

PRASA PROJECT

GIBELA



APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1




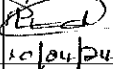
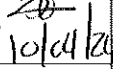
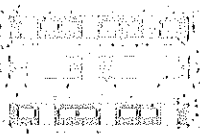
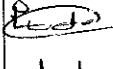

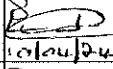

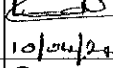
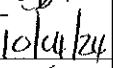
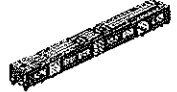
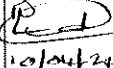
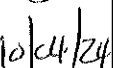
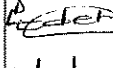

SELF INSPECTION SHEET

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				CAR TYPE					WORK INSTRUCTION	SAFETY?		
MOUNTING	DRAWING	DESCRIPTION	STATION	TC1	M4	M1	M2	M3	TC2			
DTR30223319/3	AAD0001241033	Carshell Assembly TC	CB1210	X						X	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
			APPROVER	Itumeleng Modiba	2018/05/18
			CHECKER	Nosizo Pindela	2018/05/18
1	2018/05/18	Team leader and Quality Technician to sign final signature from PME Manager to Quality manager Change	REVISOR	Ramokone Motama	2018/05/18
			APPROVER	Itumeleng Modiba	2018/06/18
			CHECKER	Nosizo Pindela	2018/06/18
2	2018/06/18	MODIFICATION CONTENT	REVISOR	Ramokone Motama	2018/06/18
			APPROVER	Itumeleng Modiba	2018/12/12
			CHECKER	Nosizo Pindela	2018/12/12
3	2018/12/12	Additional checkpoints	REVISOR	Ramokone Motama	2018/12/12
			APPROVER	Itumeleng Modiba	22/01/2019
			CHECKER	Nosizo Pindela	22/01/2019
5	22/01/2019	As per Baseline 10.2	REVISOR	Vanessa Ntuli	22/01/2019
			APPROVER	Itumeleng Modiba	2019/11/03
			CHECKER	Nosizo Pindela	2019/11/03
6	2019/11/03	Record D1 and D2 on Self - Inspection	REVISOR	Nosizo Pindela	2019/11/03
			APPROVER	Itumeleng Modiba	21/08/2019
			CHECKER	Nosizo Pindela	21/08/2019
10	21/08/2019	New Baseline 10.2.5	REVISOR	Nosizo Pindela	21/08/2019
			APPROVER	Timothy Malmela	06/08/2020
			CHECKER	Bongane Masina	06/08/2020
15	06/08/2020	New Baseline 10.2.6	REVISOR	Bongane Masina	19/04/2021
			APPROVER	Timothy Malmela	19/04/2021
			CHECKER	Bongane Masina	19/04/2021
20	19/04/2020	New Baseline change 10.3	REVISOR	Bongane Masina	19/04/2021
			APPROVER	Mbhombi Collins	17/08/2021
			CHECKER	Mpho Mulaudzi	17/08/2021
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	REVISOR	Mpho Mulaudzi	17/08/2021
			APPROVER	Mbhombi Collins	21/02/2022
			CHECKER	Andani Muthelo	21/02/2022
25	21/02/2022	New Baseline change 10.3.1	REVISOR	Andani Muthelo	21/02/2022
			APPROVER	Ntuli Vanessa	14/04/2023
			CHECKER	Mohlampe Amogelang	14/04/2023
26	14/04/2023	Addition of welding consumable traceability	REVISOR	Mohlampe Amogelang	14/04/2023
			APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Mathapo Kelebone	27/07/2023
27	27/07/2023	Added verification of loaded parts	REVISOR	Mohlampe Amogelang	27/07/2023
			APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Andani Muthelo	07/11/2023
28	07/11/2023	Addition of welding traceability	REVISOR	Ntokozi Zwane	07/11/2023

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
222	TC1	Timothy - 418354	10/04/24	SI.CB1210.322.V28	16

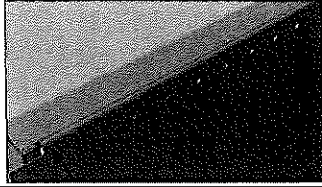
		DTR30223319/3 Carshell Assembly TC		Rev. V28 Date- 07/11/2023		Project: PRASA SI.CB1210.322.V28	
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	DT00000284980	✓		 10/04/24	 10/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓		 10/04/24	 10/04/24
03		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓		 10/04/24	 10/04/24
04	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 10/04/24	 10/04/24
05	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 10/04/24	 10/04/24
06		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 10/04/24	 10/04/24
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	✓		 10/04/24	 10/04/24


 2024-05-17
 INDUSTRIAL QUALITY
 MAINLINE

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

Welder traceability

Roof ring welds

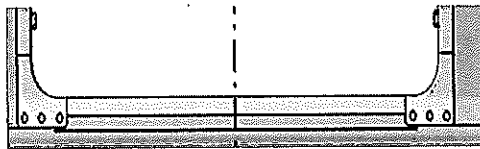


<u>LHS</u> Boiler maker (Name & Sign): <u>Tim [Signature]</u>	<u>RHS</u> Welder (Name & Sign): <u>SIPHOKAZI [Signature]</u>
<u>RHS</u> Boiler maker (Name & Sign): <u>GERALD [Signature]</u>	<u>LHS</u> Welder (Name & Sign): <u>SIPHOKAZI [Signature]</u>

END 1

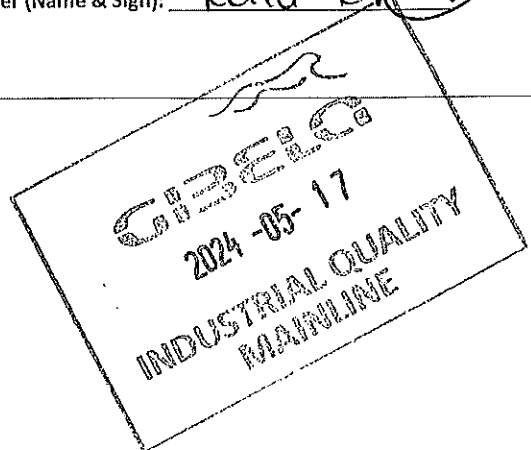
<u>LHS</u> Boiler maker (Name & Sign): <u>Tim [Signature]</u>	<u>RHS</u> Welder (Name & Sign): <u>SIPHOKAZI [Signature]</u>
<u>RHS</u> Boiler maker (Name & Sign): <u>GERALD [Signature]</u>	<u>LHS</u> Welder (Name & Sign): <u>SIPHOKAZI [Signature]</u>


END 2



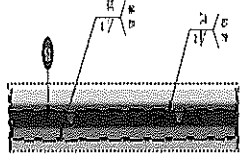
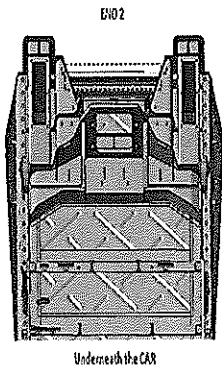
<u>LHS</u> Boiler maker (Name & Sign): <u>SEAN [Signature]</u>	<u>RHS</u> Boiler maker (Name & Sign): <u>SEAN [Signature]</u>
Welder (Name & Sign): <u>KEITU [Signature]</u>	Welder (Name & Sign): <u>KEITU [Signature]</u>

<u>LHS</u> Boiler maker (Name & Sign): <u>SEAN [Signature]</u>	<u>RHS</u> Boiler maker (Name & Sign): <u>SEAN [Signature]</u>
Welder (Name & Sign): <u>KEITU [Signature]</u>	Welder (Name & Sign): <u>KEITU [Signature]</u>



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

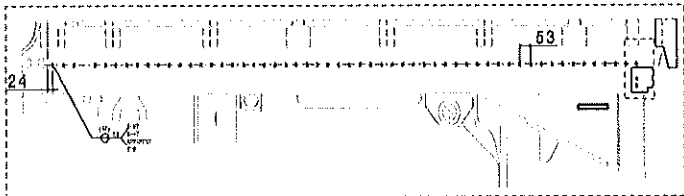
EUF Reinforcement Plates



END 2

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

Welder (Name & Sign): M. [Signature]



FEDOLI

Operator: Lawrence [Signature]



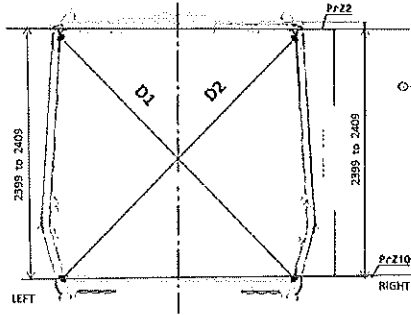
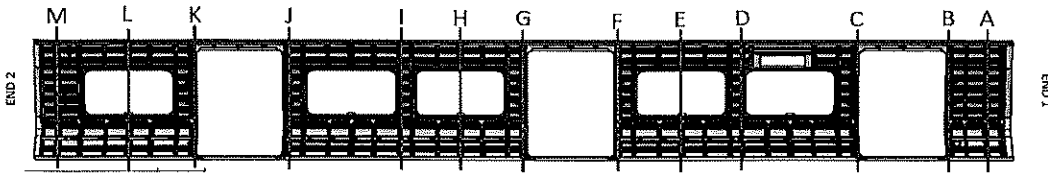


DTR30223319/3 Carsholl Assembly TC

Rev. V28
Date- 07/11/2023

Project: PRASA
SI.CB1210.322.V28

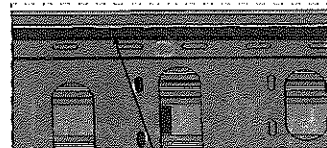
Specifications of Details for CBS measurement



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.

GIBELG
2023-05-17
INDUSTRIAL QUALITY
MANAGEMENT

[Handwritten Signature]
10/01/24



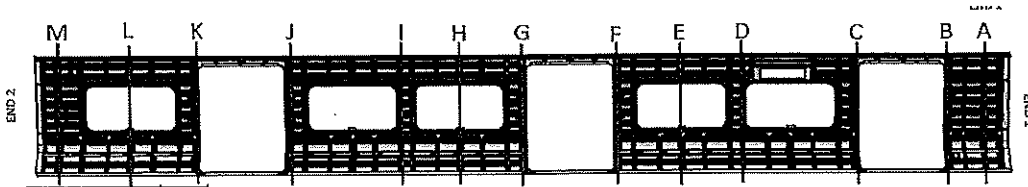
DTR30223319/3 Carshell Assembly TC

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SI.CB1210.322.V28

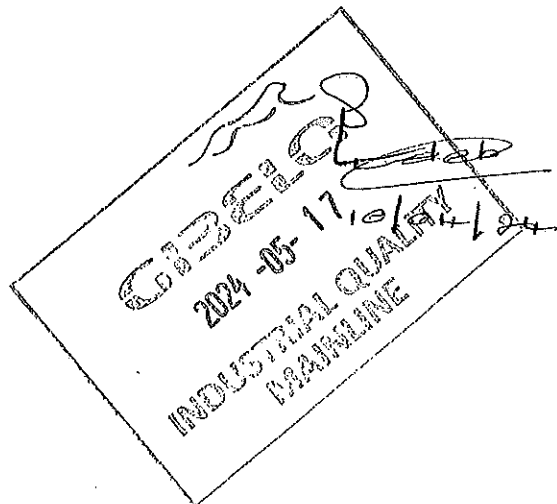
Specifications of Details for CBS measurement

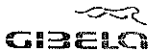
BEFORE WELDING



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	3267	3266	1	2405	2403	2
B	3264	3264	0	2404	2404	0
C	3266	3268	2	2403	2403	0
D	3264	3268	4	2405	2404	1
E	3265	3266	1	2402	2403	1
F	3262	3263	1	2404	2406	2
G	3267	3267	0	2404	2402	2
H	3266	3267	1	2406	2404	2
I	3264	3263	1	2405	2405	0
J	3269	3267	2	2403	2403	0
K	3268	3265	3	2404	2404	0
L	3264	3265	1	2404	2405	1
M	3266	3268	2	2404	2405	1





