



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.

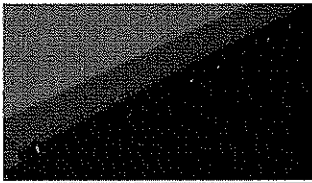
APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ? 
				TC1	M4	M1	M2	MV	TC2		
<div><div></div><div></div><div></div></div> <div>DTR000152645</div>	AAD0001241033	Carshell Assembly TC	CB2210	X						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	08/04/2018
1	2018/05/18	Team leader and Quality Technician to sign 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	19/04/2020	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	Mohlampe Amogelang	
			REVISED BY	Mohlampe Amogelang	
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Mathapo Kelebone	
			REVISED BY	Mohlampe Amogelang	
28	07/11/2023	Addition of welding traceability	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozi Zwane	
TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
228	TC2	KUNGA 171497	18/05/24	SI.CB2210.322.V28	16

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

Roof ring welds



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

END 1


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

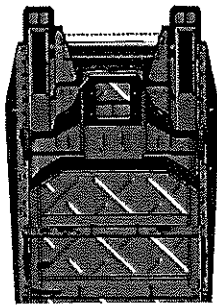
END 2



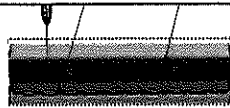
LHS	
Boiler maker (Name & Sign): <u>LUNGA</u>	
Welder (Name & Sign): <u>Keitu K. Moko</u>	

RHS	
Boiler maker (Name & Sign): <u>LUNGA</u>	
Welder (Name & Sign): <u>Keitu K. Moko</u>	

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



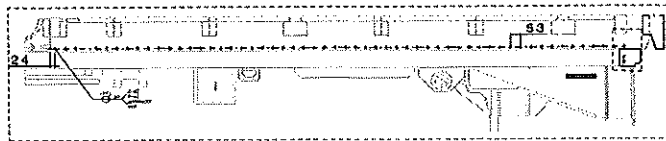
Underneath the CAR



END 2

Boiler maker (Name & Sign): Jabang [Signature]

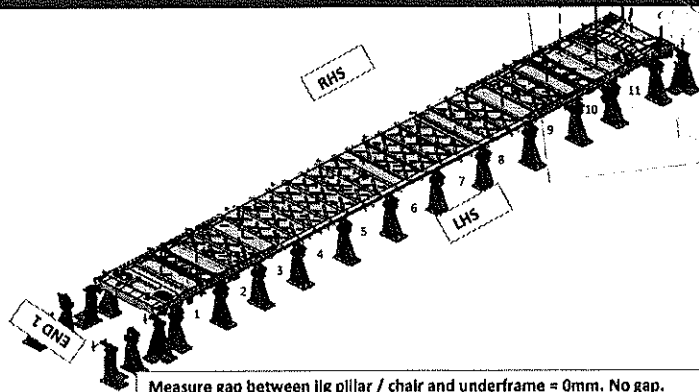
Welder (Name & Sign): Thabang [Signature]



FEDOLI

Operator: Lawrence [Signature]

Specifications of Details for CBS measurement




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	3	2	0	0	0

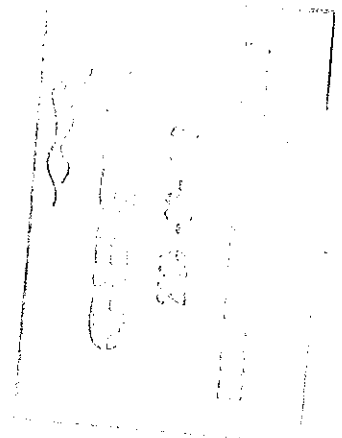
	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	

Signature Operations:  Date: 18/05/2024

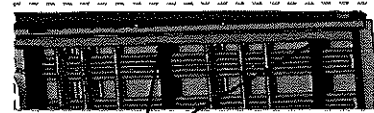
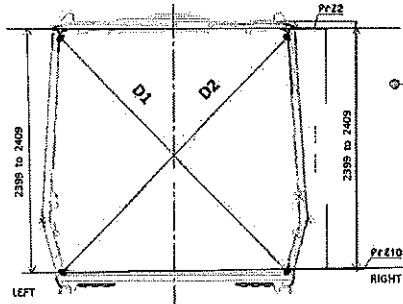
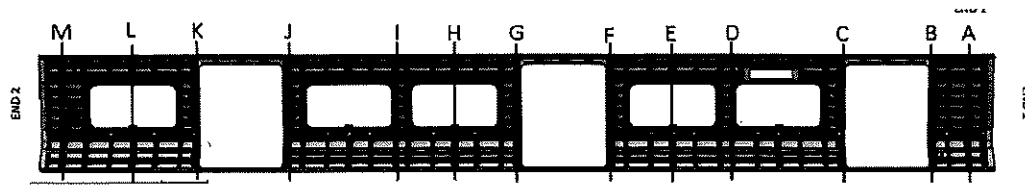
After Welding.

	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	3	2	0	0	0

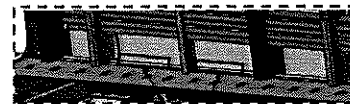
Signature Industrial Quality:  Date: 14/05/2024



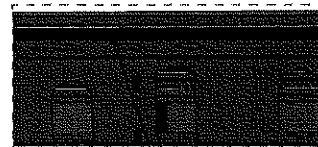
Specifications of Details for CBS measurement



Measurement positions on roof rail and sidewall of cargo corner.



Measurement points on sidewalk and sidewalk corner.

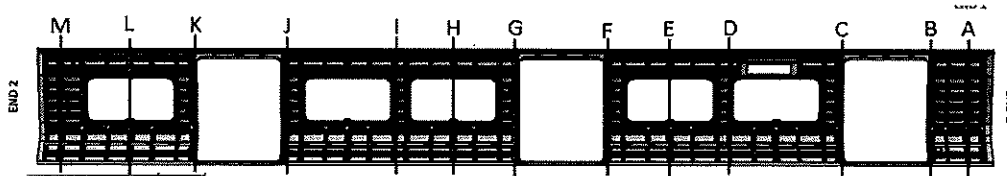


Reinforcement area measurement positions on roof reinforcement area.

224-03-06
 11-03-04 (17-0175)
 11-03-04

Specifications of Details for CBS measurement


BEFORE WELDING



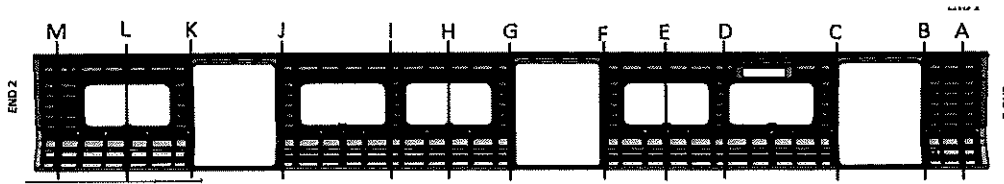
PME: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3269	3270	1	2405	2405	0
B	3268	3268	0	2406	2405	1
C	3269	3268	1	2404	2405	1
D	3265	3265	0	2406	2406	0
E	3264	3266	2	2405	2406	1
F	3268	3269	1	2406	2404	2
G	3269	3269	0	2405	2404	1
H	3265	3266	1	2405	2405	0
I	3266	3265	1	2406	2406	0
J	3267	3269	2	2404	2405	1
K	3268	3268	0	2406	2406	0
L	3266	3269	3	2405	2407	2
M	3268	3267	1	2408	2407	1

18/05/24


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


AFTER WELDING



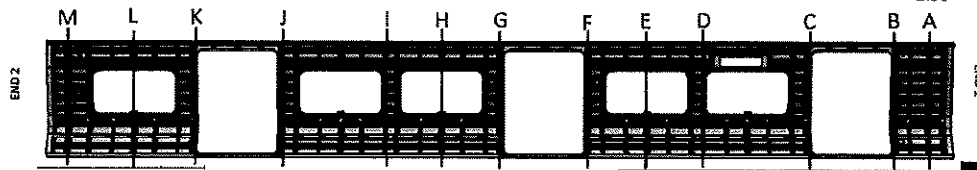
PME: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3268	3268	0	2405	2404	1
B	3295	3296	1	2406	2406	0
C	3295	3295	0	2405	2404	1
D	3265	3265	0	2405	2406	1
E	3266	3265	1	2406	2404	2
F	3295	3294	1	2405	2405	0
G	3294	3294	0	2405	2406	1
H	3264	3266	2	2404	2405	1
I	3265	3265	0	2406	2404	2
J	3295	3295	0	2405	2405	0
K	3295	3294	1	2405	2405	0
L	3269	3266	3	2406	2405	1
M	3294	3295	1	2407	2406	1


