleng Modiba		09/04/2018	
					CHECKER			Nosizo Pindela		09/04/2018	
					COMPILER			Thanyani Mathegu		06/04/2018	
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	05/07/2018	Certain dimensional checks moved to CB1220			APPROVER			Itumeleng Modiba		05/07/2018	
					CHECKER			Nosizo Pindela		05/07/2018	
					COMPILER			Ramokone Motama		05/07/2018	
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	
					COMPILER			Nosizo Pindela		13/03/2019	
7	17/09/2019	Added Cab Fire Barrier Flatness Measurements			APPROVER			Itumeleng Modiba		17/09/2019	
					CHECKER			Nosizo Pindela		17/09/2019	
					COMPILER			Nosizo Pindela		17/09/2019	
10	20/09/2019	New Baseline 10.2.5			APPROVER			Itumeleng Modiba		20/09/2019	
					CHECKER			Nosizo Pindela		20/09/2019	
					COMPILER			Nosizo Pindela		20/09/2019	
15	28/01/2021	New Baseline 10.2.6			APPROVER			Timothy Maimela		28/01/2021	
					CHECKER			Bongane Masina		28/01/2021	
					COMPILER			Bongane Masina		28/01/2021	
20	19/04/2021	New Baseline change 10.3			APPROVER			Timothy Maimela		19/04/2021	
					CHECKER			Bongane Masina		19/04/2021	
					COMPILER			Bongane Masina		19/04/2021	
25	20/04/2022	New Baseline change 10.3.1			APPROVER			Collins Mbombhni		20/02/2022	
					CHECKER			Andani Muthelo		20/02/2022	
					COMPILER			Andani Muthelo		20/02/2022	
26	14/06/2022	Update minimum temperature requirement for sealant application			APPROVER			Collins Mbombhni		14/06/2022	
					CHECKER			Andani Muthelo			
					COMPILER			Andani Muthelo			
27	26/07/2022	Threshold measurements addition			APPROVER			Collins Mbombhni		26/07/2022	
					CHECKER			Andani Muthelo			
					COMPILER			Andani Muthelo			
28	17/10/2022	Addition of traceability for sealant application			APPROVER			Collins Mbombhni		17/10/2022	
					CHECKER			Ntokozo Zwane			
					COMPILER			Amogelang Mohlampe			
29	14/04/2023	Added sealant batch number & welding consumables traceability			APPROVER			Vanessa Ntuli		14/04/2023	
					CHECKER			Ntokozo Zwane			
					COMPILER			Amogelang Mohlampe			
30	06/11/2023	Added traceability for thresholds for boiler makers and welders			APPROVER			Tyson Ngobeni		06/11/2023	
					CHECKER			Andani Muthelo			
					COMPILER			Ntokozo Zwane			
TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER		DATE	SELF INSPECTION NUMBER		PAGES				
208	TC1	ZANELE 110111		18.06.24	SI.CB1230.324.V28		14				





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06/11/2023

Project: PRASA

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Carro
Car:

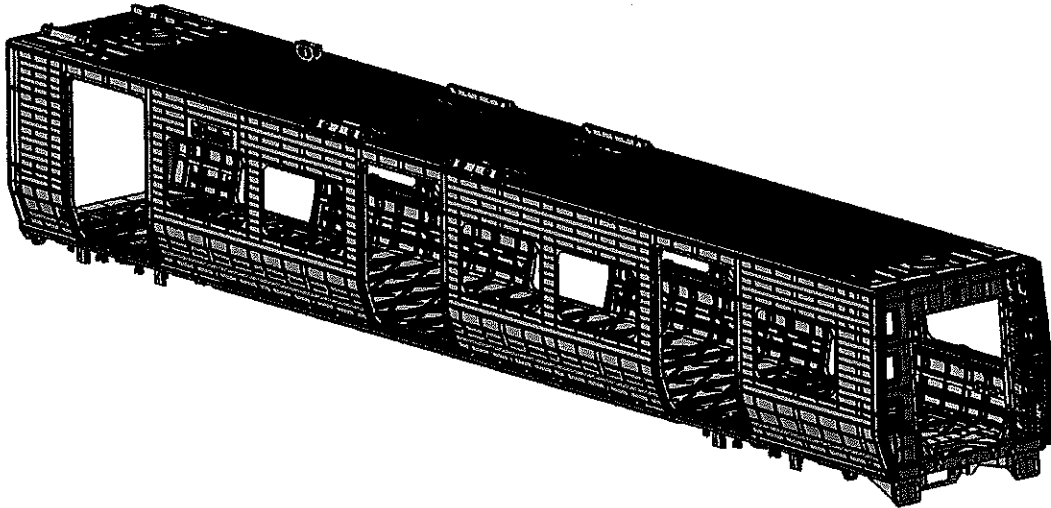
NCR:

Work station:

CB1230



Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK		Signature/Date (Operations)	Signature/Date (Quality)
	T1	T2	T3	T4	T5						
DT00000223319	X					V30		OL		N/A	E 18.05.24 26/10/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK		Signature/Date (Operations)	Signature/Date (Quality)
MEASURING TAPE	G180194	26/04/25	OL		E 18.05.24	26/10/24
COMBINATION	G180072	27/07/24	OL		E 18.05.24	26/10/24
TUBULAR	22713	26/06/25	OL		E 18.05.24	26/10/24

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
AUTROD 308LSi	E221850	MIG	OL		E 18.05.24	26/10/24
ER 308L	1.4316	TIG	OL		E 18.05.24	26/10/24



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










06/11/2023

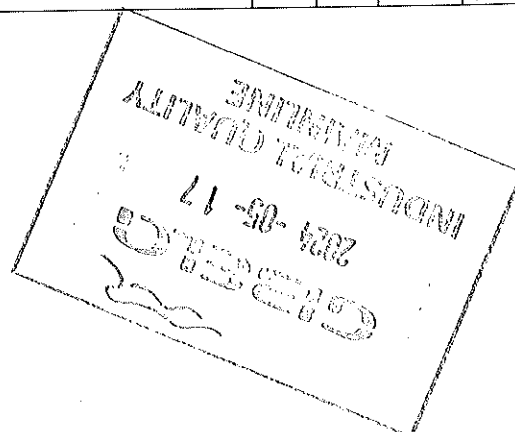
Project: PRASA

SI.CB1230.324.V29

II - Control Activities of Production

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 n° DT00000223319	DT00000223319	OK			 18.05.24	 14/05/24						
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	OK			 18.05.24	 14/05/24						
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 DTD0000210675	OK			 18.05.24	 14/05/24						
04	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.	OK			 18.05.24	 14/05/24						
05	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	OK			 18.05.24	 14/05/24						
06	N/A	Before appplication of sealant record the expiry date and make sure that the room temperature and humidity are withion specified values as per Works Instructions Specified: <table><tr><td>Temperature Min - Max (1)</td><td>Min-Max</td><td>10°C - 35°C</td></tr><tr><td>Relative humidity Min - Max (1)</td><td>Min-Max</td><td>25% - 80%</td></tr></table>	Temperature Min - Max (1)	Min-Max	10°C - 35°C	Relative humidity Min - Max (1)	Min-Max	25% - 80%	Sealant Batch No: <u>ISR 70-8</u> Exp Date: <u>10/06/24</u> Actuals Temperature: <u>28°C</u> Humidity: <u>61%</u>	OK			 18.05.24	 14/05/24
Temperature Min - Max (1)	Min-Max	10°C - 35°C												
Relative humidity Min - Max (1)	Min-Max	25% - 80%												
07	N/A	Verification of sealant application in regions of roof and sideframe finishers.	Sealant must be: -Applied straight and even (1.5mm) -Free of gaps,cracks,damage and debris (flashes, dirt, dust) Refer to Annexure B	OK			 18.05.24	 14/05/24						



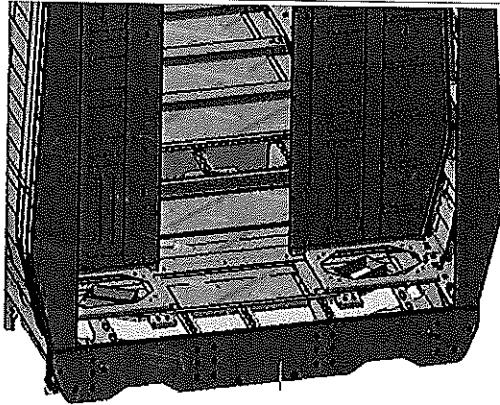


DT00000223319 Carshell Assembly TC

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06/11/2023

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VIEW A



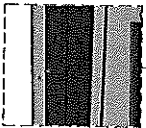
**END 1
SEALANT**

OPERATOR
(Name & sign):

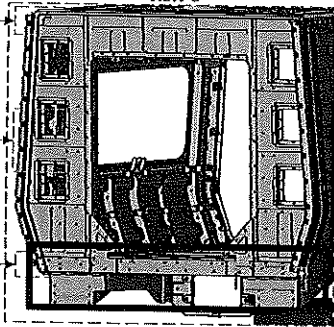
Lerato 

OPERATOR
(Name & sign):

Buntle 



VIEW C

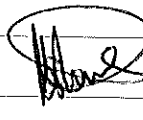


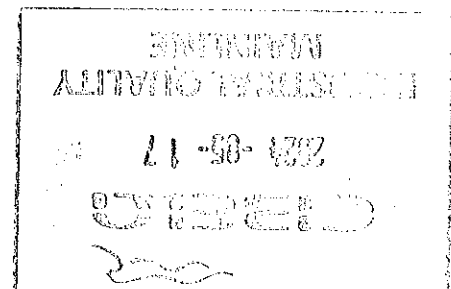
OPERATOR
(Name&sign):