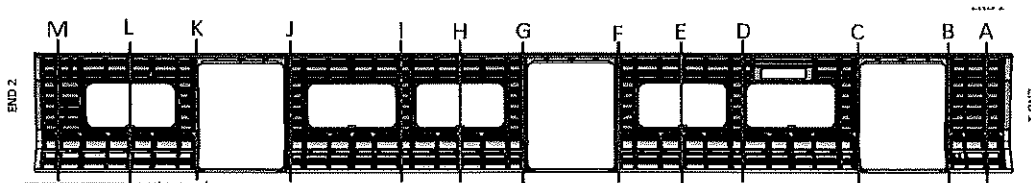
DTR30223319/3 Carshell Assembly TC

Rev. V28
Date- 07/11/2023

Project: PRASA
SI.CB1210.322.V28

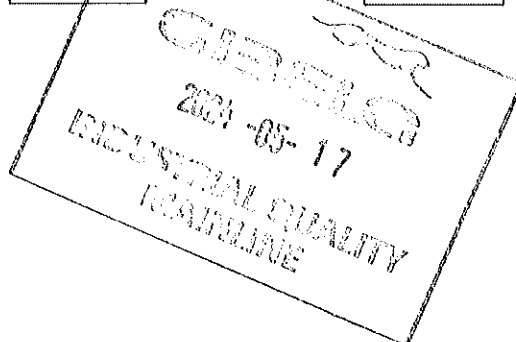
Specifications of Details for CBS measurement

AFTER WELDING



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

	Record D1 values	Record D2 values	D1-D2 ≤ 5 mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3267	3266	1	2405	2403	2
B	3294	3294	0	2404	2404	0
C	3296	3298	2	2403	2403	0
D	3264	3268	4	2405	2404	1
E	3265	3266	1	2402	2403	1
F	3292	3293	1	2404	2406	2
G	3297	3297	0	2404	2402	2
H	3266	3267	1	2406	2404	2
I	3264	3263	1	2405	2405	0
J	3299	3297	2	2403	2403	0
K	3298	3295	3	2404	2404	0
L	3264	3265	1	2404	2405	1
M	3296	3298	2	2404	2405	1



[Signature]
10/04/24



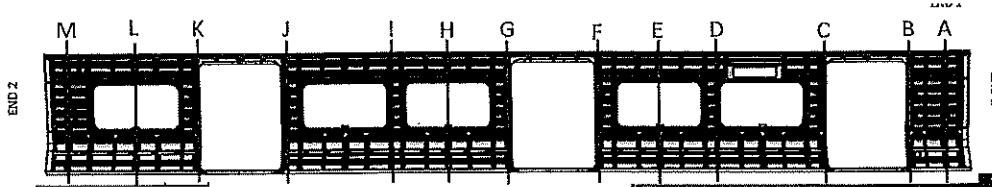
DTR30223319/3 Carshell Assembly TC

Rev. V2B
Date- 07/11/2023

Project: PRASA
SI.CB1210.322.V2B

CBS measurement

BEFORE WELDING



2270 to 2276

2268 & 2274

A. 2275

B. 2272

C. 2274

D. 2276

E. 2274

F. 2276

G. 2275

H. 2275

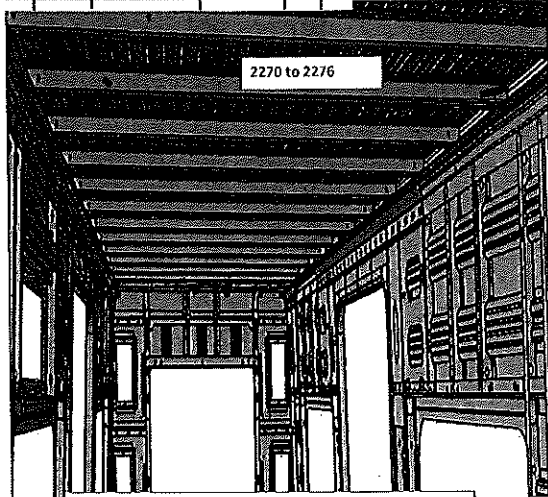
I. 2273

J. 2275

K. 2274

L. 2276

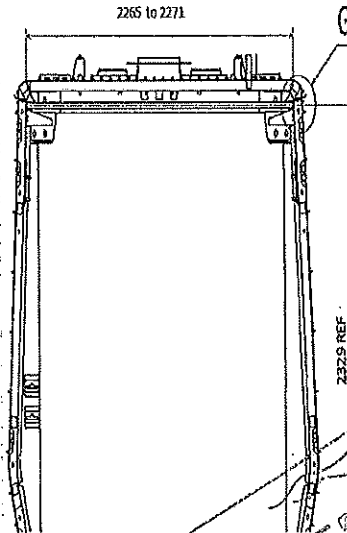
M. 2275



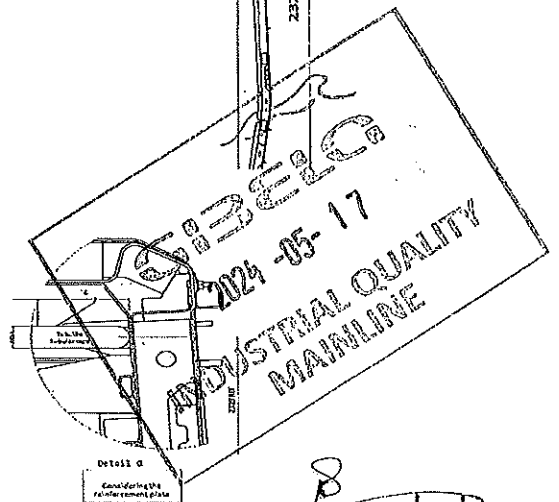
2270 to 2276

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

2265 to 2271



2265 to 2271



Detail a
Construction
Fabrication plate

Handwritten signature and date 10/04/24



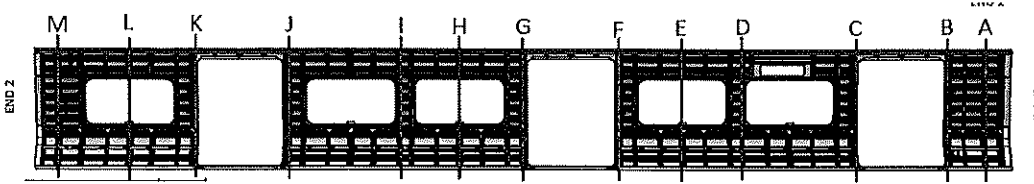
DTR30223319/3 Carshell Assembly TC

Rev. V28
Date- 07/11/2023

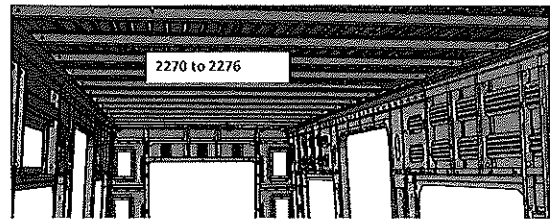
Project: PRASA
SI.CB1210.322.V28

Specifications of Details for CBS measurement

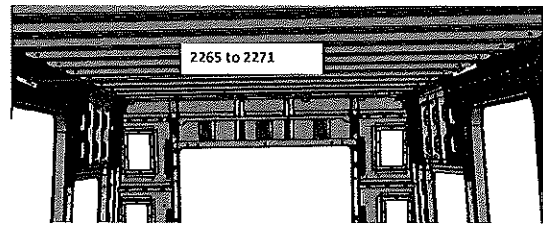
AFTER WELDING



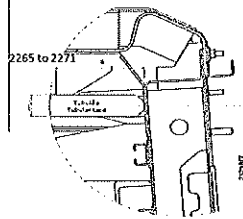
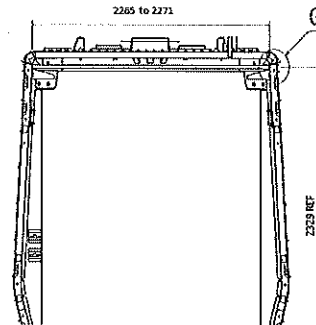
	2265 to 2271	2270 to 2276
A		2275
B	2266	
C	2268	
D		2276
E		2274
F	2269	
G	2265	
H		2275
I		2273
J	2267	
K	2270	
L		2276
M	2268	



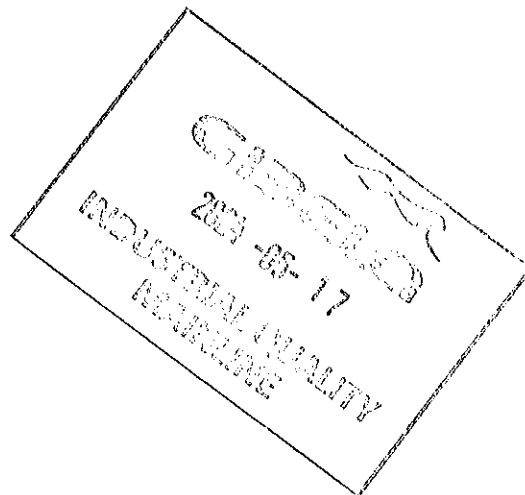
Do not consider reinforcement (Take measurements top area of zee profile



Take measurement close to radius (considering reinforcement)