18/08/24
233-03-06
GIBEL COMPANY
14/08/24

	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 to 2274

A 2273

B 2272

C 2271

D 2277

E 2276

F 2271

G 2273

H 2276

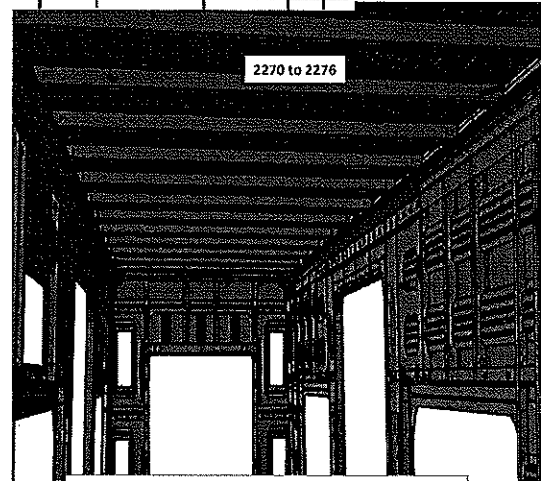
I 2278

J 2272

K 2271

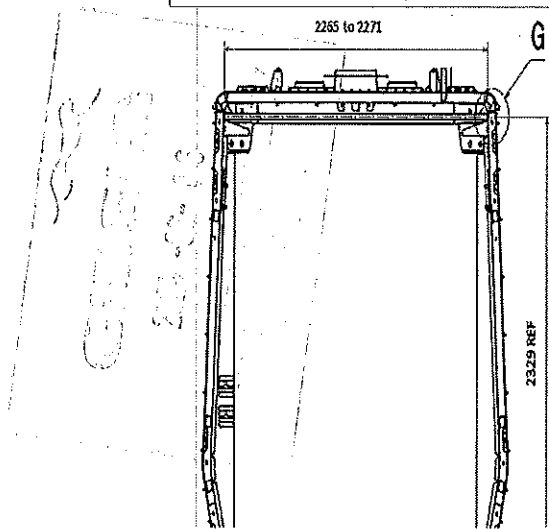
L 2274

M 2272



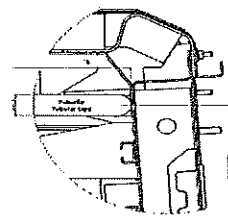
2270 to 2276

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



18/05/24

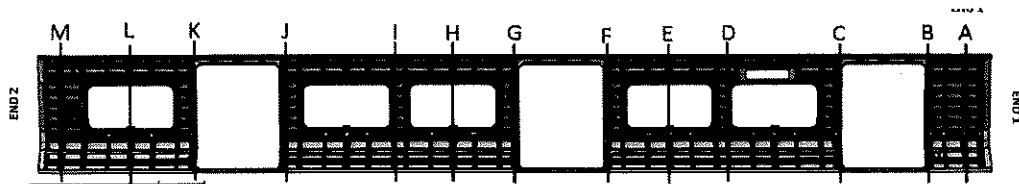
2265 to 2271



Detail G

Considering the reinforcement plate

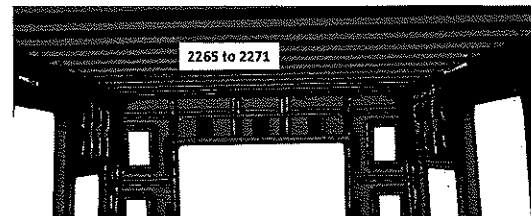
AFTER WELDING



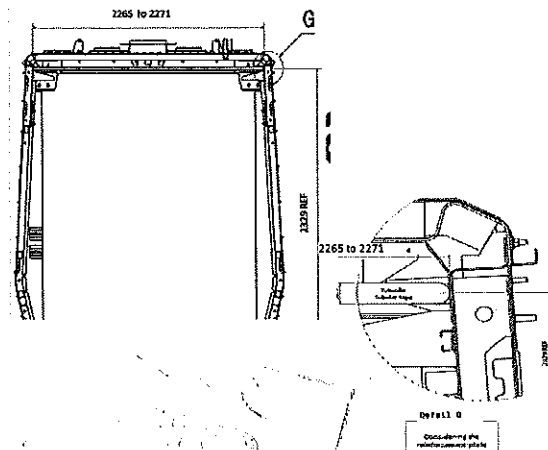
	2265 to 2271	2270 to 2276
A	NA	2274
B	2266	NA
C	2265	NA
D	NA	2275
E	NA	2275
F	2268	NA
G	2266	NA
H	NA	2275
I	NA	2276
J	2269	NA
K	2270	NA
L	NA	2274
M	2268	NA




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



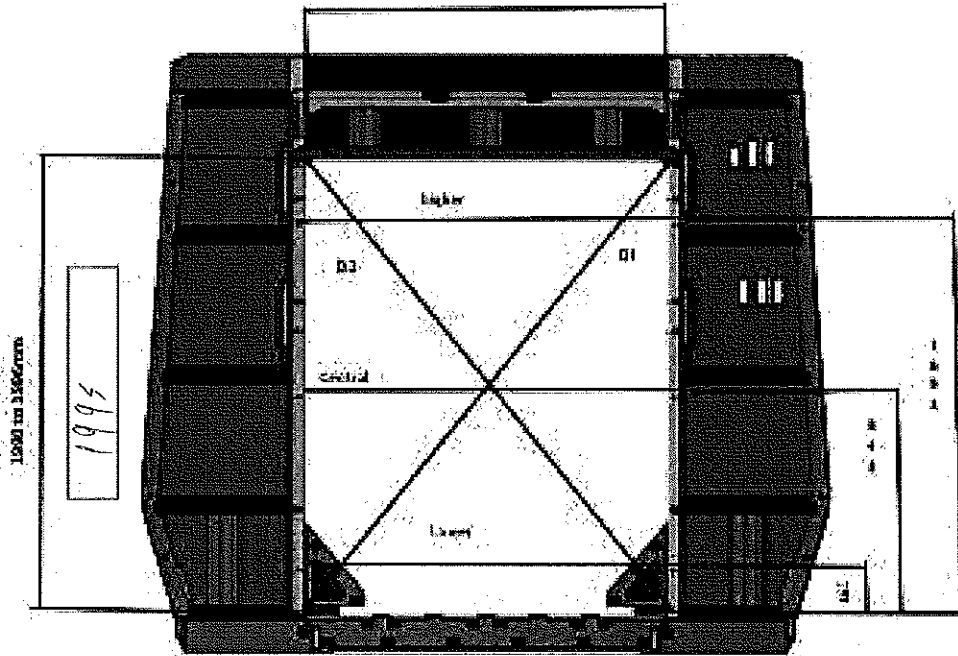
Take measurement close to radius (considering reinforcement)




18/05/24

Specifications of Details for CBS measurement

Endframe 2



1180 ± 120 mm

DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension

1382

D1

2413

Central Dimension

1581

D2

2414

Lower Dimension

1381

D1-D2

1

18/05/24


1A

		RIGHT SIDE	
SPECIFICATION SIZE		ACTUAL SIZE	
1A	18870	+10.5 -4.5	18871

Dye penetrant test

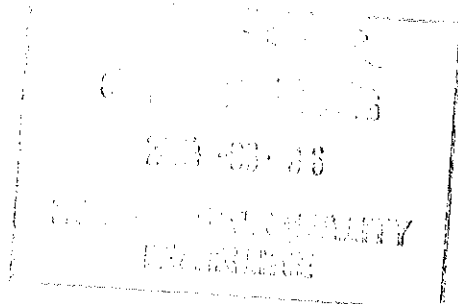
A black and white photograph showing three CRG 'Red Hot' paint cans. The cans are arranged in a row, slightly overlapping. Each can has a label with the CRG logo and the words 'Red Hot' prominently displayed. The cans appear to be aerosol or spray paint containers.


[illegible]

		DTR30223319/3 Carshell Assembly TC		Rev. V28	Project: PRA5A		
				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!	18/05/24	LUNGA Operations	[Signature]		
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.	18/05/24	Ntobeko Quality	[Signature]		
		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			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		

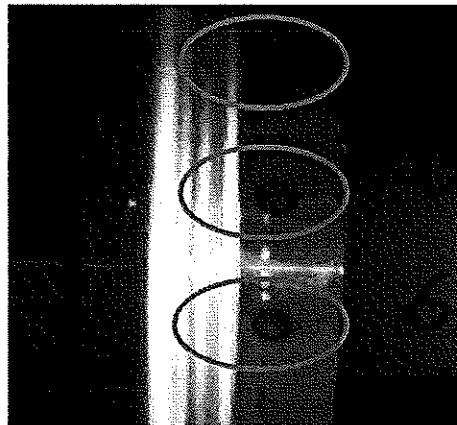
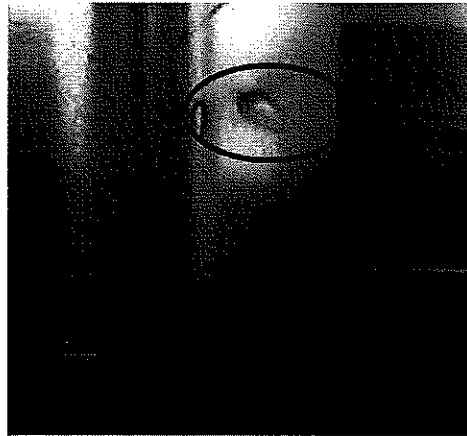
Operations


Quality



	DTR30223319/3 Carshell Assembly TC	Rev. V28 Date- 07/11/2023	Project: PRASA SI.CB2210.322.V28
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ANNEXURE A: Spot Welding Quality Acceptance Standard

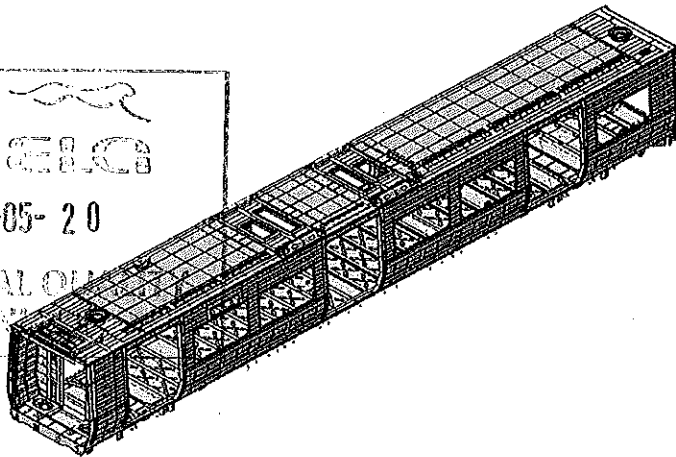
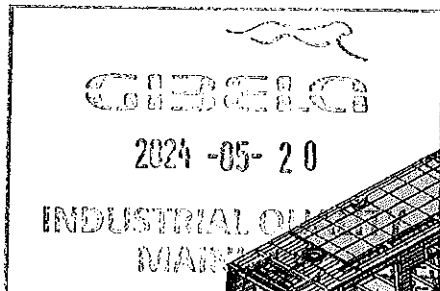


	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
		Date-	
		28/10/2023	

Carro Car:	TC1, TC2	NCR:	Work station:	CB2220
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Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	D	E	M	P	M	P						
DTR30223319/2							29	28/10/2023	X		N/A	20/05/24

I.2 - Instruments Control








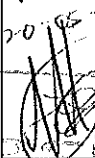

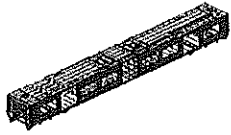


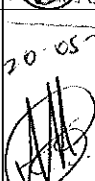

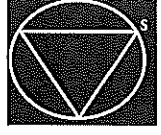


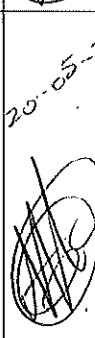

Monitoring and Measuring Instrument Control - Used for Special Process


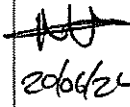

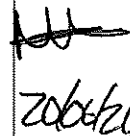

Instruments	Validation	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular	32823	15/03/2025	X		20-05-24	
measuring tape	GIRTA0321	16/05/2025	X		20-05-24	20/05/24

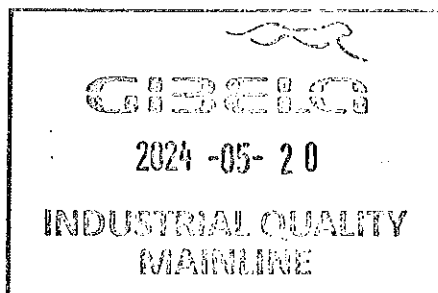
1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308	573799	MIG	X		20-05-24	20/05/24

		DTR30223319/2 Carshell Assembly TC		Rev. 29 Date- 28/10/2023		Project: PRASA SI.CB2220.323.V29	
II - Control Activities of Production							
II.1 - Items to check							
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Not OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB2220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	DTR30223319/2	✓		 20/05/24	 20/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓		 20/05/24	 20/05/24
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 20/05/24	 20/05/24
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 20/05/24	 20/05/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 20/05/24 INDUSTRIAL QUALITY MACHINE	 20/05/24
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.	✓		 20/05/24	 20/05/24
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	✓		 20/05/24	 20/05/24
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: Temperature Min - Max (I) : Min Max Relative humidity Min - Max (I) 10°C - 35°C 25% - 80%	Sealant Batch No: <u>B3497</u> Exp Date: <u>09 / 06 / 24</u> Actuals Temperature: <u>27</u> Humidity: <u>25</u>	✓		 20/05/24	 20/05/24