Leroy 

OPERATOR
(Name&sign):

OPERATOR
(Name&sign):

Leroy 





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06/11/2023

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

Operator (Name & sign):

LHS

RHS

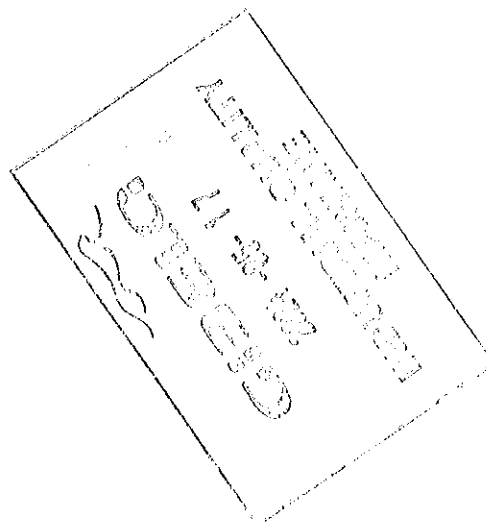
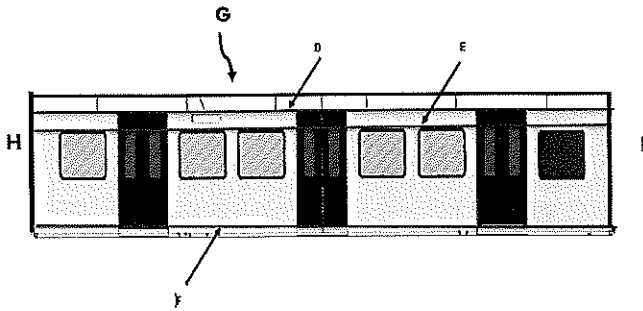
Operator (Name & sign):

Operator (Name & sign):

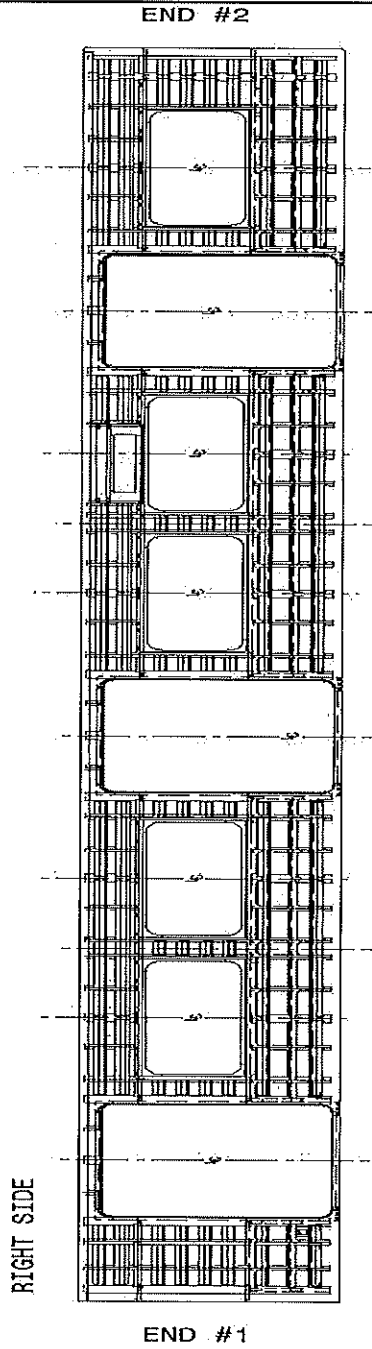
Operator (Name & sign):

Operator (Name & sign):

Operator (Name & sign):