Detail Q
Consider only reinforcement plate



[Signature]
10/04/24



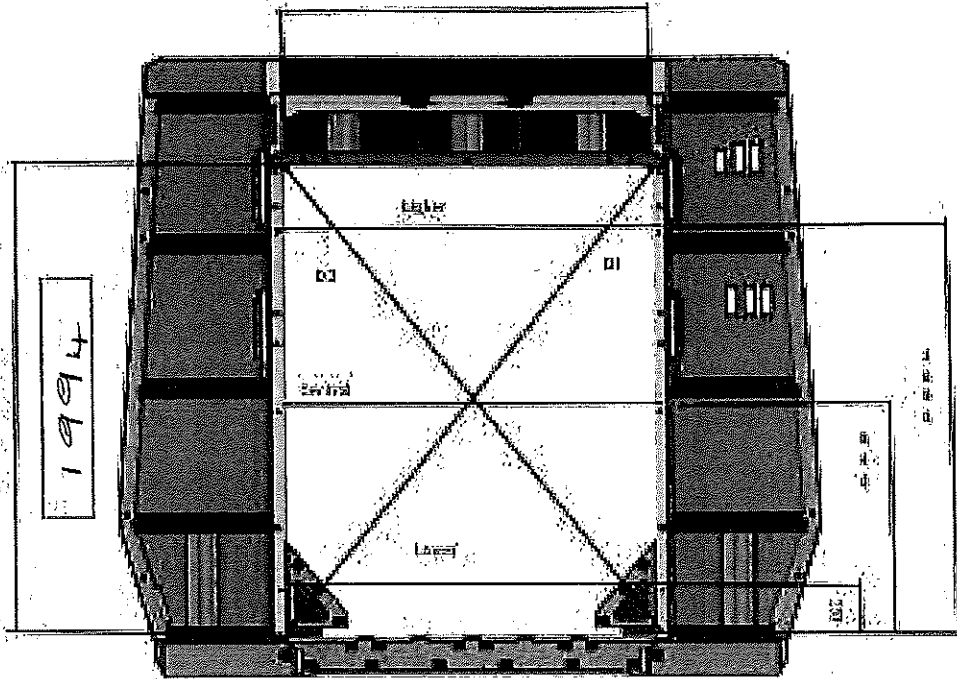
DTR30223319/3 Carshell Assembly TC

Rev. V28
Date- 07/11/2023

Project: PRASA
SI.CB1210.322.V28

Specifications of Details for CBS measurement

Endframe 2



Upper Diagonal

1381

Central Diagonal

1382

Lower Diagonal

1382

DIAGONAL DIFFERENCE D1-D2 5.8mm

D1

2414

D2

2413

D1-D2

1

2024-05-17
INDUSTRIAL QUALITY
MAINLINE

10/04/24



DTR30223319/3 Carshell Assembly TC

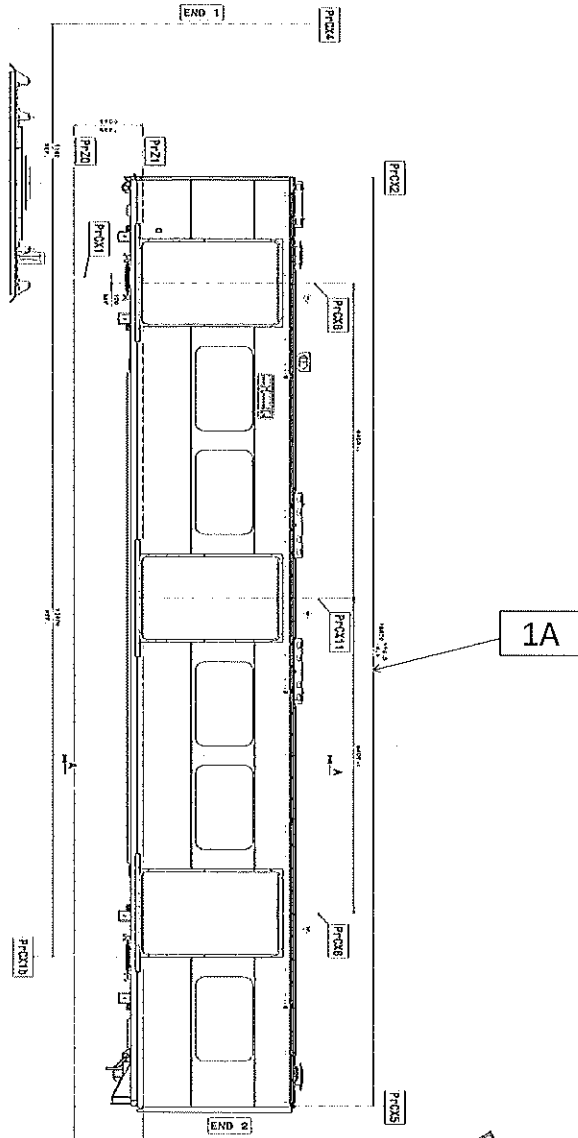
Rev. V28

Project: PRASA

Date- 07/11/2023

SI.CB1210.322.V28

Specifications of Details for CBS measurement

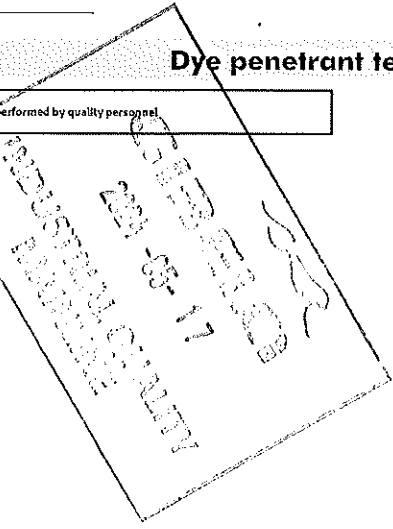


LEFT SIDE			
	SPECIFICATION SIZE		ACTUAL SIZE
1A	18870	$\begin{matrix} +10.5 \\ -4.5 \end{matrix}$	18866

RIGHT SIDE			
	SPECIFICATION SIZE		ACTUAL SIZE
1A	18870	$\begin{matrix} +10.5 \\ -4.5 \end{matrix}$	18866

Dye penetrant test

Dye-penetration test to be performed by quality personnel



Handwritten signature and date 10/04/24



DTR30223319/3 Carshell Assembly TC

Rev. V28

Project: PRASA

Date- 07/11/2023

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!	10/04/24	Timothy	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	10/04/24	Andani	
		There are activities pending that impact/stop the activities of the next process Obs. (To describe problems below)			
		There are non-conformities impact the quality of the product and there is no corrective action defined yet)			

In case of "NO GO", describe blocking problems

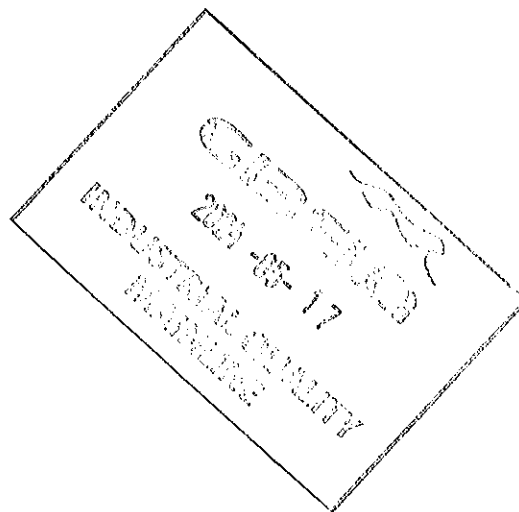
- nipples
flash spots
missing spot

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

Item	Description	Action	Responsible	Due date	Status

Operations

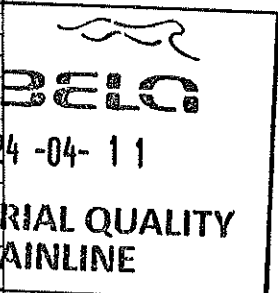
Quality






APPLICATION REFERENCE												
DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY		
			TC	ML	ML	ML	ML	TC				
DTR302/2319/2	ADD0001(1103)	Carshell Assembly TC	CB1230	X						X	PRA.CB1220.DTR3022 3319/2.V20	YES

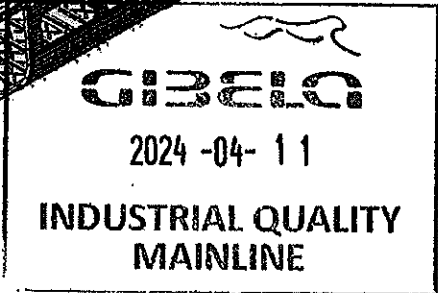
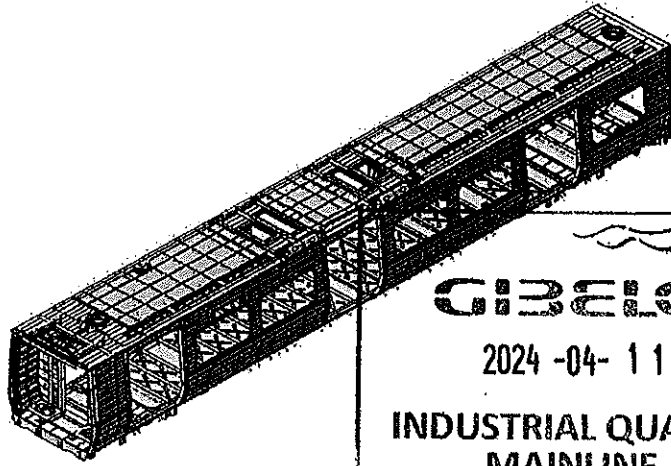
REV.	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	09/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Timothy Maimela	09/04/2018
1	23/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	23/05/2018
			CHECKER	Nosizo Pindela	23/05/2018
			REVISED BY	R. Ramokone Motama	23/05/2018
2	05/07/2018	Certain dimensional checks added and others moved to CB1210 and CB1230	APPROVER	Itumeleng Modiba	05/07/2018
			CHECKER	Nosizo Pindela	05/07/2018
			COMPILER	Ramokone Motama	05/07/2018
3	2018/06/12	Certain dimensional checks added and others moved to CB1210 and CB1230	APPROVER	Itumeleng Modiba	2018/06/12
			CHECKER	Nosizo Pindela	2018/06/12
			COMPILER	Ramokone Motama	2018/06/12
5	24/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	24/01/2019
			CHECKER	Nosizo Pindela	24/01/2019
			COMPILER	Vanessa Ntuli	24/01/2019
6	13/03/2019	Added D1 and D2 on Self - Inspection length measurements	APPROVER	Itumeleng Modiba	13/03/2019
			CHECKER	Nosizo Pindela	13/03/2019
			COMPILER	Nosizo Pindela	13/03/2019
7	20/05/2019	Removed roof width	APPROVER	Itumeleng Modiba	20/05/2019
			CHECKER	Nosizo Pindela	20/05/2019
			REVISED BY	Nosizo Pindela	20/05/2019
10	22/08/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	22/08/2019
			CHECKER	Nosizo Pindela	22/08/2019
			REVISED BY	Nosizo Pindela	22/08/2019
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020
			CHECKER	Bongane Masina	06/08/2020
			REVISED BY	Bongane Masina	06/08/2020
20	19/04/2021	New Baseline 10.2.6	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	19/04/2021
			REVISED BY	Bongane Masina	19/04/2021
21	17/02/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi Collins	17/02/2021
			CHECKER	Mafaudzi Mpho	17/02/2021
			REVISED BY	Mafaudzi Mpho	17/02/2021
25	20/02/2022	New Baseline 10.2.6	APPROVER	Mbhombi Collins	20/02/2022
			CHECKER	Andani Muthelo	20/02/2022
			REVISED BY	Andani Muthelo	20/02/2022
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Mbhombi Collins	14/06/2022
			CHECKER	Andani Muthelo	14/06/2022
			REVISED BY	Andani Muthelo	14/06/2022
27	17/10/2022	Addition of traceability for sealant application and welding	APPROVER	Mbhombi Collins	17/10/2022
			CHECKER	Ntshozo Zwane	17/10/2022
			REVISED BY	Amogelang Moflampe	17/10/2022
28	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntshozo Zwane	14/04/2023
			REVISED BY	Amogelang Moflampe	14/04/2023
29	28/10/2023	Addition of bracket quantity	APPROVER	Ngobeni Tyson	28/10/2023
			CHECKER	Mathapo Kefebone	28/10/2023
			REVISED BY	Amogelang Moflampe	28/10/2023



TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
TS222	TC1	ASA-M01-907774	11-04-24	SI.CB1220.323.V29	17

	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
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I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	TC1	M1	M2	M3	M4	TC2					
DTR30223319/2	X						24	28-10-2023	X	N/A	<i>[Signature]</i> 11-04-24

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	32852	15/03/2025	X	<i>[Signature]</i> 11-04-24	<i>[Signature]</i> 11/04/24
measuring tape	218TA0231	10/04/2025	X	<i>[Signature]</i> 11-04-24	

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308	231057	MIG	X	<i>[Signature]</i> 11-04-24	<i>[Signature]</i> 11/04/24



DTR30223319/2 Carshell Assembly TC

Rev. 29

Project: PRASA

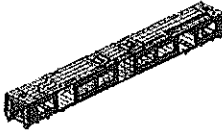
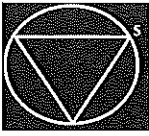
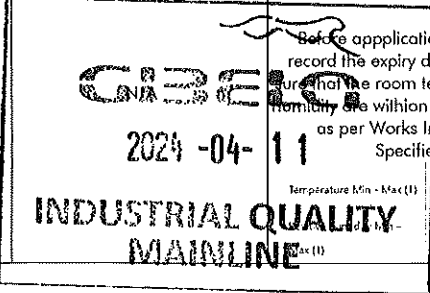
Date-


SI.CB1220.323.V29

28/10/2023

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.CB1220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	DTR30223319/2	/		11-04-24	11/04/24
02	N/A	Carshell free of significant flows which compromise the appearance or functionality.	DTD0000210675	/		11-04-24	11/04/24
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	/		11-04-24	11/04/24
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	/		11-04-24	11/04/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	/		11-04-24	11/04/24
06	N/A	Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	/		11-04-24	11/04/24
07		Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658	/		11-04-24	11/04/24
08		Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (°C) 10°C - 35°C Humidity 25% - 60%	Sealant Batch No: <u>U2063</u> Exp Date: <u>1/04/24</u> Actuals Temperature: <u>13</u> Humidity: <u>73</u>	/		11-04-24	11/04/24

		DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA			
			Date- 28/10/2023				SI.CB1220.323.V29
09	NA	Verification of sealant application in certain regions in the drawing.	AAD0001241033	/		Handwritten signature 11/04/24	Handwritten signature 11/04/24
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	/		Handwritten signature 11/04/24	Handwritten signature 11/04/24


 2024-04-11
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DTR30223319/2 Carshell Assembly TC

Rev.
29
Date-
28/10/2023

Project: PRASA
SI.CB1220.323.V29



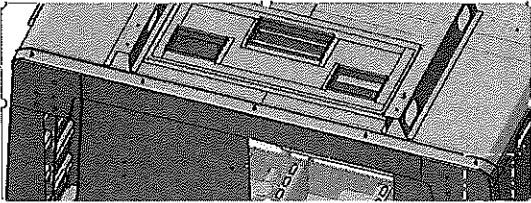
END 1
SEALANT


OPERATOR
(Name & sign):