		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	✓		 20/06/24	 20/06/24
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	✓		 20/06/24	 20/06/24





DTR30223319/2 Carshell Assembly TC

Rev.
29

Project: PRASA

Date-

28/10/2023

SI.CB2220.323.V29



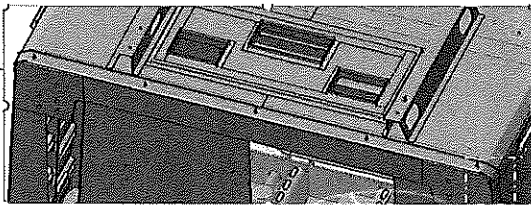
END 1
SEALANT

OPERATOR
(Name & sign):

Mthokozisi H

OPERATOR
(Name & sign):


Mthokozisi H

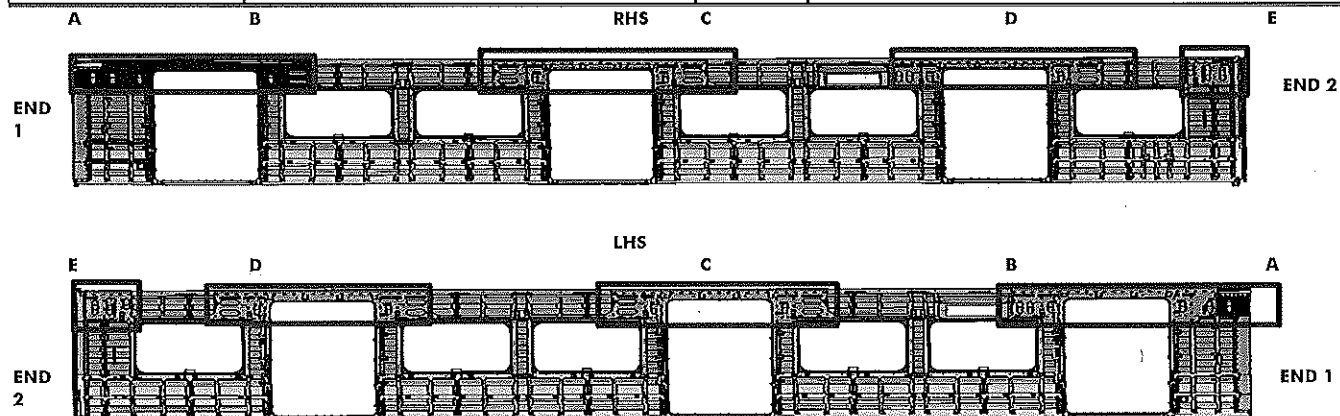


GIBELQ



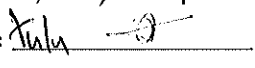

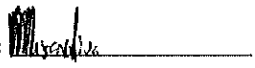
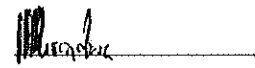
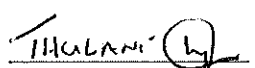
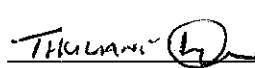
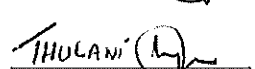
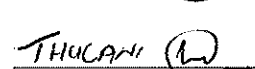
2024 -05- 2 0

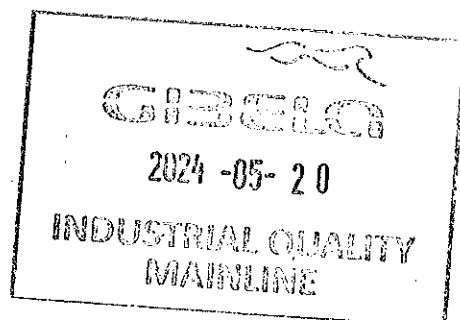
INDUSTRIAL QUALITY
MAINLINE


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

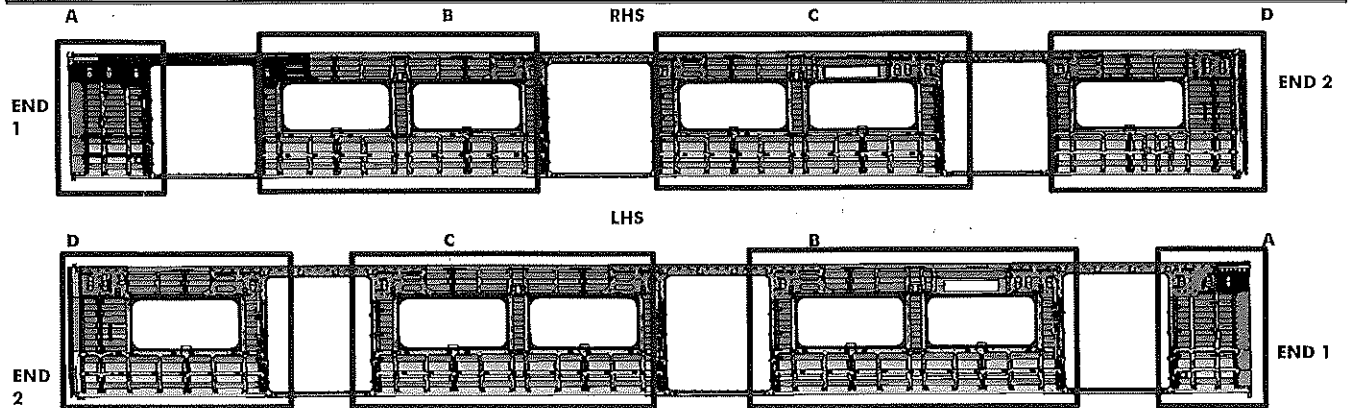


REINFORCEMENT WELDING

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

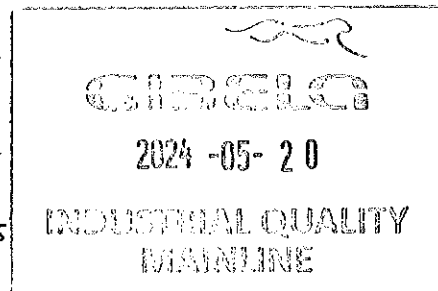


	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date- 28/10/2023	




BRACKETING


C-RAILS:	Operator:	INSTALLATION <i>ASHELI</i>
	Operator:	
DOOR MECHANISMS:	Operator:	
	Operator:	
TAPPING PADS	Operator:	<i>ASHELI</i>
	Operator:	
		INSTALLATION & VERIFICATION
SEAT & LUGGAGE BRACKETS:	Operator:	<i>Mthokozisi</i>
	Operator:	
SEAT BRACKETS VERIFICATION:	Operator:	<i>Mthokozisi</i>
	Operator:	

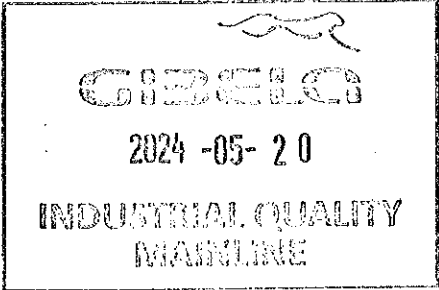


AREA	WELDING	
	LHS	RHS
A (C-rails, Luggage and earth bushes) :	Operator (Name&sign): <i>1014</i>	<i>1014</i>
B (Seat brackets) :	Operator (Name&sign): <i>Mthokozisi</i>	<i>LINDO</i>
(C-rails, Luggage and earth bushes) :	Operator (Name&sign): <i>Mthokozisi</i>	<i>LINDO</i>
C (Seat brackets) :	Operator (Name&sign): <i>Mthokozisi</i>	<i>Xia</i>
(C-rails, Luggage and earth bushes) :	Operator (Name&sign): <i>Mthokozisi</i>	<i>Mthokozisi</i>
D (Seat brackets) :	Operator (Name&sign): <i>THULANI</i>	<i>THULANI</i>
(C-rails, Luggage and earth bushes) :	Operator (Name&sign): <i>THULANI</i>	<i>THULANI</i>

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): 





DTR30223319/2 Carshell Assembly TC

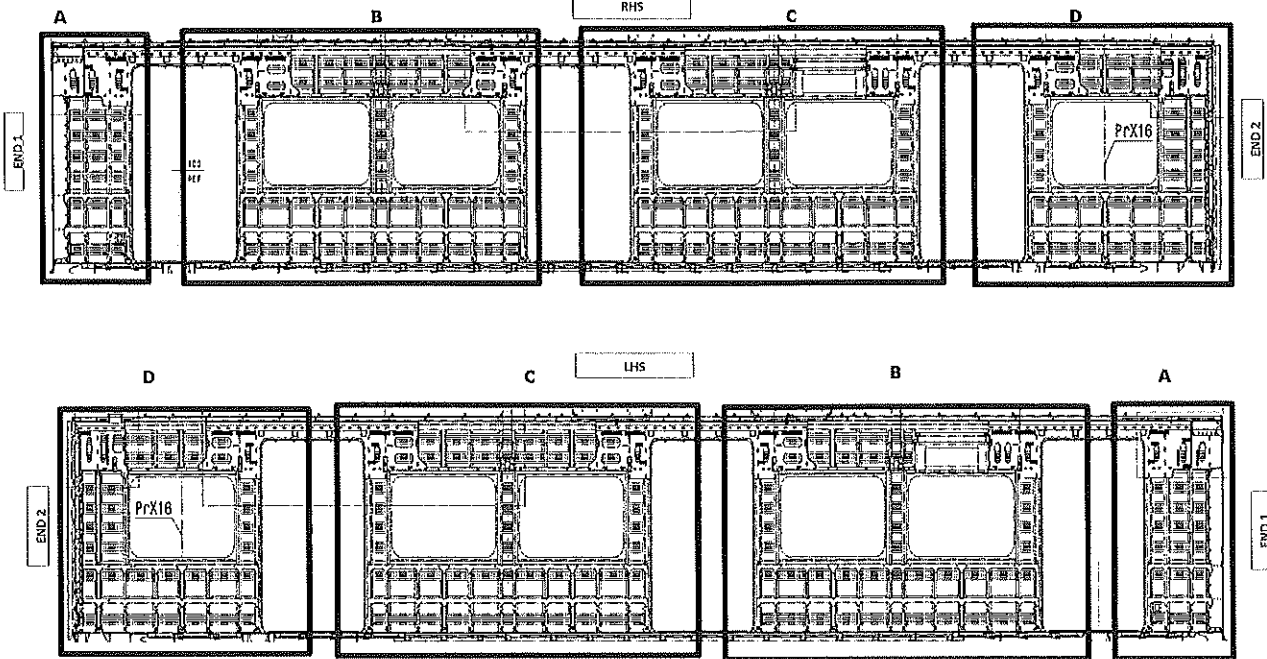
Rev.
29

Project: PRASA

Date-
28/10/2023

SI.CB2220.323.V29


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: 