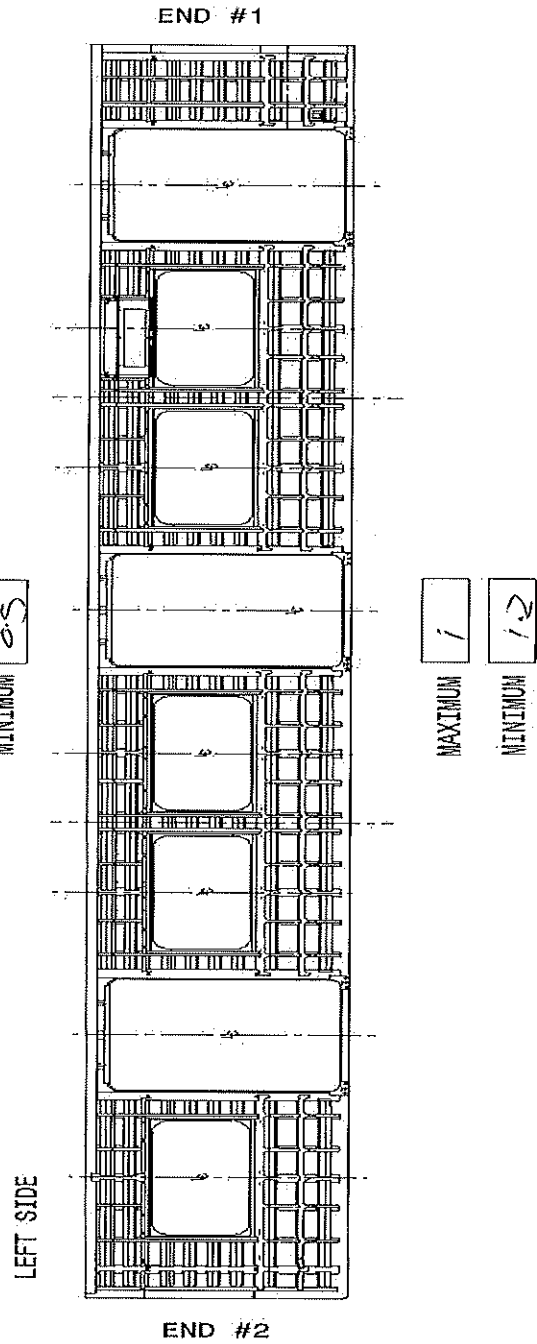


Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value found and indicate the corresponding region.