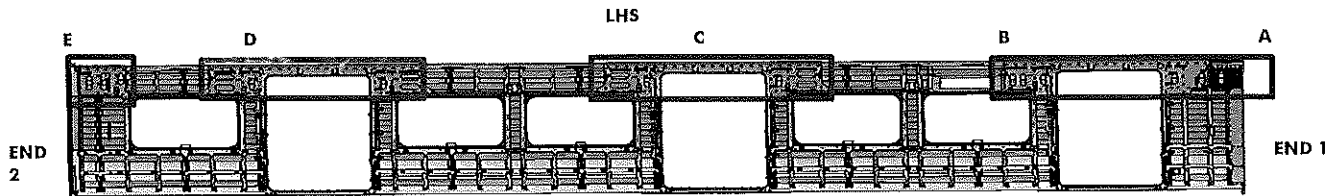
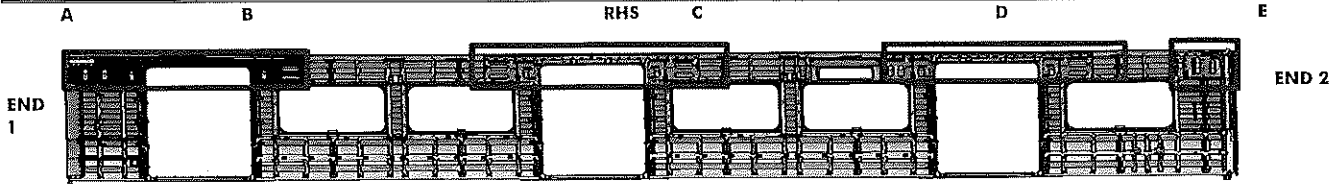
Mt. Hlokozi

OPERATOR
(Name & sign):

Mt. Hlokozi




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



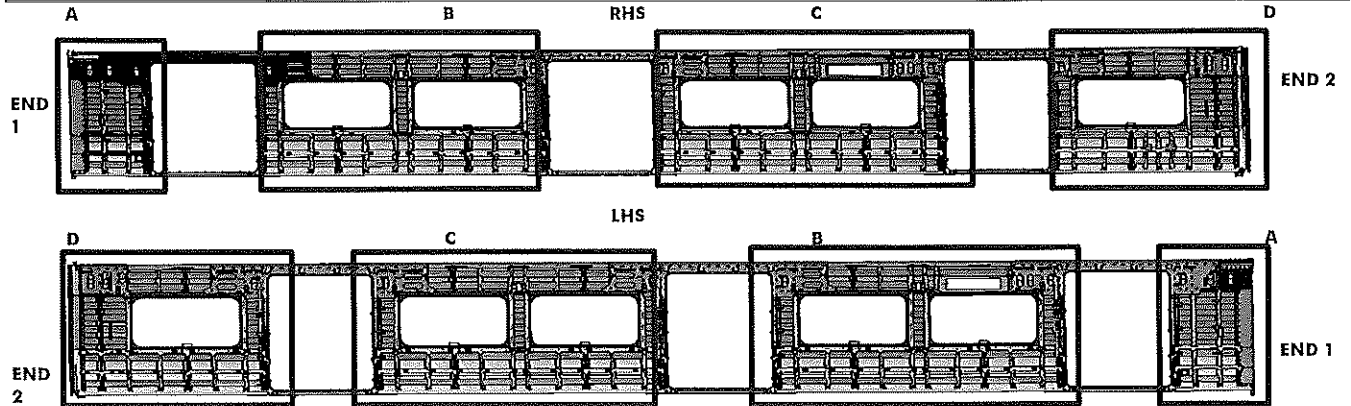
REINFORCEMENT WELDING

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



2024-04-11

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BRACKETING

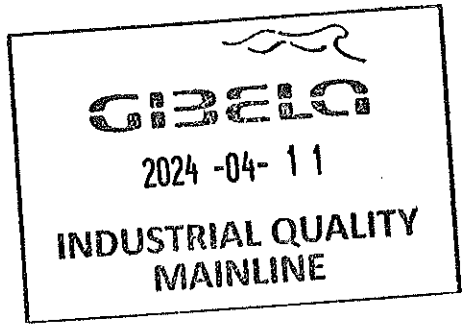
C-RAILS: Operator: Priscilla *INSTALLATION*

DOOR MECHANISMS: Operator: Tetebr

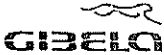
TAPPING PADS: Operator: Sibuya

SEAT & LUGGAGE BRACKETS: Operator: Leni *INSTALLATION & VERIFICATION*


SEAT BRACKETS VERIFICATION: Operator: Leni

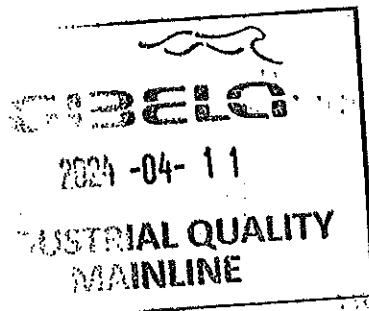


AREA	WELDING	
	LHS	RHS
A Seat brackets	Operator (Name&sign): <u>LINDO</u> <i>N/A</i>	<u>LINDO</u> <i>N/A</i>
(C-rails, Luggage and earth bushes)	Operator (Name&sign): <u>N/A</u>	<u>N/A</u>
B (Seat brackets)	Operator (Name&sign): <u>Jolly</u>	<u>S. MATSUDA</u>
(C-rails, Luggage and earth bushes)	Operator (Name&sign): <u>Jolly</u>	<u>S. MATSUDA</u>
C (Seat brackets)	Operator (Name&sign): <u>Jolly</u>	<u>MATSUDA</u>
(C-rails, Luggage and earth bushes)	Operator (Name&sign): <u>Jolly</u>	<u>MADINI S. MATSUDA</u>
D (Seat brackets)	Operator (Name&sign): <u>Jolly</u>	<u>MATSUDA</u>
(C-rails, Luggage and earth bushes)	Operator (Name&sign): <u>Jolly</u>	<u>MATSUDA</u>

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

ENDS

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



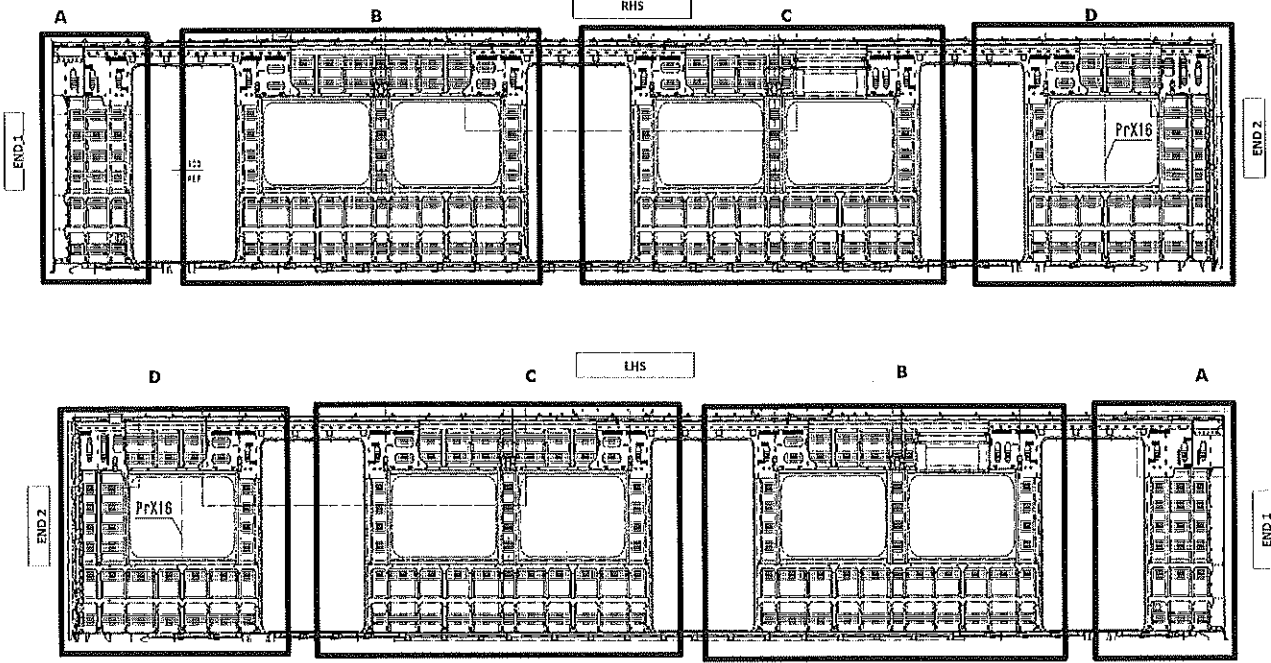


DTR30223319/2 Carshell Assembly TC

Rev. 29
Date- 28/10/2023

Project: PRASA
SI.CB1 220.323.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	4	✓	
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: ASAMDA

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: ASADIN



2024 -04- 11

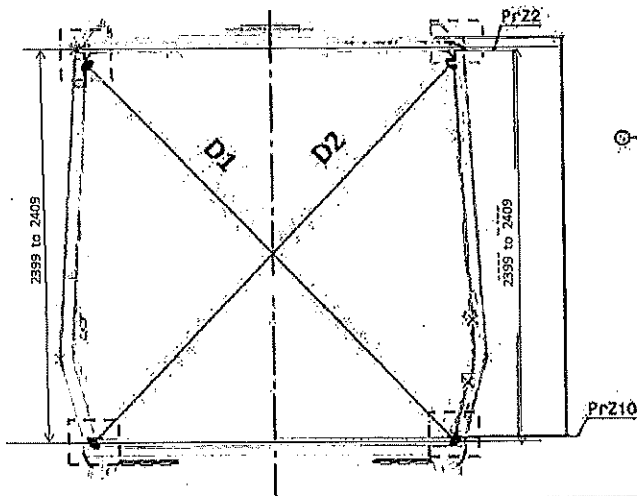
INDUSTRIAL QUALITY
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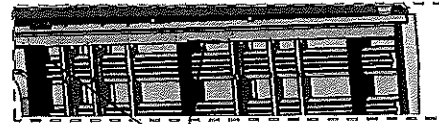
DTR30223319/2 Carshell Assembly TC

Rev. 29
Date- 28/10/2023

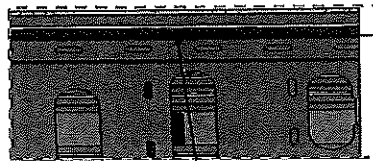
Project: PRASA
SI.CB1220.323.V29



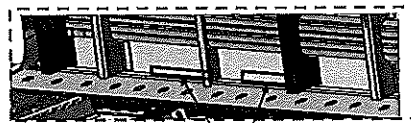
Take measurement close to radius



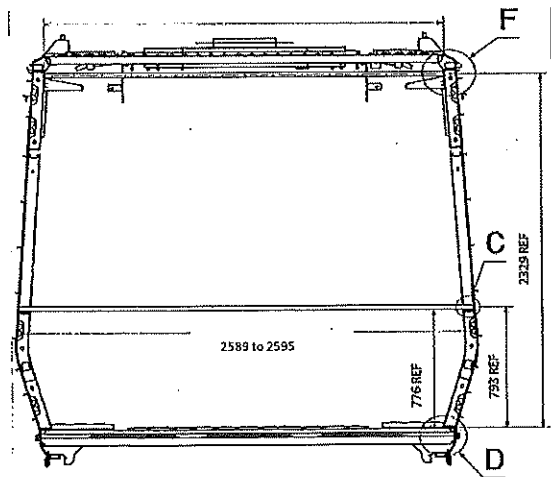
Measurement positions on roof rail and sidewall omega corner.



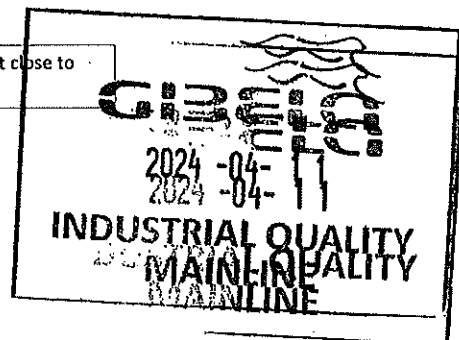
Reinforcement area measurement positions on roof reinforcement area.