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: 

GIBELO

2024-05-20

INDUSTRIAL QUALITY
MANUFACTURE



DTR30223319/2 Carshell Assembly TC

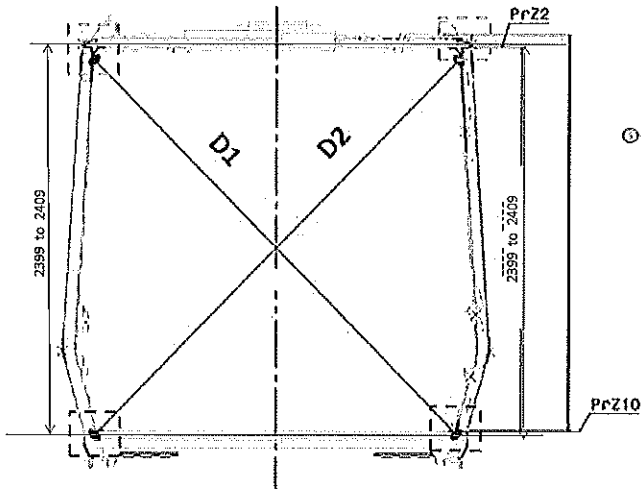
Rev.
29

Date-

28/10/2023

Project: PRASA

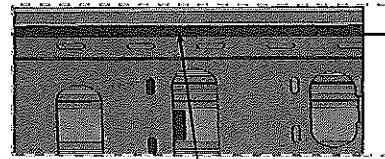
SI.CB2220.323.V29



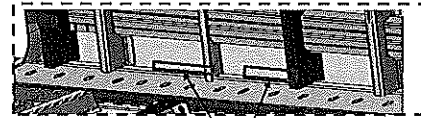
Q.



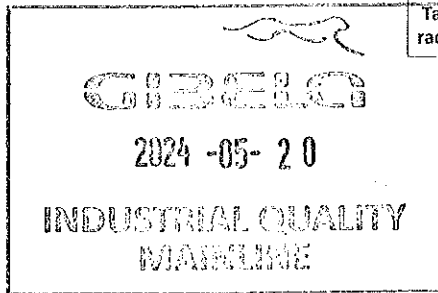
Measurement positions on roof rail and sidewall omega corner.



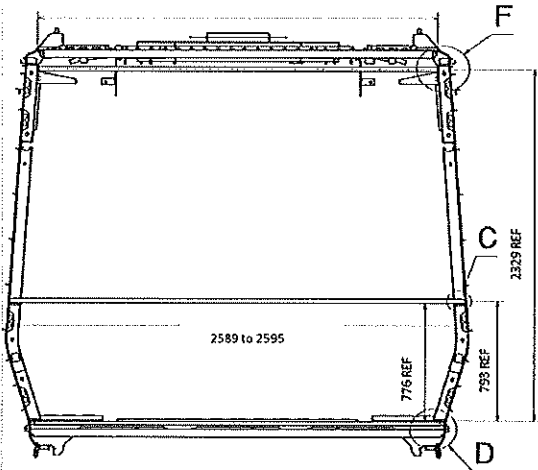
Reinforcement area measurement positions on roof reinforcement area.



Measurement positions on sidewall and side sill corner.



Take measurement close to radius



Take measurement close to radius



DTR30223319/2 Carshell Assembly TC

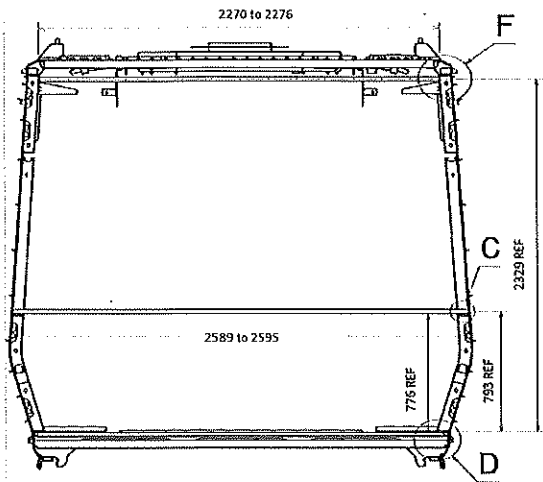
Rev.
29

Project: PRASA

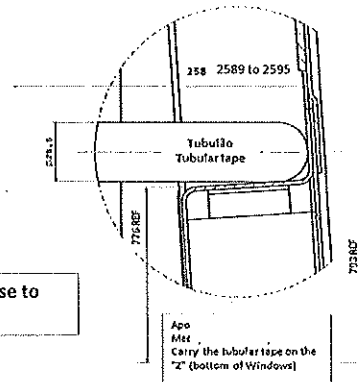
Date-

28/10/2023

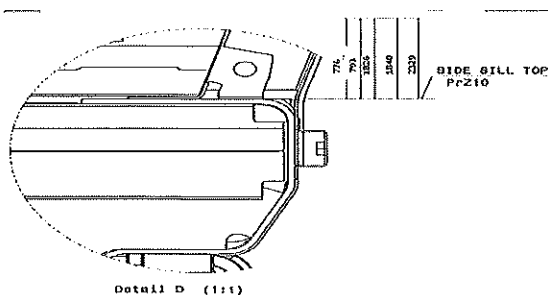
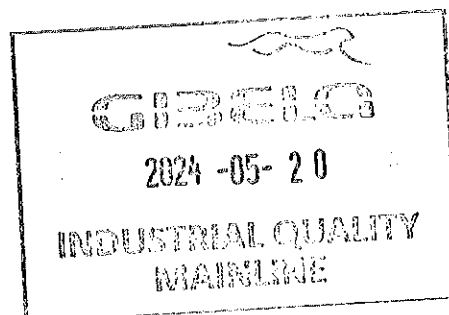
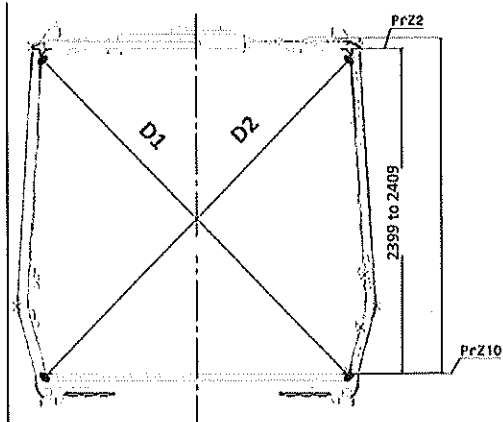
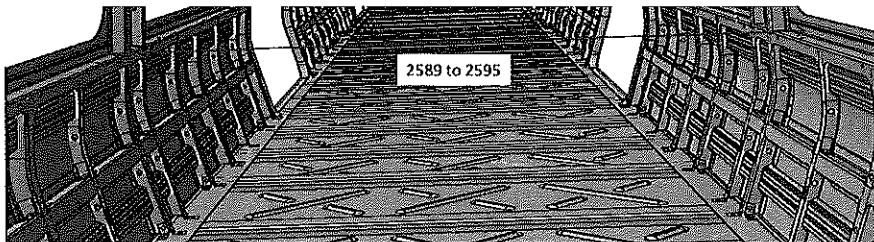
SI.CB2220.323.V29

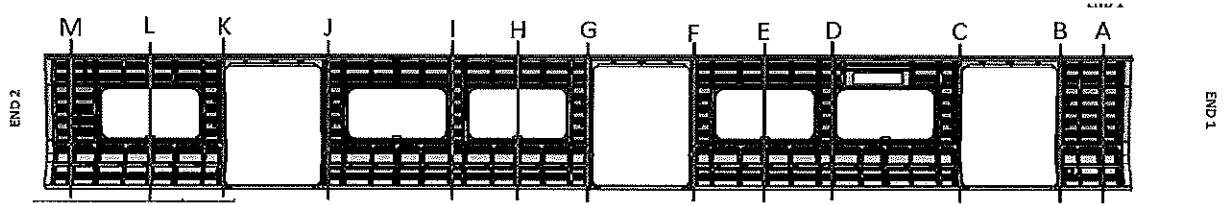


Take measurement close to radius



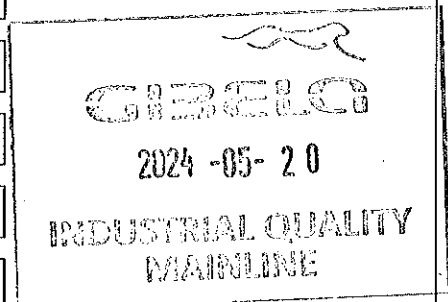
Detail C






BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3295	3299	4	—
B	3292	3299	7	—
C	3301	3300	1	—
D	3262	3270	8	—
E	3262	3268	6	—
F	3295	3298	3	—
G	3298	3294	4	—
H	3264	3263	1	—
I	3264	3264	0	—
J	3299	3294	5	—
K	3295	3302	7	—
L	3273	3262	9	—
M	3292	3300	8	—