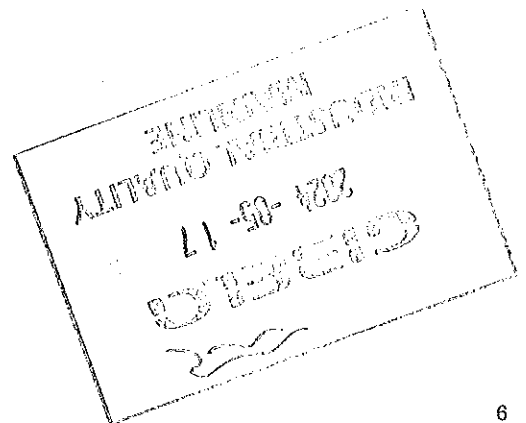
MAXIMUM
1

MINIMUM
0.5



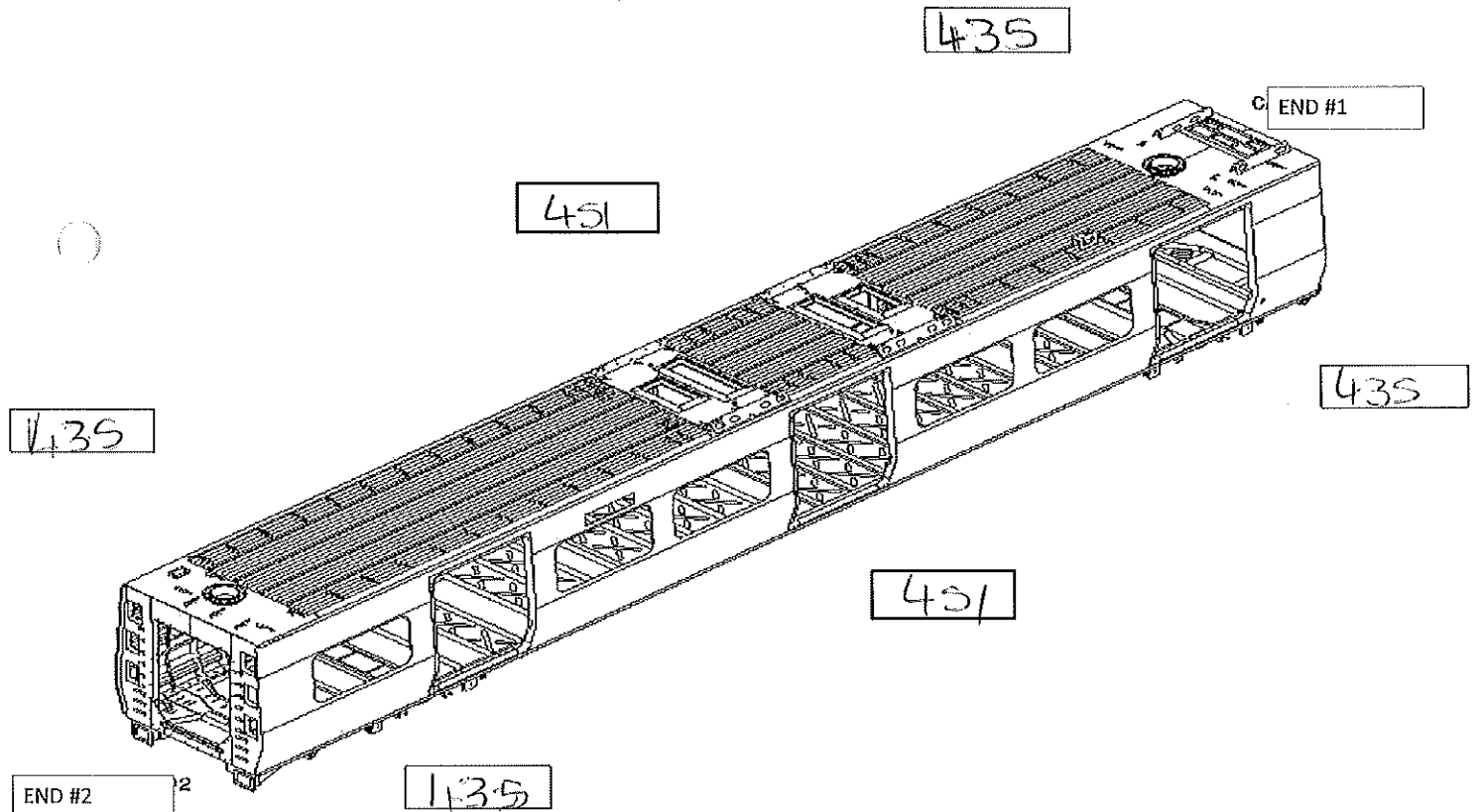
MAXIMUM
1

MINIMUM
1.2



Specifications of Details for CBS measurement CB1230

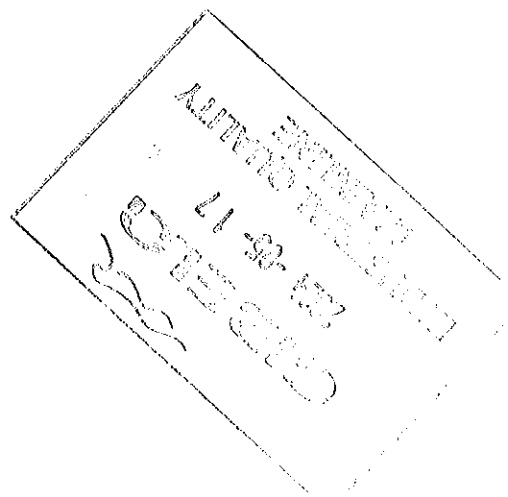
Specified Camber for car out of jig is 16mm (-0mm + 2mm)