Measurement positions on sidewall and side sill corner.



Take measurement close to radius





DTR30223319/2 Carshell Assembly TC

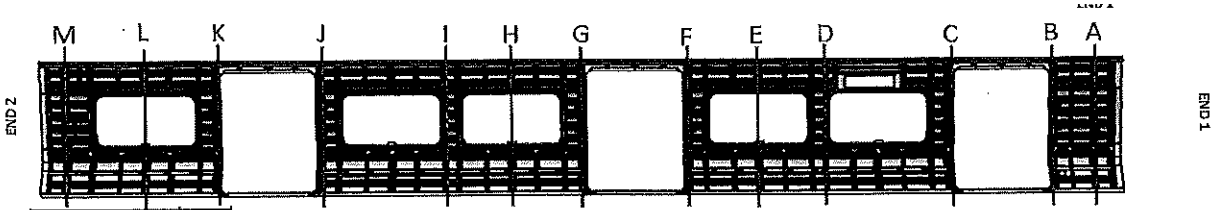
Rev. 29

Project: PRASA

Date-

28/10/2023

SI.CB1220.323.V29



BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3289	3292	3	—
B	3290	3292	2	—
C	3294	3292	2	—
D	3263	3263	0	—
E	3262	3262	2	—
F	3290	3292	2	—
G	3294	3291	3	—
H	3262	3261	1	—
I	3263	3262	1	—
J	3292	3293	1	—
K	3290	3291	1	—
L	3263	3263	0	—
M	3297	3294	3	—

2024-04-11

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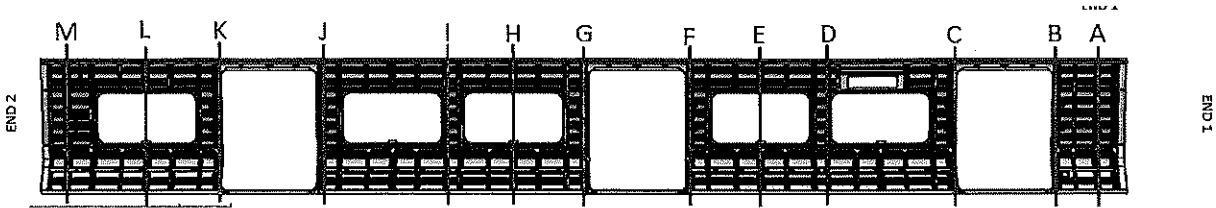
11-04-24



DTR30223319/2 Carshell Assembly TC

Rev.
29
Date-
28/10/2023

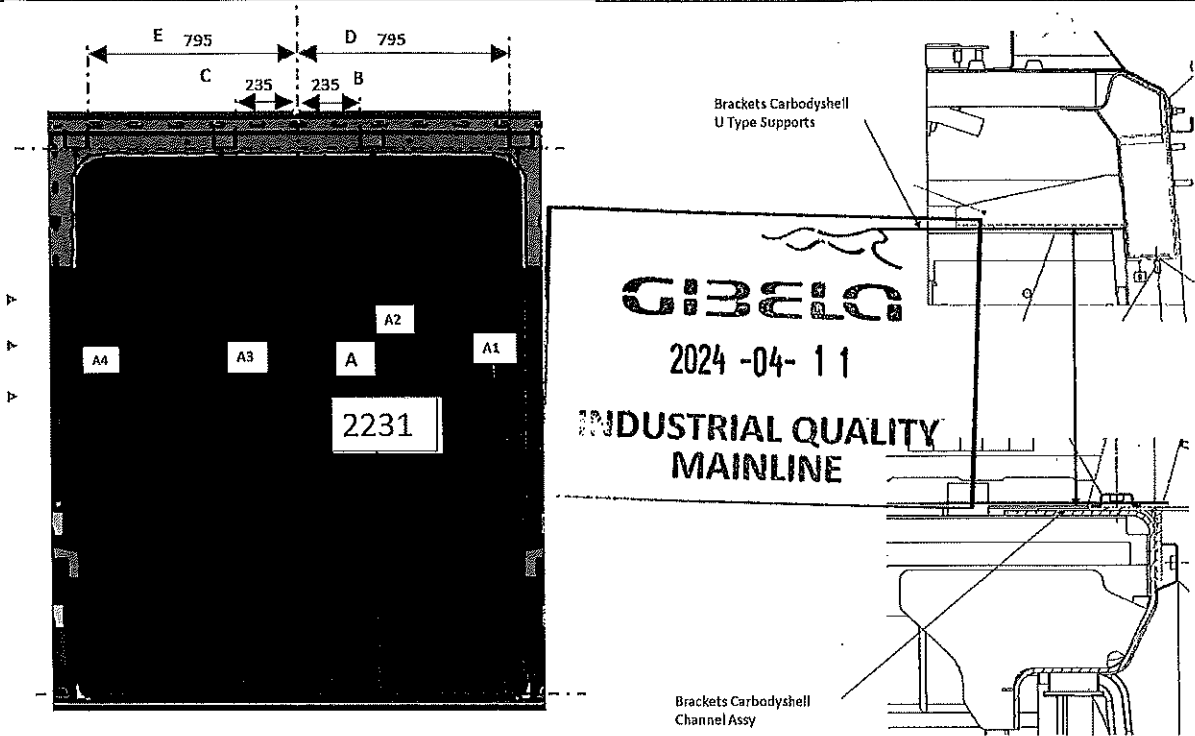
Project: PRASA
SI.CB1220.323.V29



AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3289	3298	7	2595
B	3294	3290	4	2589
C	3294	3295	1	2590
D	3264	3266	2	2592
E	3261	3262	1	2594
F	3292	3294	2	2593
G	3294	3292	2	2594
H	3264	3260	4	2590
I	3262	3266	4	2594
J	3292	3298	6	2591
K	3290	3293	3	2590
L	3262	3266	4	2590
M	3297	3294	4	2594

2024-04-11
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DOOR 1 - LHS

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

DOOR 3 - LHS

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

DOOR 2 - RHS

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

DOOR 3 - RHS

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

11-04-24



DTR30223319/2 Carshell Assembly TC

Rev. 29

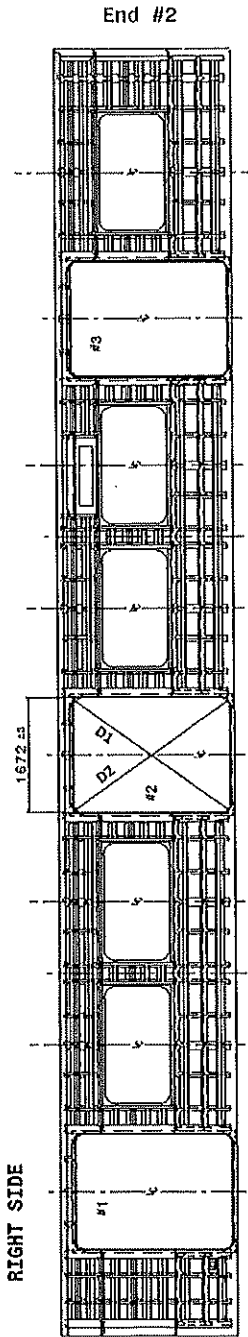
Project: PRASA

Date-

SI.CB1220.323.V29

28/10/2023

Specifications of Details for CBS measurement

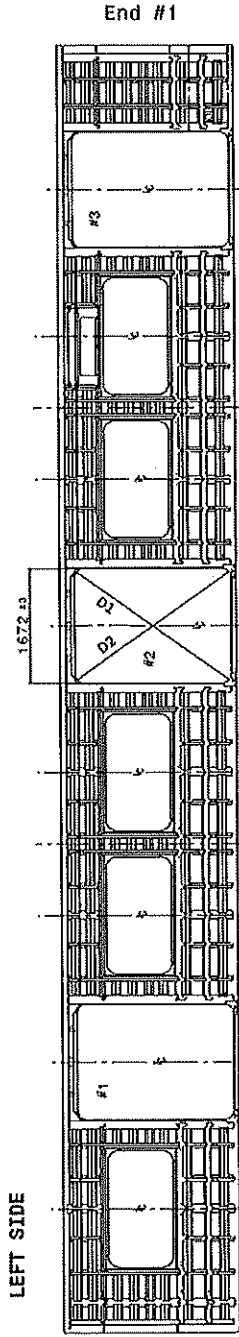


Doors diagonal D1-D2 maximum difference ≤ 4 mm

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

Doors length - 1672 ± 3 mm

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



Diagonal de portas - diferença D1-D2 < 4 mm

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

Vão de Portas - 1672 ± 3 mm

	#1	#2	#3
HIGHER DIMENSION	1676	1673	1674
CENTRAL DIMENSION	1673	1672	1673
LOWER DIMENSION	1672	1671	1671

2024-04-11

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11-04-24



DTR30223319/2 Carshell Assembly TC

Rev. 29

Project: PRASA

Date-

28/10/2023

SI.CB1220.323.V29

Specifications of Details for GBS measurement

Dye penetrant test

Dye-penetration test to be performed by quality personnel

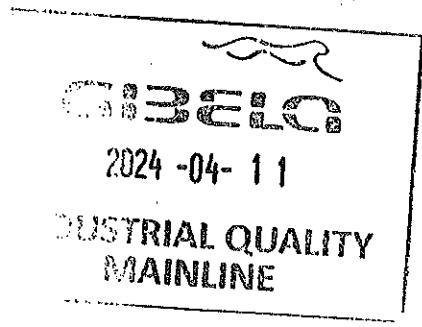



Item	Description of the Issue	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)

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 SI.CB1220.323.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!	11-04-24	ASANDH Operations		
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	11/04/24	NTOKORO Industrial Quality		
	NO GO	There are activities pending that impact/stop the activities of the next process Obs: (To describe problems below)			Operations	
		There are non-conformities impact the quality of the product and there is no corrective action defined yet)			Industrial Quality	

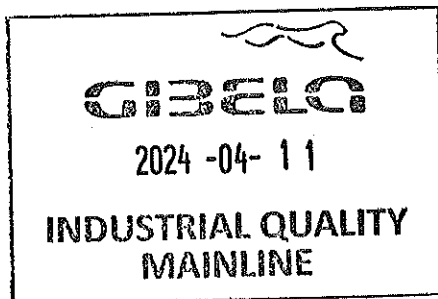
In case of "NO GO", describe blocking problems

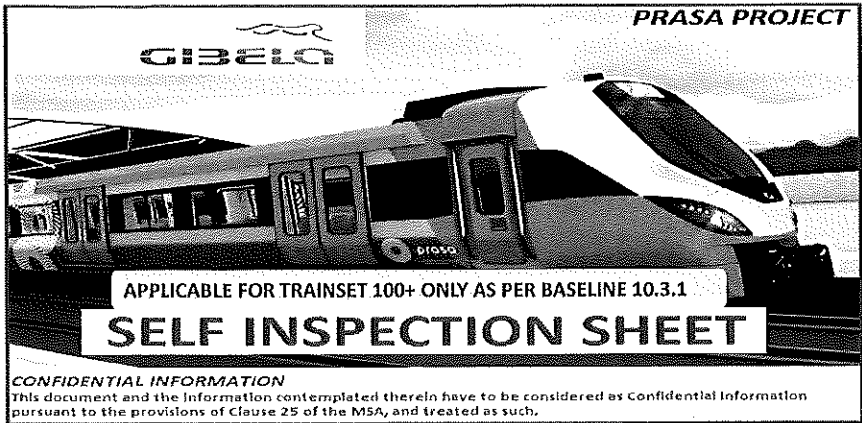
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