20-05-24



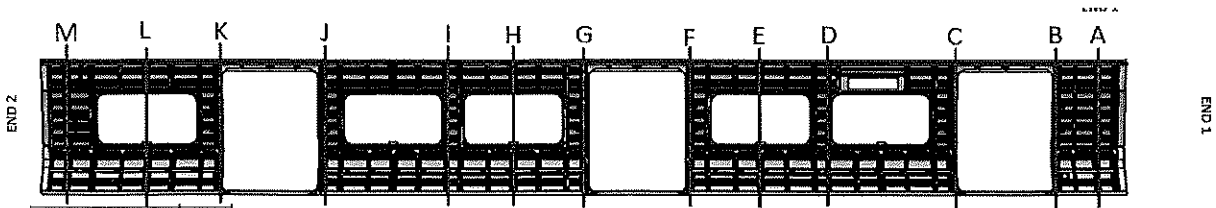
DTR30223319/2 Carshell Assembly TC

Rev.
29

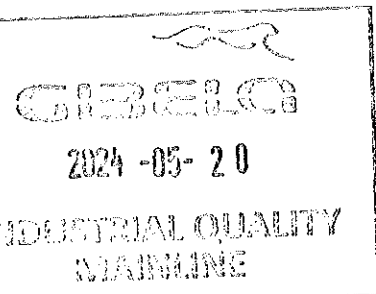
Project: PRASA

Date-
28/10/2023

SI.CB2220.323.V29

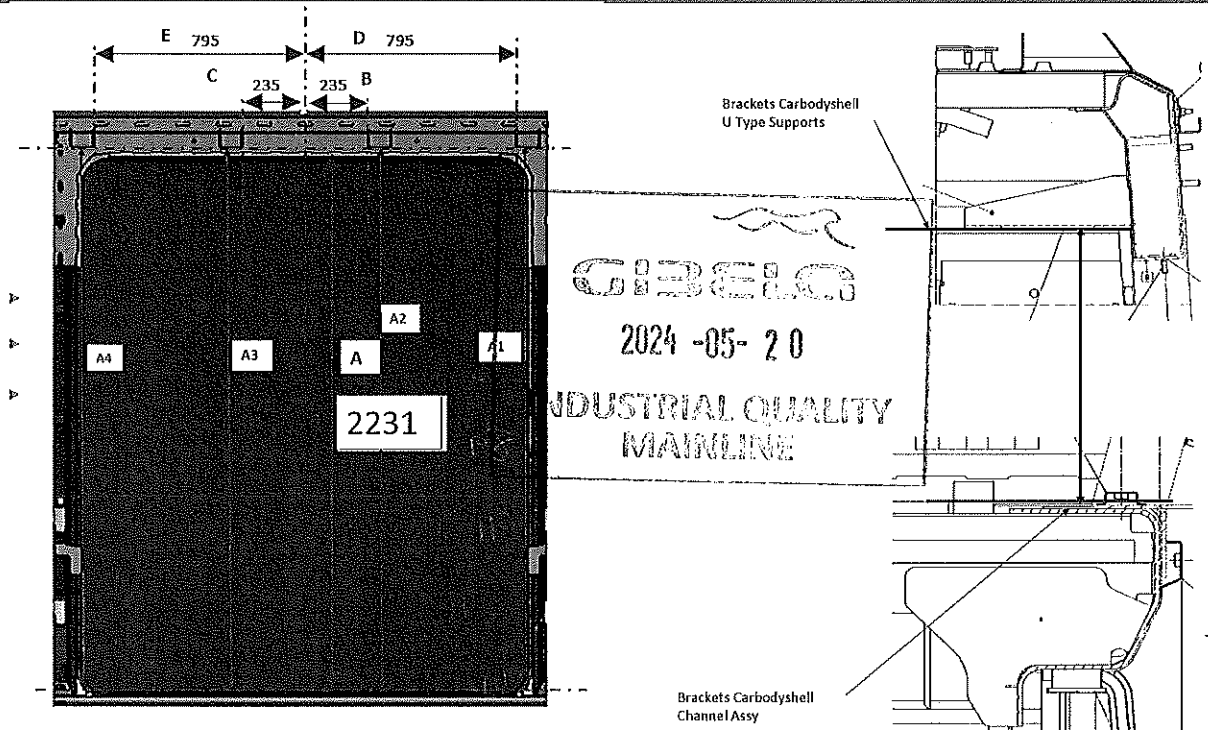
AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3294	3294	0	2595
B	3294	3293	1	2589
C	3299	3298	1	2591
D	3264	3270	6	2596
E	3264	3264	0	2594
F	3294	3298	4	2594
G	3300	3291	9	2592
H	3261	3267	6	2592
I	3270	3264	6	2594
J	3300	3291	9	2591
K	3306	3291	9	2589
L	3269	3261	8	2592
M	3302	3295	7	2595



20-05-24

Specifications of Details for CBS measurement



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

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

20-05-24



DTR30223319/2 Carshell Assembly TC

Rev.
29

Project: PRASA

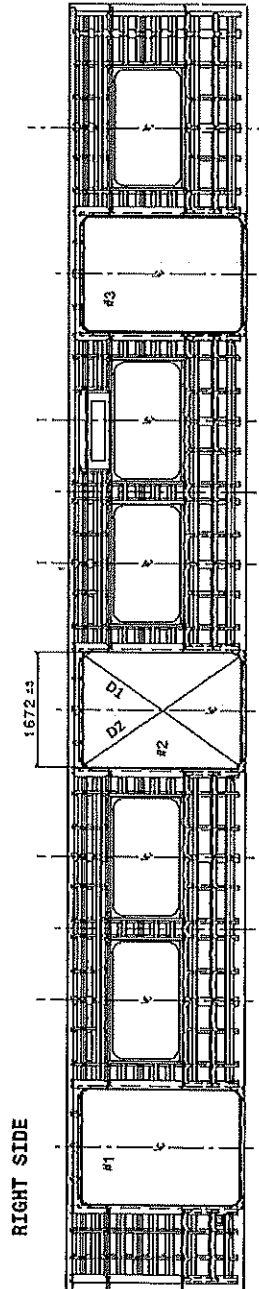
Date-

SI.CB2220.323.V29

28/10/2023

Specifications of Details for GBS measurement

End #2



End #1

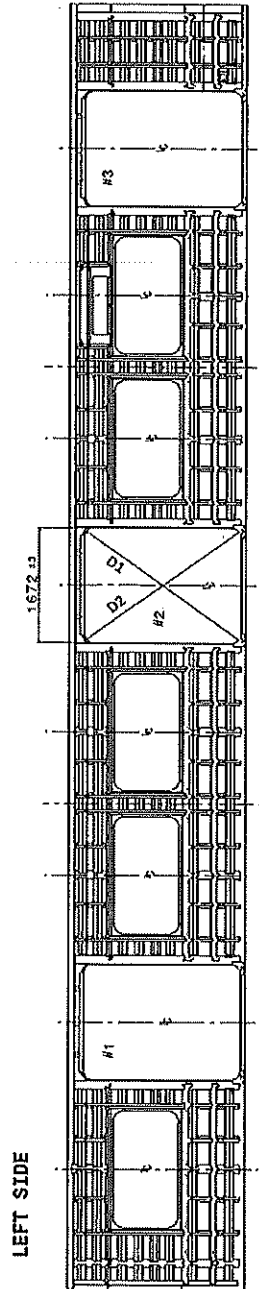
Doors diagonal D1-D2 maximum difference ≤4mm

	#1	#2	#3
D1	2746	2748	2746
D2	2747	2745	2747
D1-D2	1	3	1

Doors length - 1672 ±3mm

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

End #1



End #2

Diagonal da portas - diferença D1-D2 ≤4mm

	#1	#2	#3
D1	2746	2747	2744
D2	2745	2746	2748
D1-D2	1	1	4


vão de Portas - 1672 ±3mm

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

GIBELO

2024-05-20

INDUSTRIAL QUALITY
MANLINE

	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

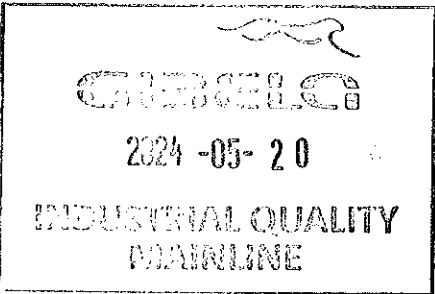



Item	Description of the issue	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)

II.2 - Check List REX

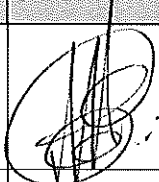

Check List Items

Item	Picture/Drawing	Description	Criteria /Record	OK	Not 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 SI.CB2220.323.V29
		Date-	
		28/10/2023	

Self Inspection - Final Result

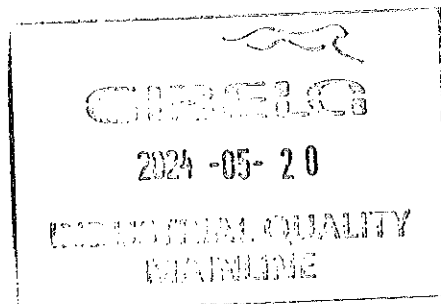
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)			DATE	NAME	SIGNATURE
HOLD POINT	GO	If activities are not complete, the missing activities must not impact the next stage!	20-05-24	Asatuda Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	20/05/24	Kelebene Industrial Quality	
	NO GO	There are activities pendings that impact/stop the activities of the next process Obs: (To describe problems below)			
		There are non-conformities Impact the quality of the product and there is no corrective action defined yet)			


In case of "NO GO", describe blocking problems

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

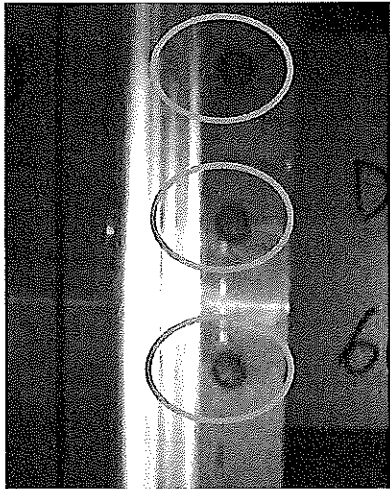
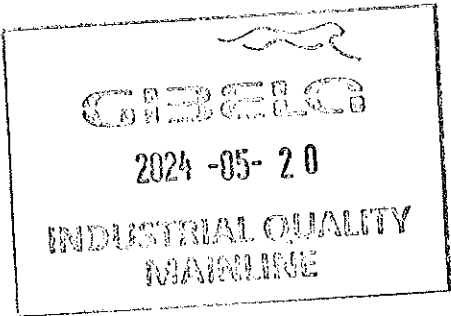
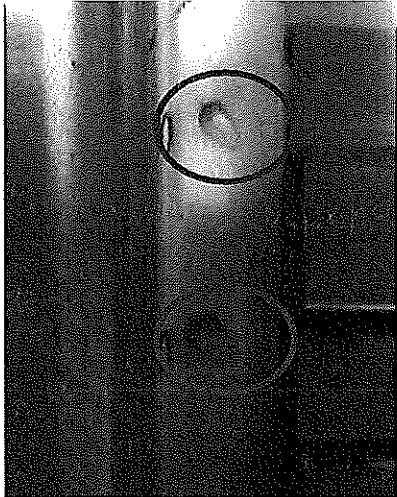
Operations

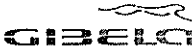
Quality



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

ANNEXURE A: Spot Welding Quality Acceptance Standard





PRASA PROJECT



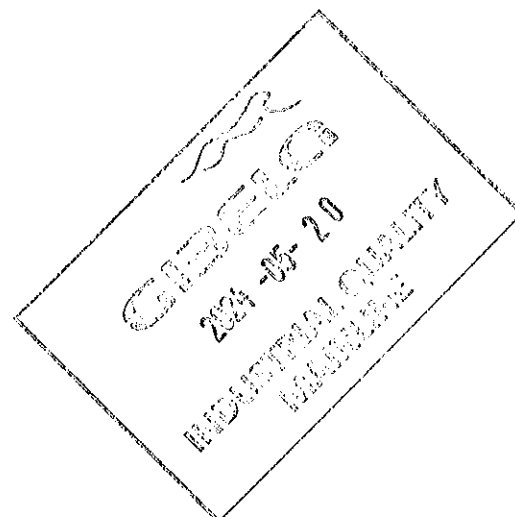
APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1
SELF INSPECTION SHEET

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 ?
				YES	M4	M1	M3	M5	TC		
DT00000223319	ADD0001239363	DT00000223319 Corshell Assembly TC	CB2230	X						PRA.CB2230.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 10.2.5	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 Mhombhi	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 Mhombhi	14/06/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
27	27/07/2022	Threshold measurements addition	APPROVER	Collins Mhombhi	26/07/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
28	19/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mhombhi	19/10/2022
			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 threshold traceability 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
228	TC2	Bule 42815	21/05/24	SI.CB2230.324.V29	12





DT00000223319 Carshell Assembly TC

Rev.
30

Date-

06/11/2023

Project: PRASA

SI.CB2230.324.V29

Carro
Car.