MEASURED CAMBER VALUES

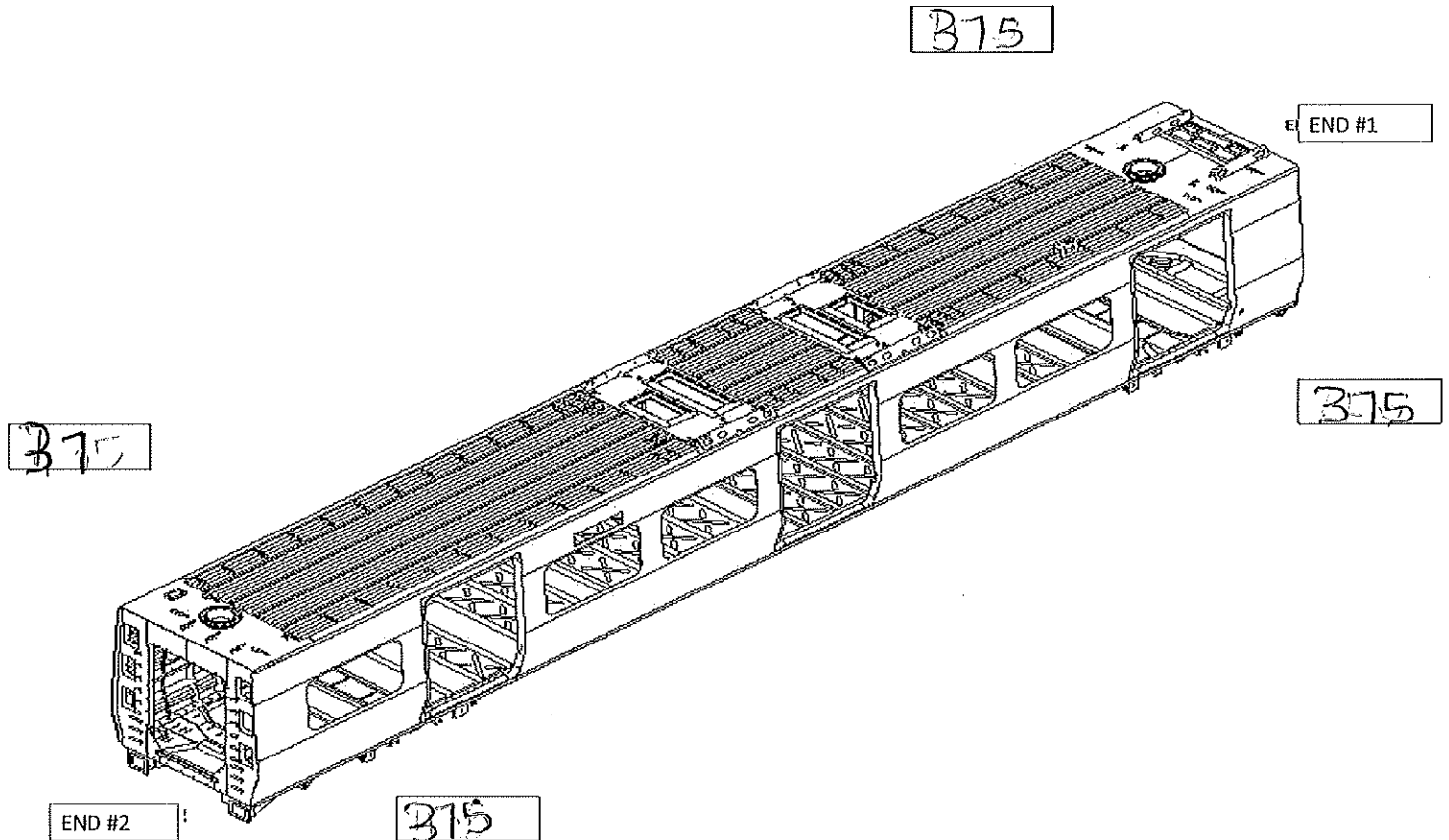
RIGHT \rightarrow 16
LEFT \leftarrow 16

Di



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.