Item	Description	Action	Responsible	Due date	Status

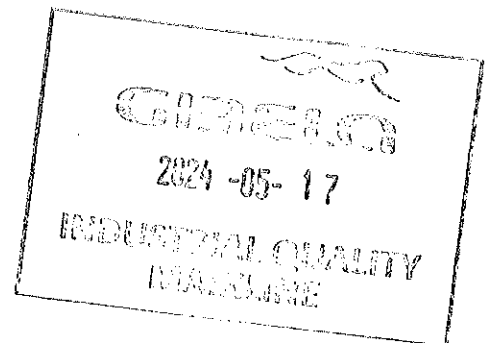
Operations

Quality





APPLICATION REFERENCE													
MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY		
				TCL	MA	M1	M2	M3	TCR				
	DT00000223319	AA00001226953	DT00000223319 Carshell Assembly TC	CB1230	X						X	PRACB1230.DT0000012 23319.V20	YES
REV	DATE	MODIFICATION CONTENT			RESPONSIBLE		NAME		DATE				
0	06/04/2018	GIBELA NEW CREATION			APPROVER	Itumeleng Modiba		03/04/2018					
					CHECKER	Nosizo Pindela		03/04/2018					
					COMPILER	Thanyani Mathaga		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	Ramekone 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 Mkhombi		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 Mkhombi		14/06/2022					
					CHECKER	Andani Muthelo		14/06/2022					
					COMPILER	Andani Muthelo		14/06/2022					
27	26/07/2022	Threshold measurements addition			APPROVER	Collins Mkhombi		26/07/2022					
					CHECKER	Andani Muthelo		26/07/2022					
					COMPILER	Andani Muthelo		26/07/2022					
28	17/10/2022	Addition of traceability for sealant application			APPROVER	Collins Mkhombi		17/10/2022					
					CHECKER	Ntokozi Zwane		17/10/2022					
					COMPILER	Amogelang Mhlatshpe		17/10/2022					
29	14/04/2023	Added sealant batch number & welding consumables traceability			APPROVER	Vanessa Ntuli		14/04/2023					
					CHECKER	Ntokozi Zwane		14/04/2023					
					COMPILER	Amogelang Mhlatshpe		14/04/2023					
30	06/11/2023	Added traceability for thresholds for boiler makers and welders			APPROVER	Tyson Ngceni		06/11/2023					
					CHECKER	Andani Muthelo		06/11/2023					
					COMPILER	Ntokozi Zwane		06/11/2023					
TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER		DATE	SELF INSPECTION NUMBER		PAGES						
222	TC1	Zende 482774		13/04/24	SI.CB1230.324.V28		14						





DT00000223319 Carshell Assembly TC

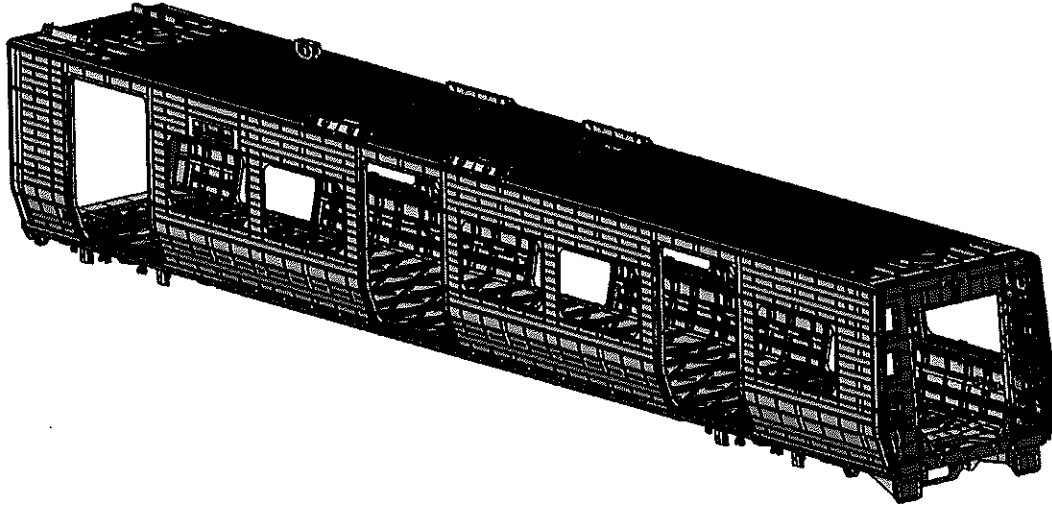
Rev. 30
Date- 06/11/2023

Project: PRASA
SI.CB1230.324.V29

Carro
Car:

NCR:

Work station: CB1230



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	NGK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
	TC1	M1	M2	M3	M4							
DT00000223319						30		X		N/A	13/04/24	13/04/24

I.2 - Instruments Control

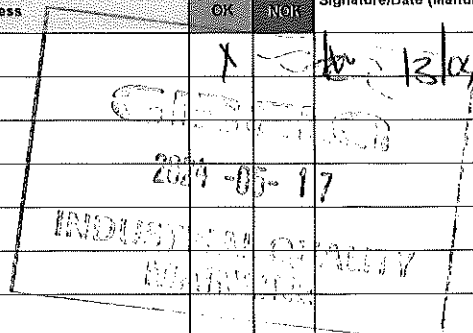
Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK	NGK	Signature/Date (Operations)	Signature/Date (Quality)
Tubular	2261S	2024/10/07	X		13/04/24	13/04/24
Combination square	GIBCS 0137	2024/10/11	X		13/04/24	13/04/24
Tape measurement	GIBTA 0394	2024/07/05	X		13/04/24	13/04/24

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NGK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 LSi	273557	Mig	X		13/04/24	13/04/24





DT00000223319 Carshell Assembly TC

Rev.
30

Project: PRASA

Date-

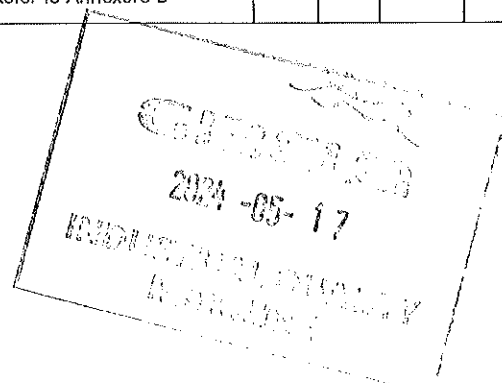
06/11/2023

SI.CB1230.324.V29

II - Control Activities of Production

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº DT00000223319	DT00000223319	X			[Signature] 13/04/24	[Signature] 13/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	X			[Signature] 13/04/24	[Signature] 13/04/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 DTD0000210675	X			[Signature] 13/04/24	[Signature] 13/04/24
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.	X			[Signature] 13/04/24	[Signature] 13/04/24
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	X			[Signature] 13/04/24	[Signature] 13/04/24
06	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (1) Min-Max 10°C - 35°C Relative humidity Min - Max (1) Min-Max 25% - 80%	Sealant Batch No: <u>ISR 70-03</u> Exp Date: <u>10/5/24</u> Actuals Temperature: <u>18°C</u> Humidity: <u>30%</u>	X			[Signature] 13/04/24	[Signature] 13/04/24
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	X			[Signature] 13/04/24	[Signature] 13/04/24



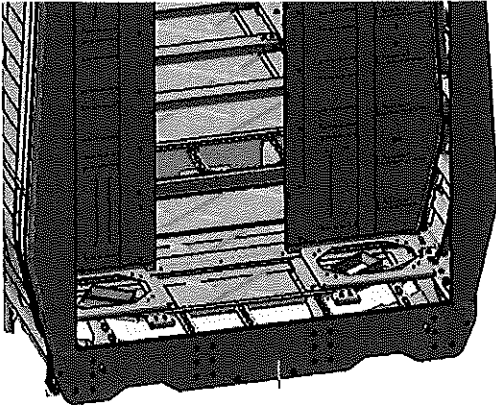


DT00000223319 Carshell Assembly TC

Rev.
30
Date-
06/11/2023

Project: PRASA
SI.CB1230.324.V29

VIEW A



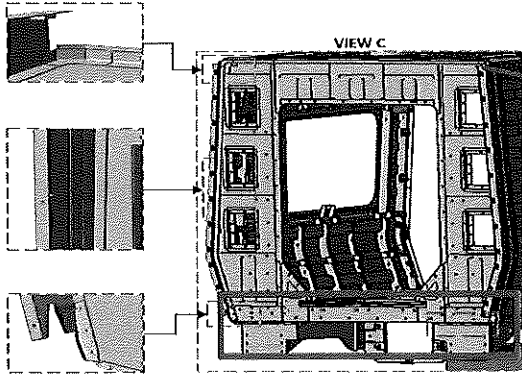
**END 1
SEALANT**

OPERATOR
(Name & sign):

Bubte Silva

OPERATOR
(Name & sign):

Francisco Isherold



OPERATOR
(Name&sign):

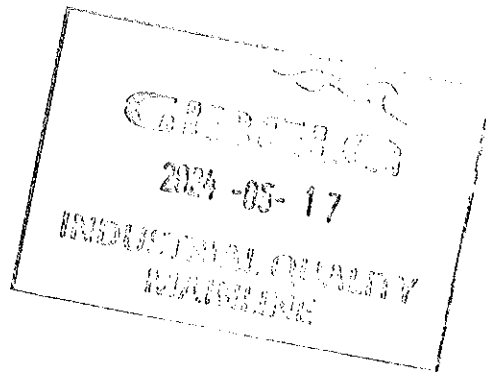
Leroy

OPERATOR
(Name&sign):

Leroy

OPERATOR
(Name&sign):

Leroy





DT00000223319 Carshell Assembly TC

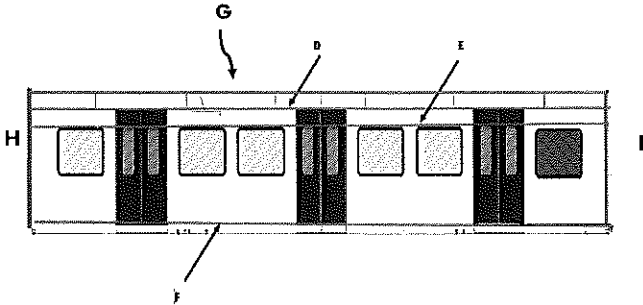
Rev.
30

Date-

06/11/2023

Project: PRASA

SI.CB1230.324.V29



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

Operator (Name & sign) :

LHS

Sihle [Signature]

RHS

Tshenolo [Signature]

Operator (Name & sign) :

Sihle [Signature]

Tshenolo [Signature]

Operator (Name & sign) :

Sihle [Signature]

Tshenolo [Signature]

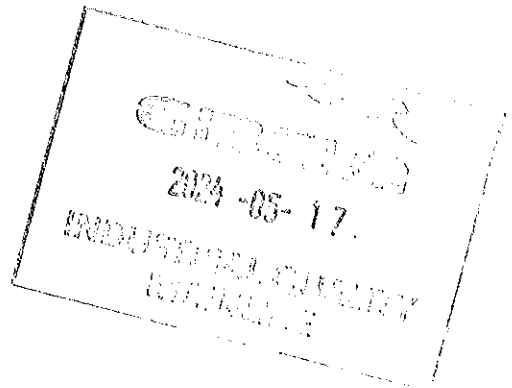
Operator (Name & sign) :

Sihle [Signature]