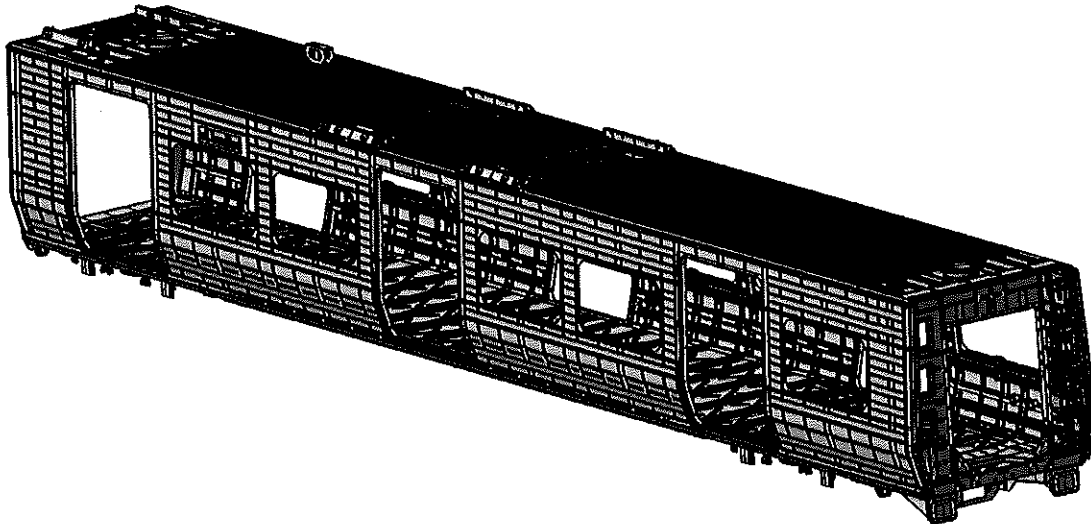
NCR:

Work station:

CB2230



Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
	TC1	MT	M2	M3	M4	TC2							
DT00000223319						X	30		✓		N/A	21/05/24	21/05/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Combination Square	GIBSON 1025	10/06/2024	✓		21/05/24	21/05/24
Ruler	GIBSON 1025	14/09/2024	✓		21/05/24	21/05/24
Tubular	52713-1	19/11/2024	✓		21/05/24	21/05/24
Measuring Tape	GIBSON 1025	23/06/2024	✓		21/05/24	21/05/24

I.3 Consumables

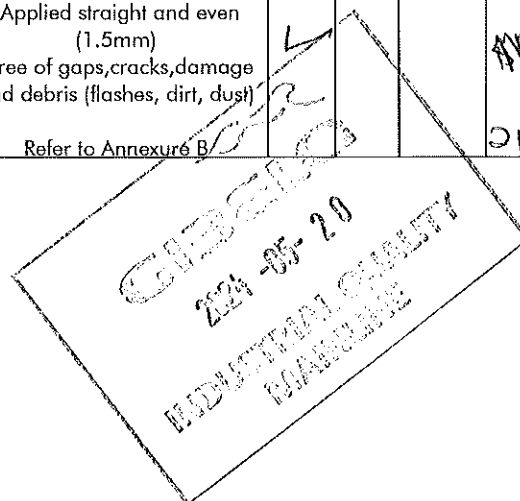
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 CSI	318179	MIG Welding	✓		21/05/24	21/05/24
308 CSI	19024	TIG Welding	✓		21/05/24	21/05/24

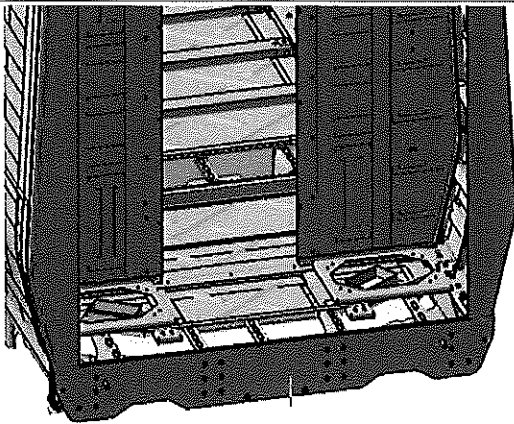
II - Control Activities of Production

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Re-work	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº DT00000223319	DT00000223319	✓			21/05/24	21/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓			21/05/24	21/05/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 DTD0000210675	✓			21/05/24	21/05/24
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.	✓			21/05/24	21/05/24
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	✓			21/05/24	21/05/24
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: Temperature Min - Max (1) Min-Max 10°C - 35°C Relative humidity Min - Min-Max 25% - 80% Max (1)	Sealant Batch No: <u>15R 70-03</u> Exp Date: <u>1/05/24</u> Actuals Temperature: <u>14°C</u> Humidity: <u>62%</u>	✓			21/05/24	21/05/24
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	✓			21/05/24	21/05/24



VIEW A



**END 1
SEALANT**

OPERATOR
(Name & sign):

Buhle *[Signature]*

OPERATOR
(Name & sign):

Nontlanhla *[Signature]*

**END 2 SEALANT
(VIEW C)**

OPERATOR
(Name & sign):

Leroy *[Signature]*

OPERATOR
(Name & sign):

Leroy *[Signature]*

OPERATOR
(Name & sign):

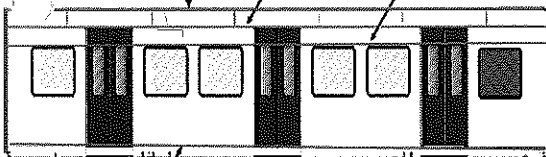
Leroy *[Signature]*

G

D

I

F



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

Operator(Name & sign) :

LHS

H, I (bottom)

RHS

D, E, F, G, H, I

Operator (Name & sign) :

Buhle *[Signature]* Buhle *[Signature]*

Operator (Name & sign) :

Nontlanhla *[Signature]* Nontlanhla *[Signature]*

Operator (Name & sign) :

[Signature] *[Signature]*

Operator (Name & sign) :

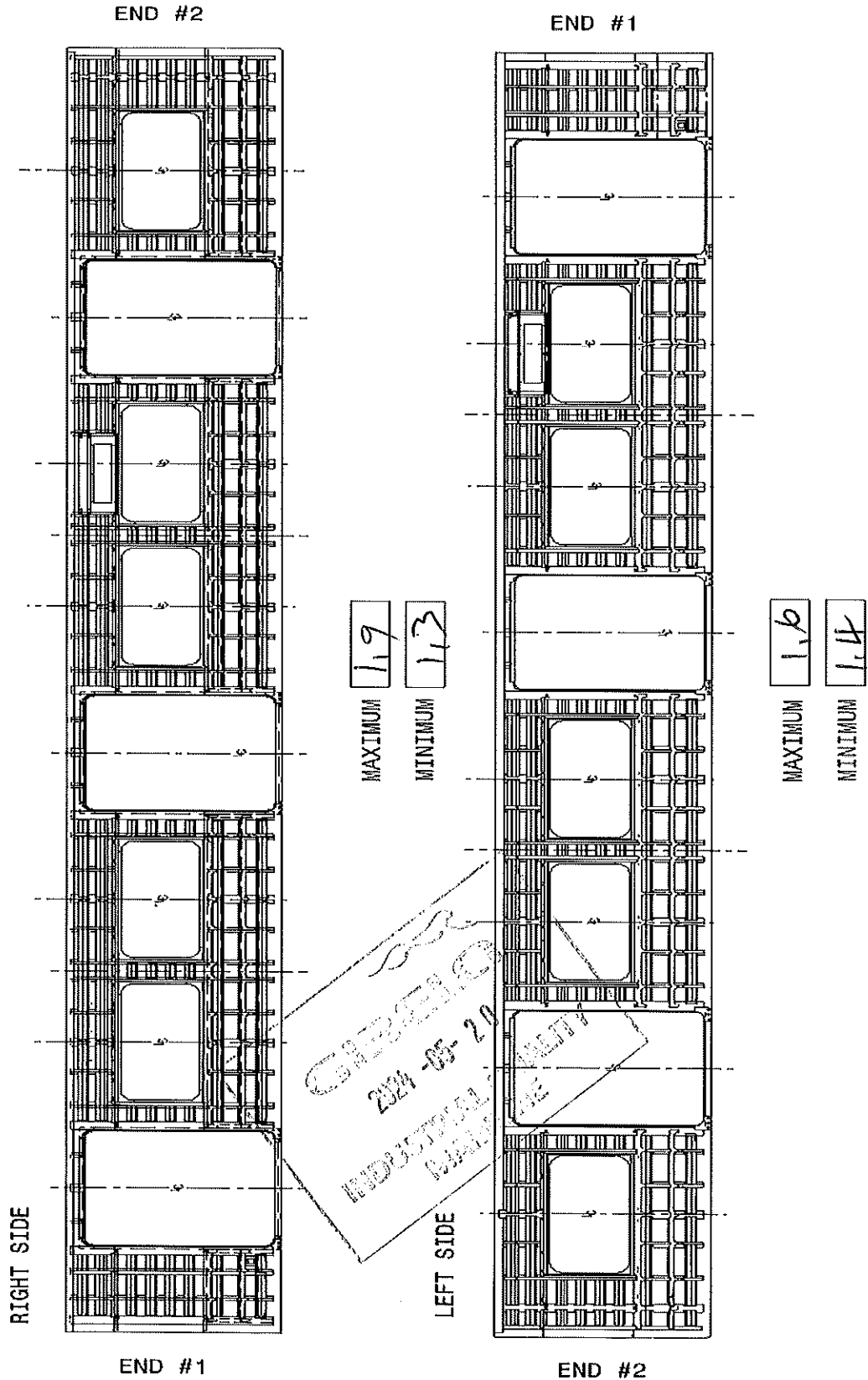
[Signature]

Operator (Name & sign) :

[Signature]