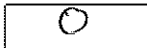


MEASURED TWIST VALUES END 1

LATERAL



LONGITUDINAL 1

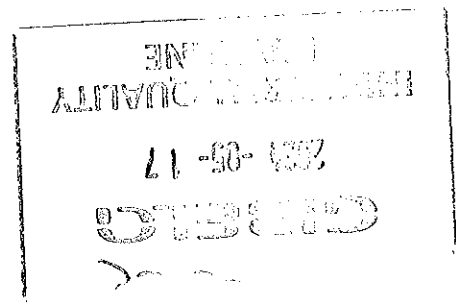


MEASURED TWIST VALUES END 2

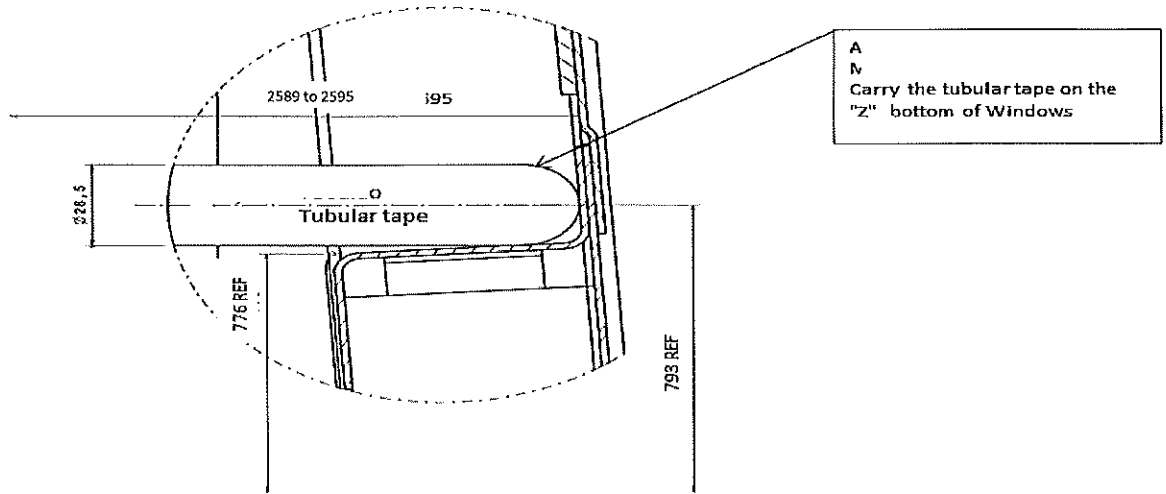
LATERAL



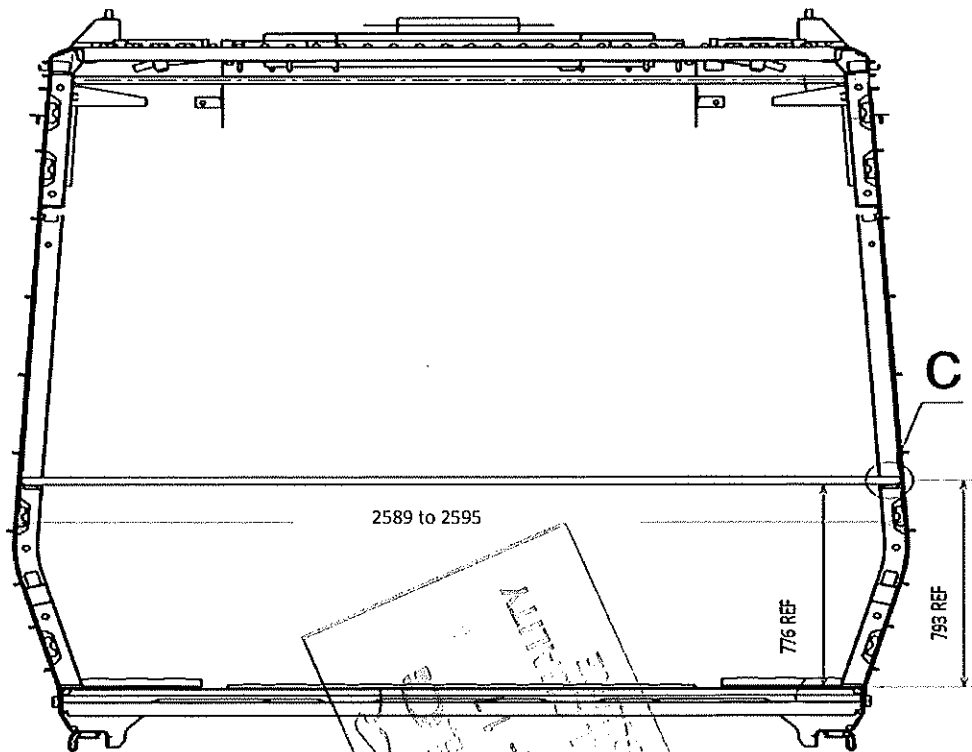
LONGITUDINAL



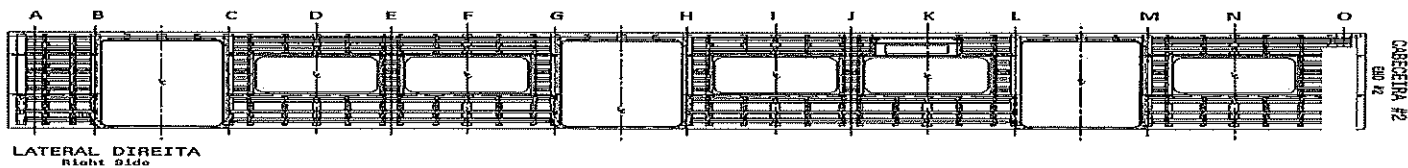
Details for measuring on the CB1230 stage, after completion of activities



Detail C

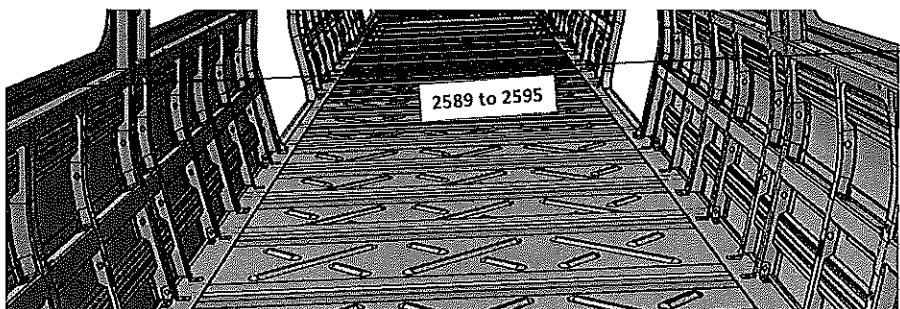


Specifications of Details for CBS measurement



2589 to 2595mm

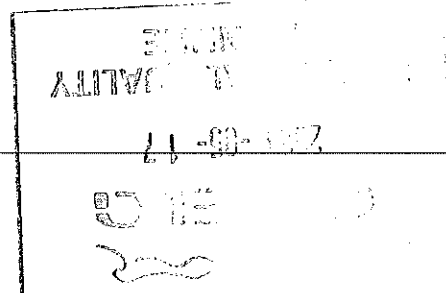
A	2594
B	2589
C	2594
D	2594
E	2593
F	2594
G	2592
H	2591
I	2595
J	2595
K	2594
L	2589
M	2593
N	2595
O	2593