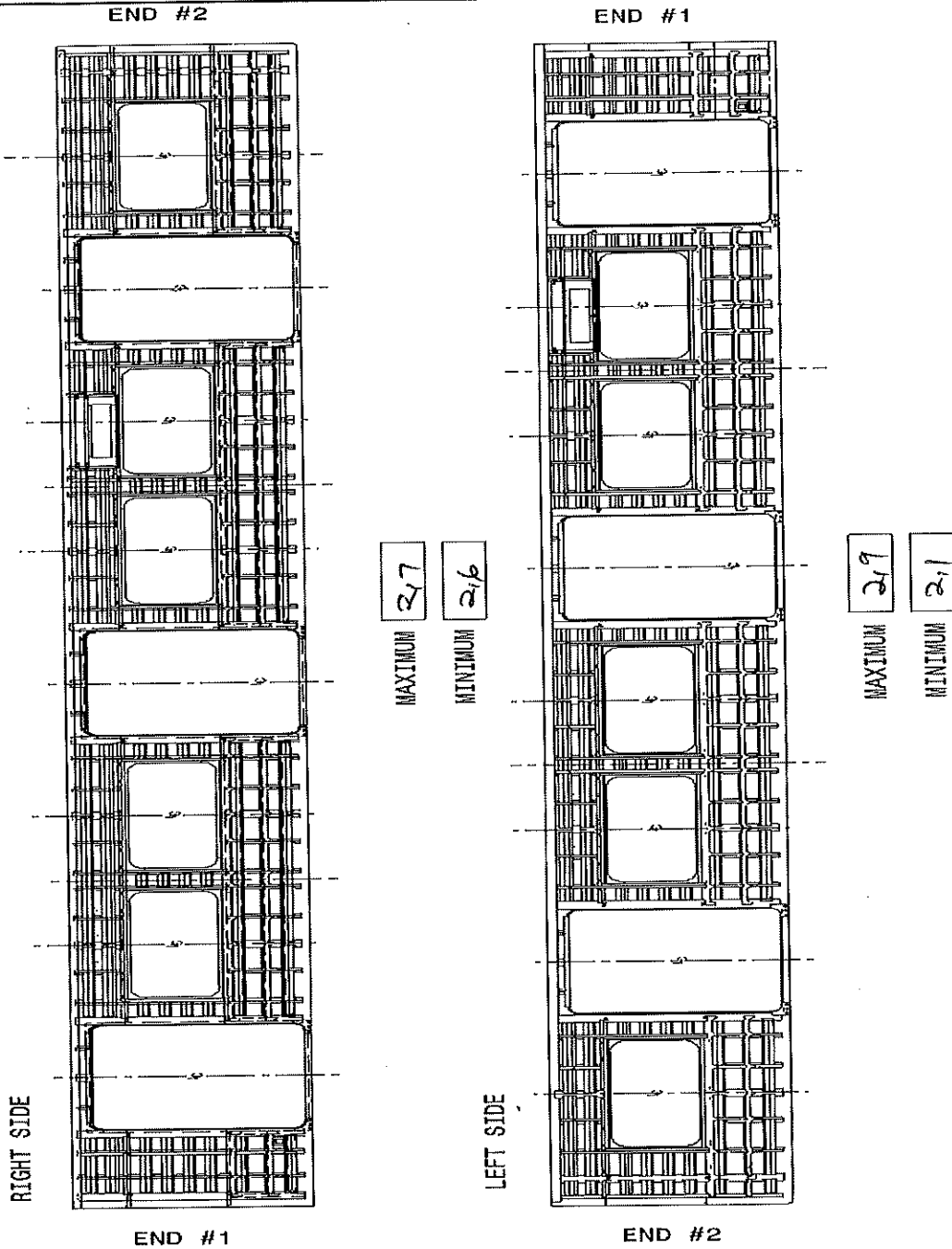
Tshenolo [Signature]

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.



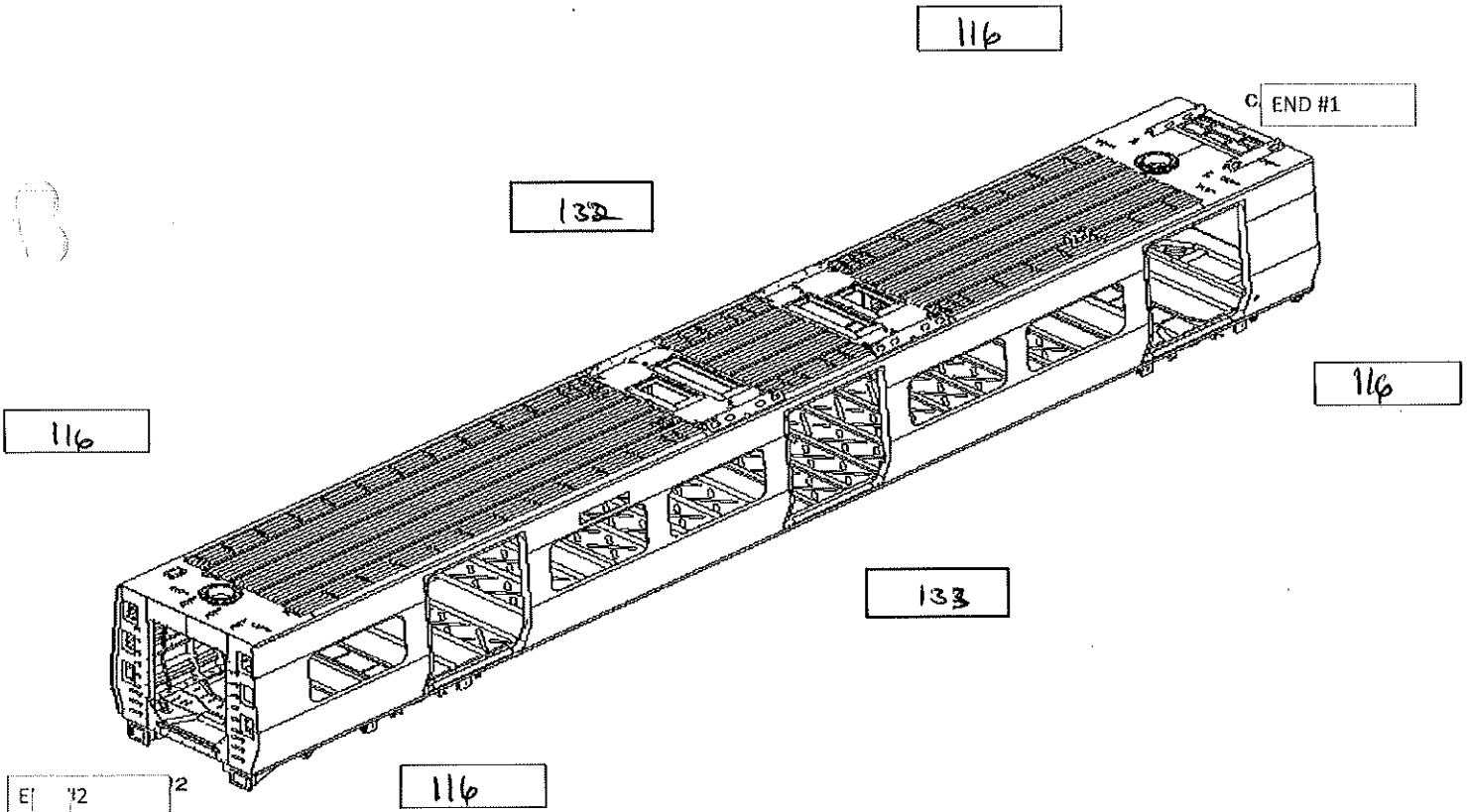
2024-05-17

 END OF THE PROJECT

 RELEASED

Specifications of Details for CBS measurement CB1230

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



MEASURED CAMBER VALUES

RIGHT - 17

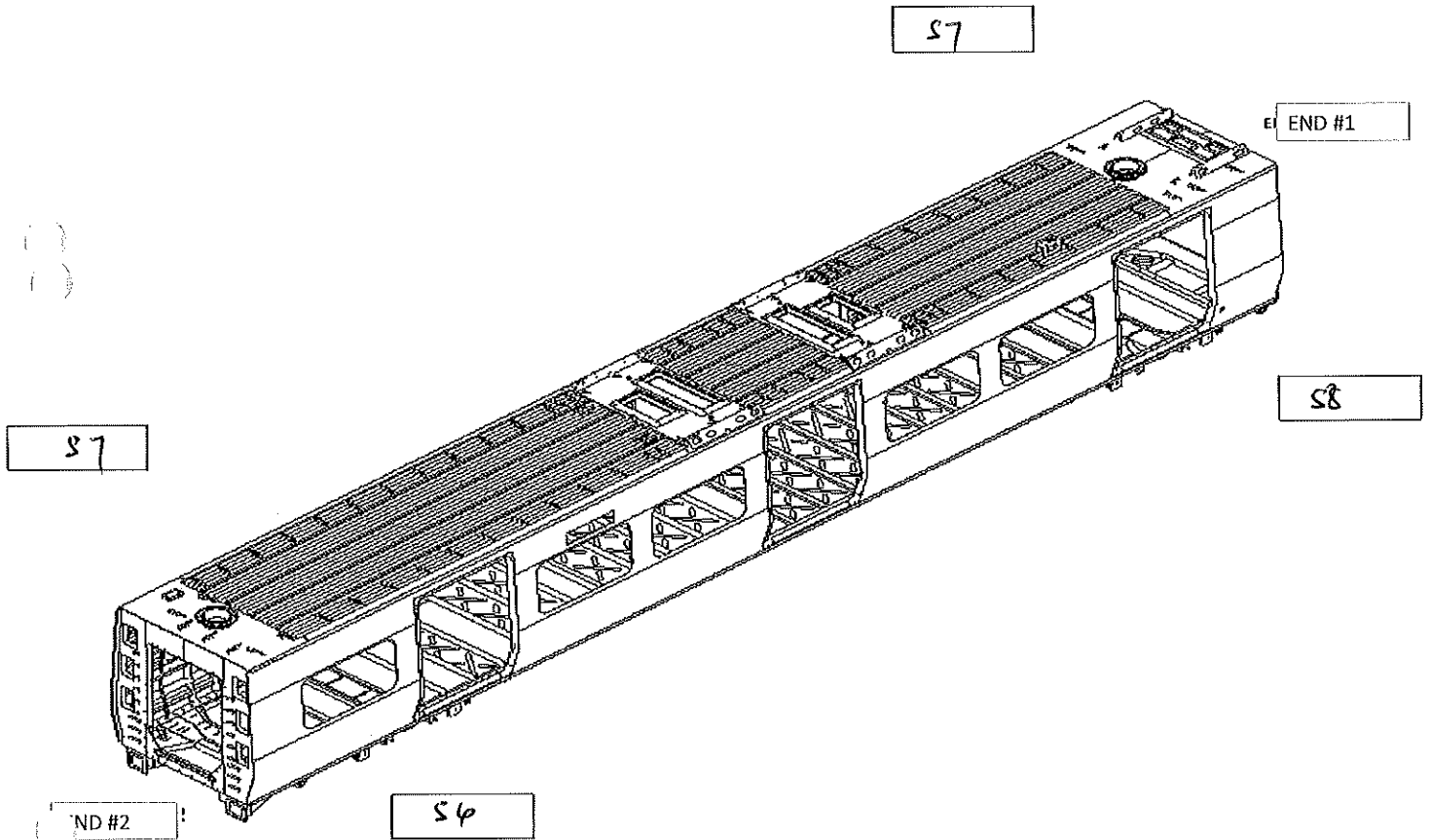
LEFT - 16

D1

GIBELO
2024-05-17
INDUSTRIAL QUALITY
INDUSTRIAL

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.