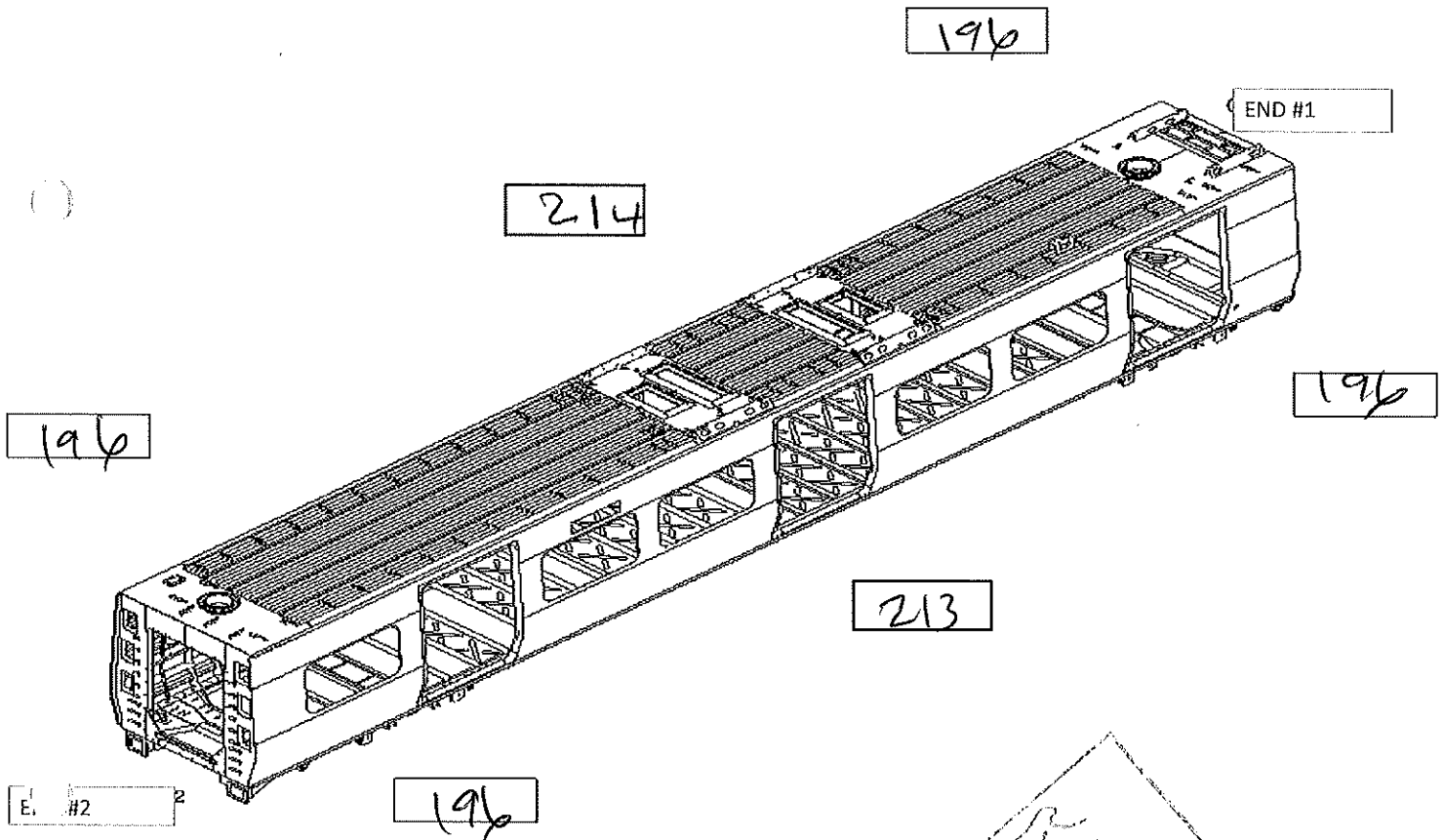
Specifications of Details for CBS measurement CB2230

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



Specifications of Details for CBS measurement CB2230

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



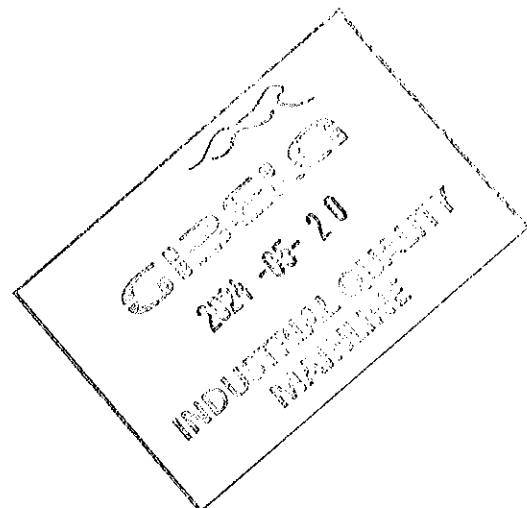
MEASURED CAMBER VALUES

RIGHT

17

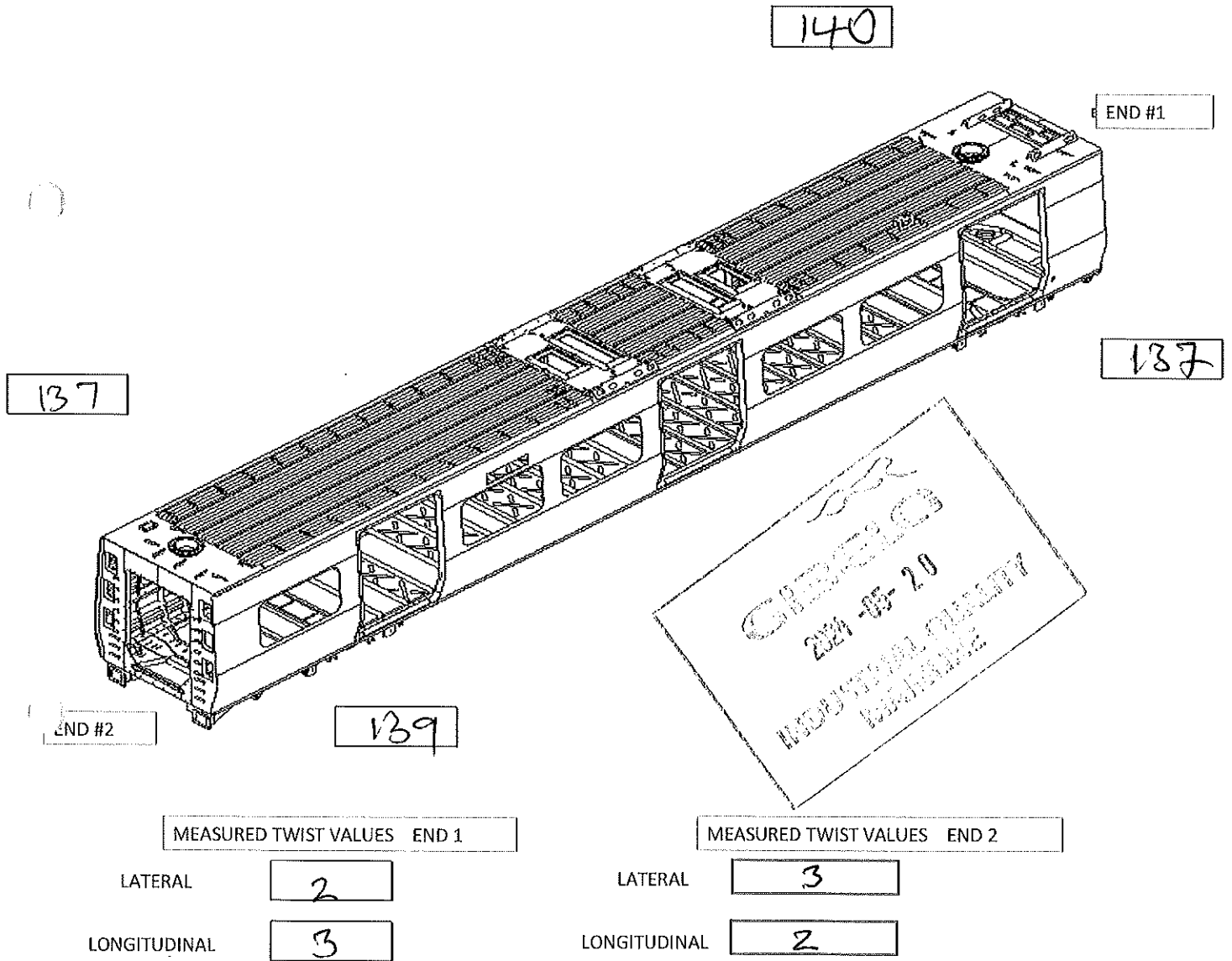
LEFT

18

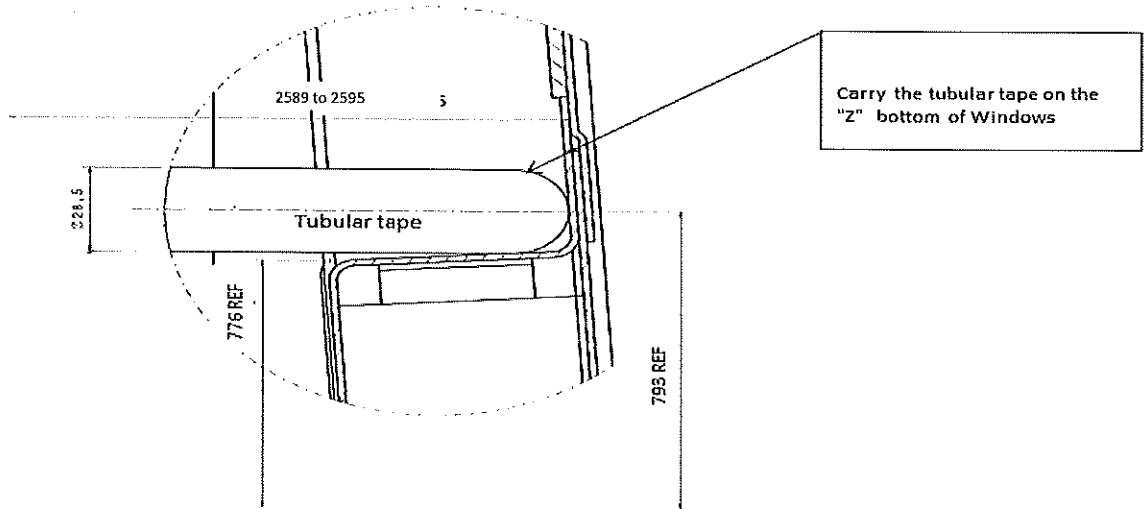


Specifications of Details for CBS measurement CB2230

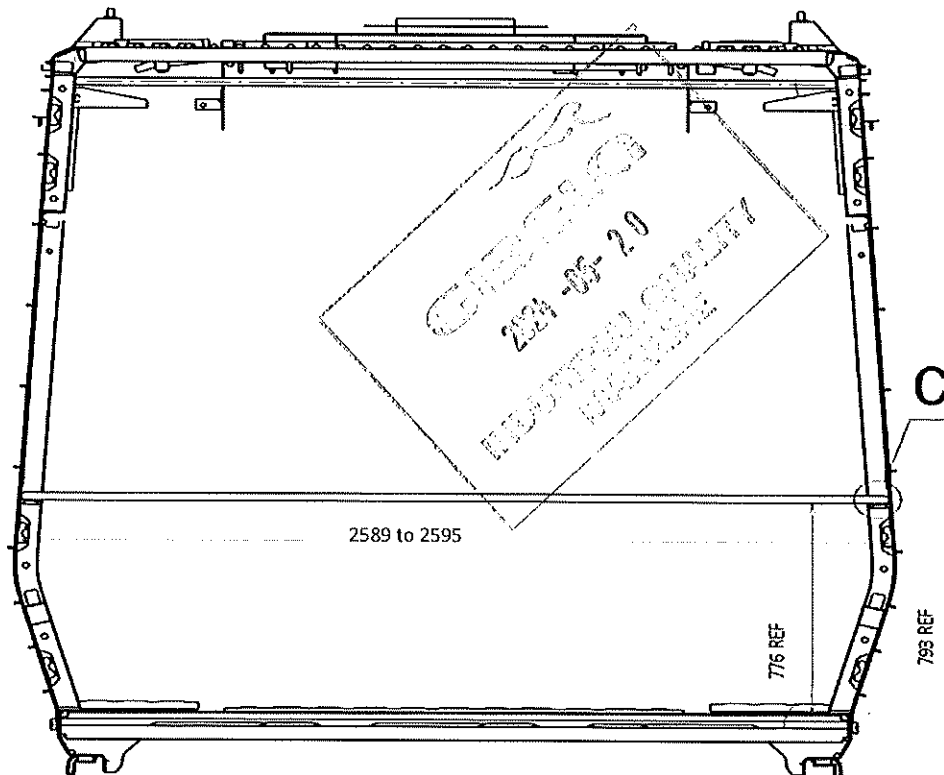
Twist measured in transversal and longitudinal = Maximum 3mm. Measure twist on air spring plates (LHS and RHS), both End 1 and End 2 following twist measurement document.