Threshold verification

Nominal value :38

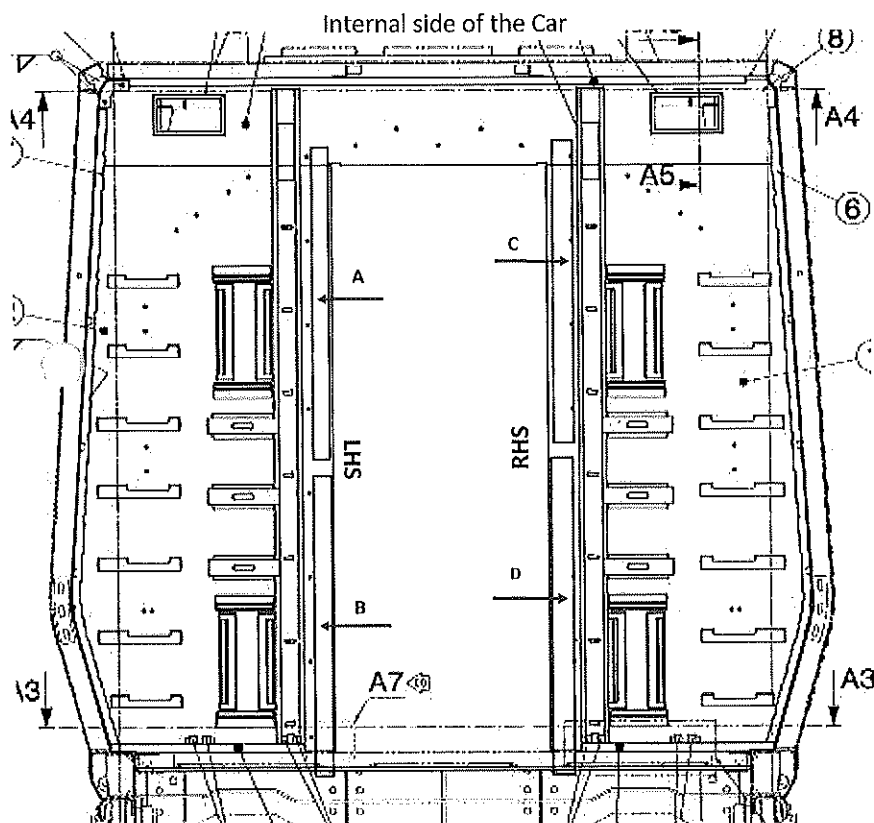
Door 1		Door 2		Door 3	
L	R	L	R	L	R
38	38	38	38	38	38
Door 4		Door 5		Door 6	
L	R	L	R	L	R
38	38	38	38	38	38

BOILER MAKER: EMANUEL F. S. S. S.
WELDER: ZANGLA


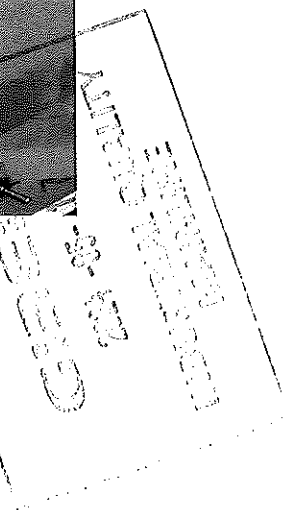
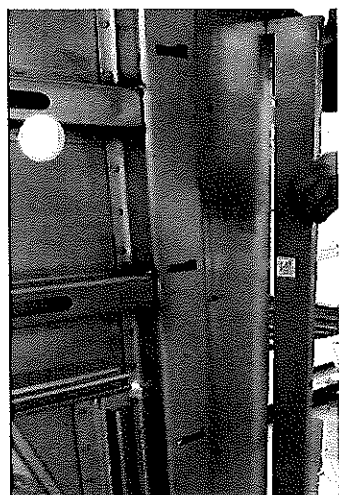
Specifications of Details for CBS measurement

Measure the flatness on the Cab Fire Barrier after installation and welding. Measure positions A, B, C and D using 1000mm flatness ruler and taper gauge.

Specified Maximum Flatness deviation on Cab Fire Barrier = 2mm



Measured Values			
	Minimum	Maximum	Deviation
A	8	10	2
B	9.1	10.2	1.1
C	10.6	11.0	0.4
D	11.6	12	0.4





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Dye penetrant test

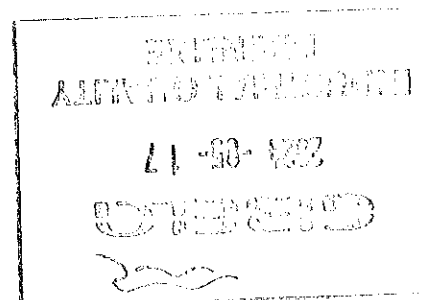
Dye-penetration test to be performed by quality personnel



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			





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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!

18/05/24

Zanetti

Operations

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

18/05/24

Androni

Industrial Quality

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

Operations

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

Industrial Quality

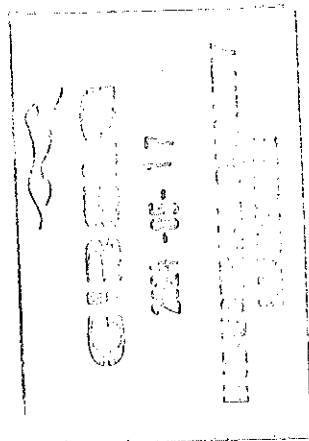
In case of "NO GO", describe blocking problems

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



ANNEXURE A: Arc Welding Quality Acceptance Standard