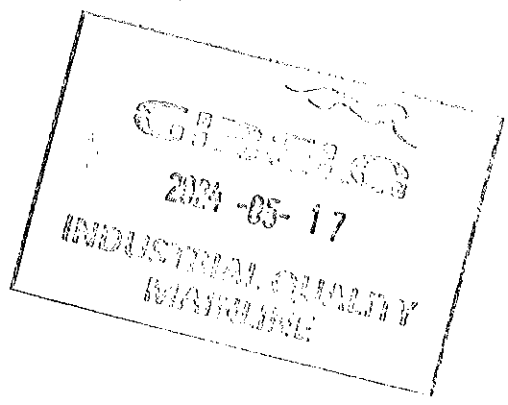


MEASURED TWIST VALUES END 1

LATERAL	<input type="text" value="2"/>
LONGITUDINAL	<input type="text" value="2"/>

MEASURED TWIST VALUES END 2

LATERAL	<input type="text" value="1"/>
LONGITUDINAL	<input type="text" value="0"/>



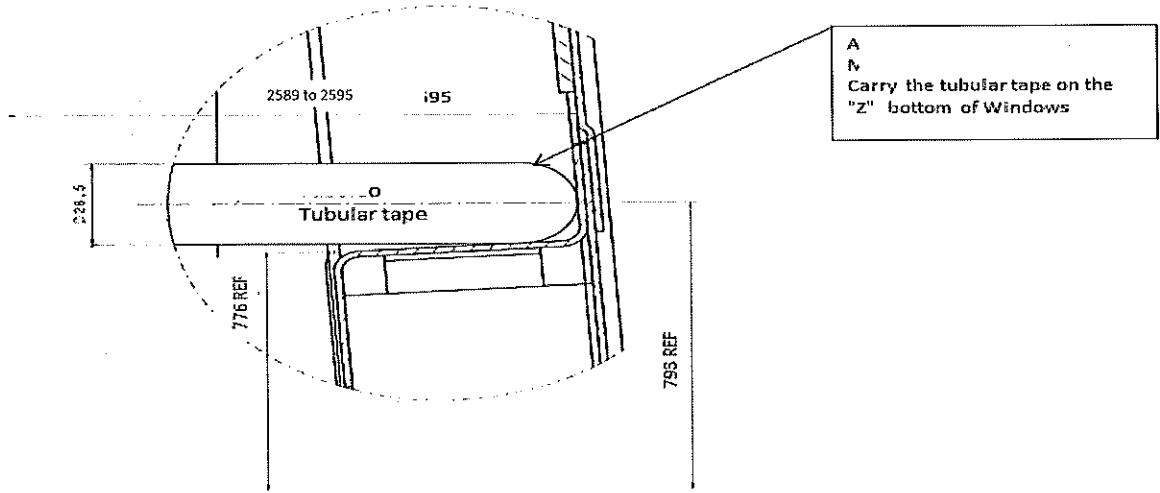


DT00000223319 Carshell Assembly TC

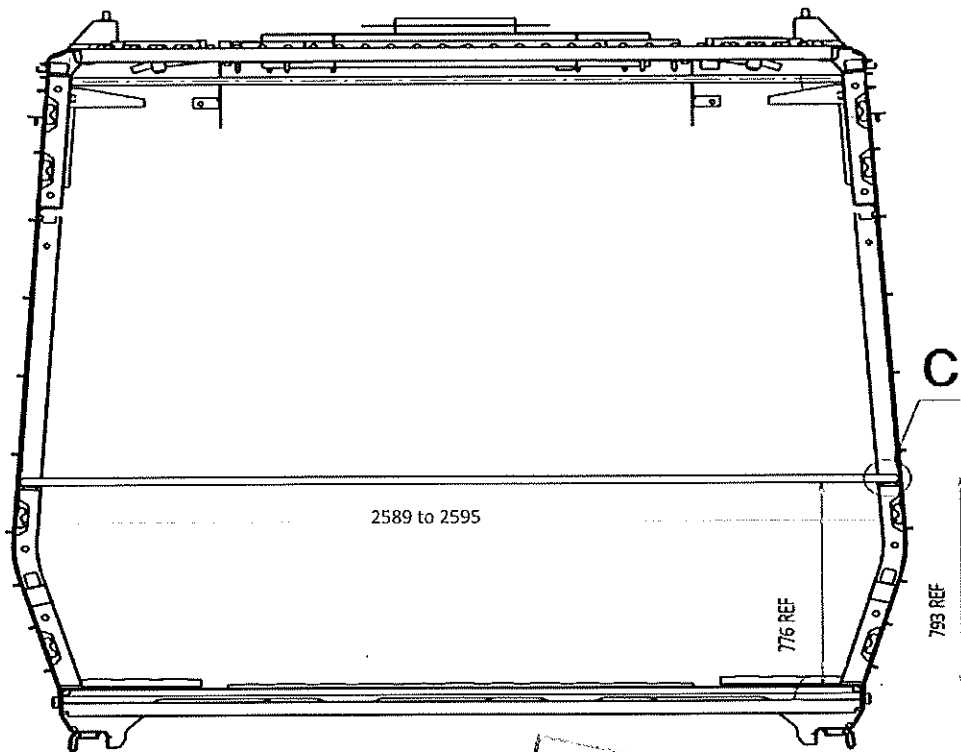
Rev.
30
Date-
06/11/2023

Project: PRASA
SI.CB1230.324.V29

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

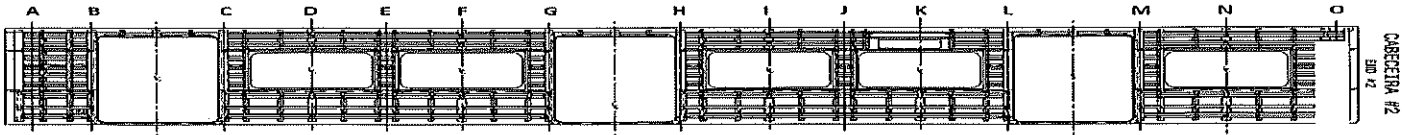


Detail C



2024-05-17
INDUSTRIAL QUALITY
100% VERIFIED

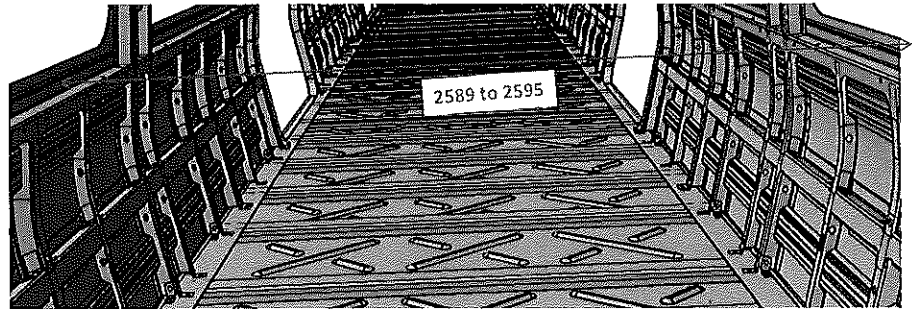
Specifications of Details for CBS measurement



LATERAL DIREITA
Right Side

2589 to 2595mm

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



Threshold verification

Nomtnal value :38

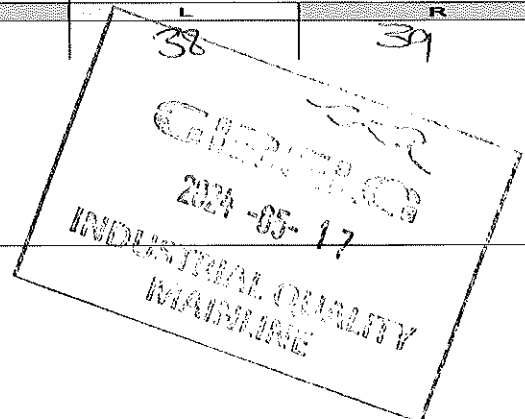
Door 1		Door 2		Door 3	
L	R	L	R	L	R
38	38	39	39	38	39
Door 4		Door 5		Door 6	
L	R	L	R	L	R
38	39	38	39	38	39

BOILER MAKER:

Thami Sepeng 20th

WELDER:

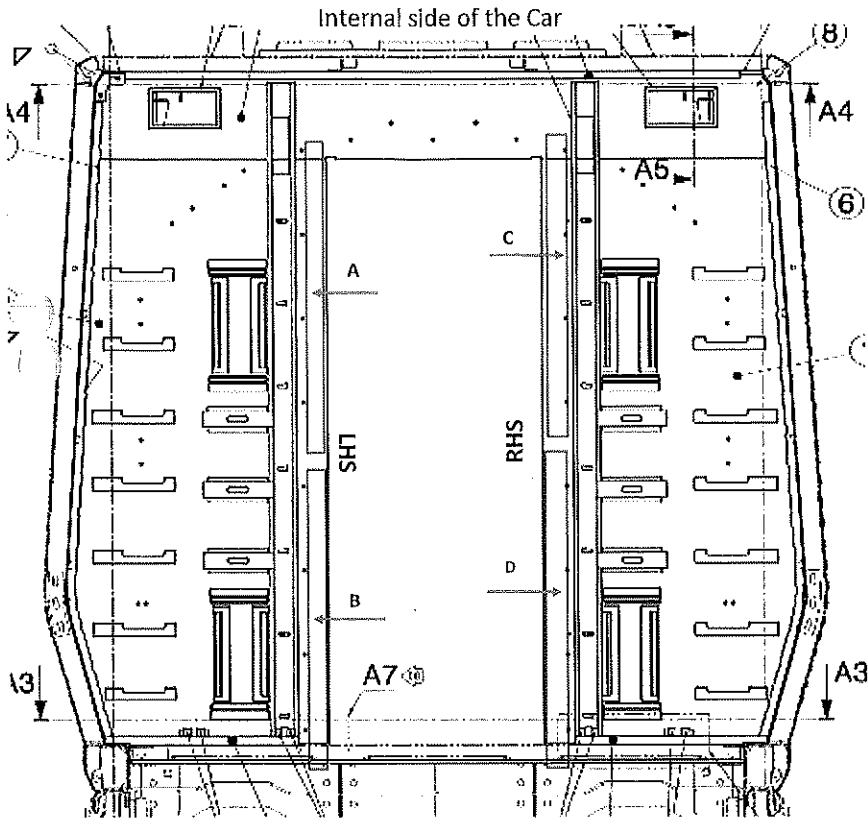
Zanele Mahlangu Aru



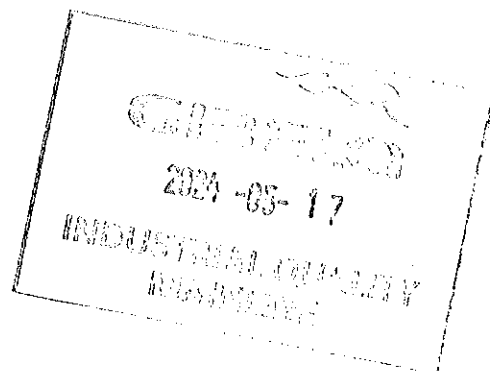
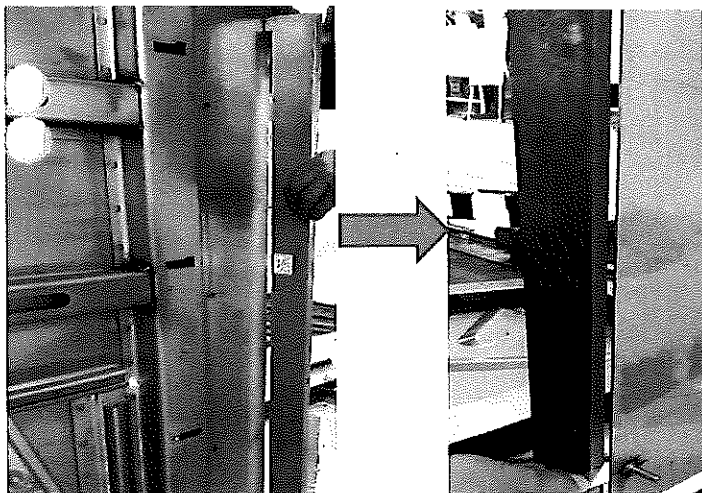
Specifications of Details for CBS measurement

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	10	11	1
B	11	12	1
C	8	10	2
D	9	11	2





DT00000223319 Carshell Assembly TC

Rev. 30

Project: PRASA

Date-

SI.CB1230.324.V29

06/11/2023

Dye penetrant test

Dye-penetration test to be performed by quality personnel

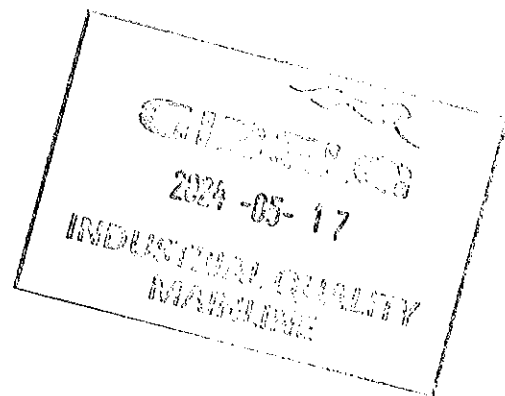


Item	Description of the Issue	OK	Signature/Date (Operations)	Signature/Date (Quality)

II.2 - Check List REX

Check List Items

Item	Picture/Drawing	Description	Criteria /Record	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
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.CB1230.324.V29

Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)		DATE	NAME	SIGNATURE	
HOLD POINT	GO	If activities are not complete, the missing activities must not impact the next stage!	13/04/24	Zanele Mahlangu Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	13/04/24	Richmond Industrial Quality	
	NO GO	There are activities pending that impact/stop the activities of the next process Obs: (To describe problems below)			
		There are non-conformities impact the quality of the product and there is no corrective action defined yet)			

In case of "NO GO", describe blocking problems

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

Item	Description	Action	Responsible	Due date	Status

Operations

Quality