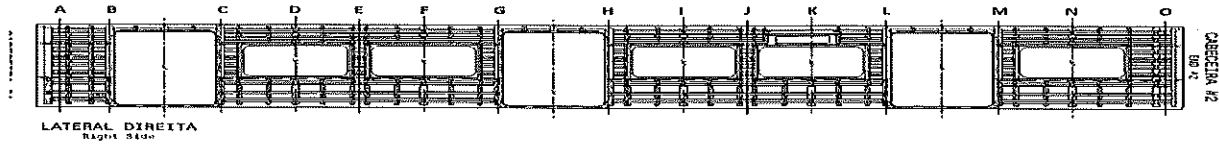
Details for measuring on the CB1230 stage, after completion of activities



Detail C

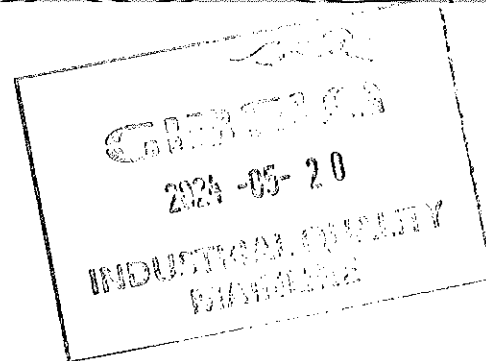
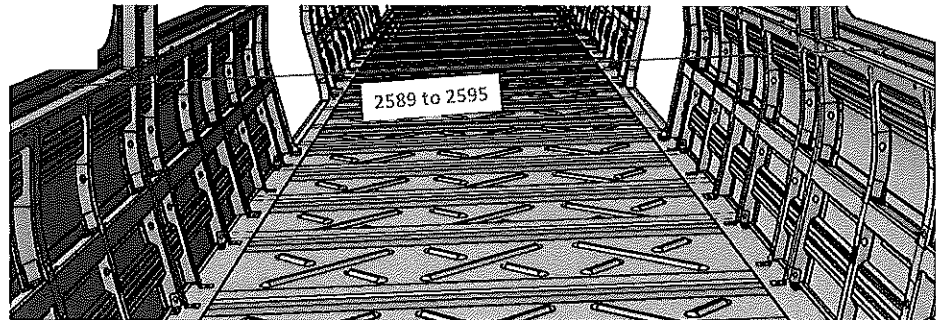


Specifications of Details for CBS measurement



2589 to 2595mm

A	2592
B	2893
C	2592
D	2591
E	2595
F	2590
G	2592
H	2591
I	2595
J	2594
K	2591
L	2593
M	2590
N	2594
O	2595



Threshold verification

Nominal value :38

Door 1		Door 2		Door 3	
L	R	L	R	L	R
38	38	38	38	39	38
Door 4		Door 5		Door 6	
L	R	L	R	L	R
38	39	38	39	38	38

BOILER MAKER:

WELDER:

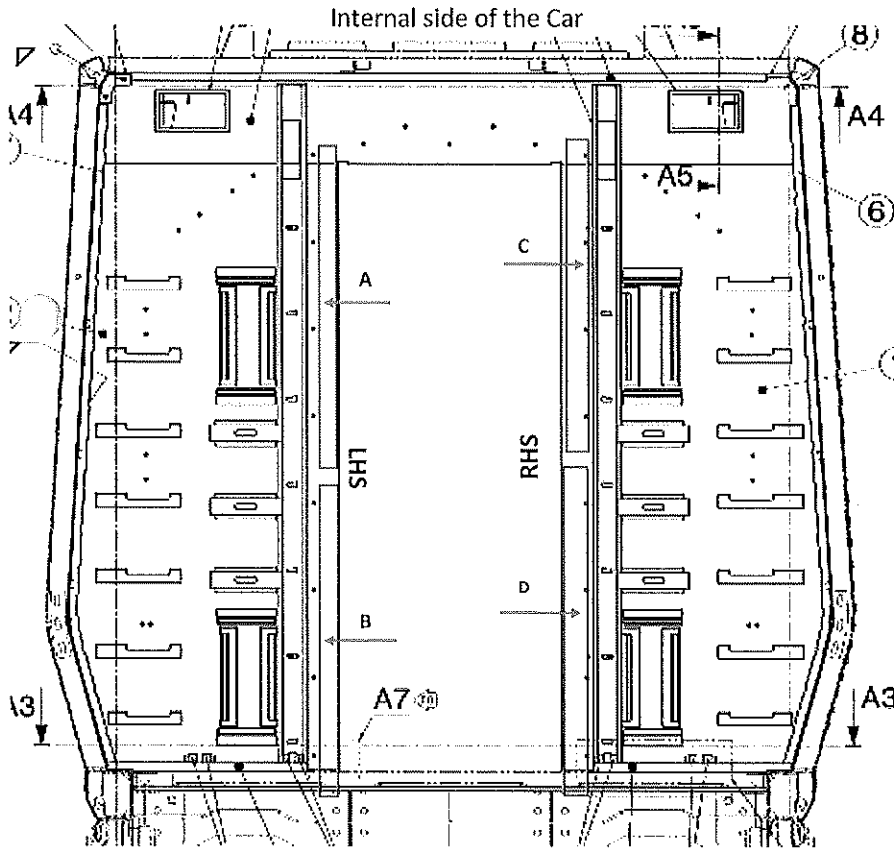
Emmanuel E. Lopez

Emmanuel E. Lopez

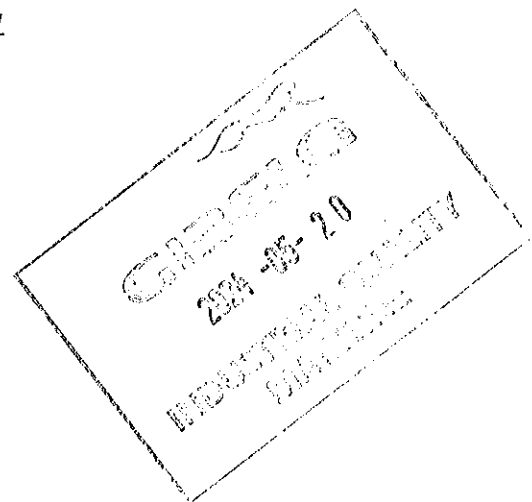
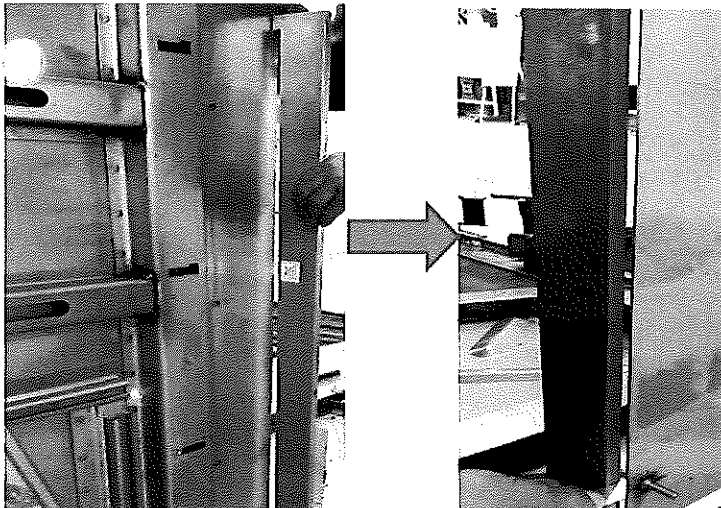
Specifications of Details for CBS measurement

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	9	10.2	1.2
B	10.3	11.4	1.1
C	10.8	11.8	1
D	11.4	12	0.6





DT00000223319 Carshell Assembly TC

Rev.
30

Date-

06/11/2023

Project: PRASA

SI.CB2230.324.V29

Dye penetrant test

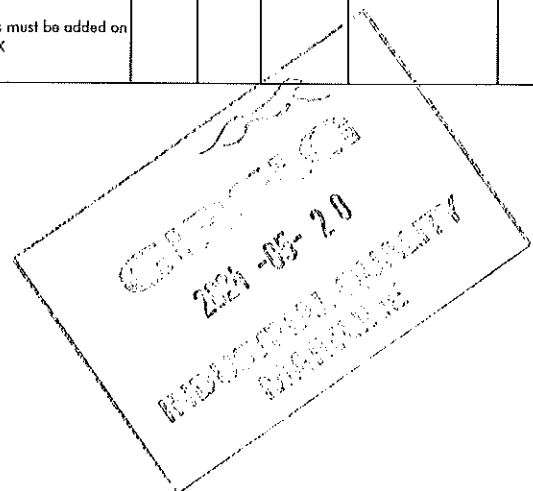
Dye-penetration test to be performed by quality personnel



Item	Description of the Issue	OK	Signature/Date (Operations)	Signature/Date (Quality)
	Dark SPOT not done! / <i>[Signature]</i>	✓	<i>[Signature]</i> 21/05/24	<i>[Signature]</i> 21/05/24

II.2 - Check List REX**Check List Items**

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





DT00000223319 Carshell Assembly TC

Rev.
30

Date-

06/11/2023

Project: PRASA

SI.CB2230.324.V29

Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations Manager and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT	GO	If activities are not complete, the missing activities must not impact the next stage!		21/05/24	Bunte Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)		21/05/24	Adewu Industrial Quality	
	NO GO	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)			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

