PRASA PROJECT

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	M4	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY ?
DTR30223319/3	AAD0001241033	Carshell Assembly TC	CB1210	X					X	PRA.CB1210.DTR3022331 9/3.V25	YES
				X							

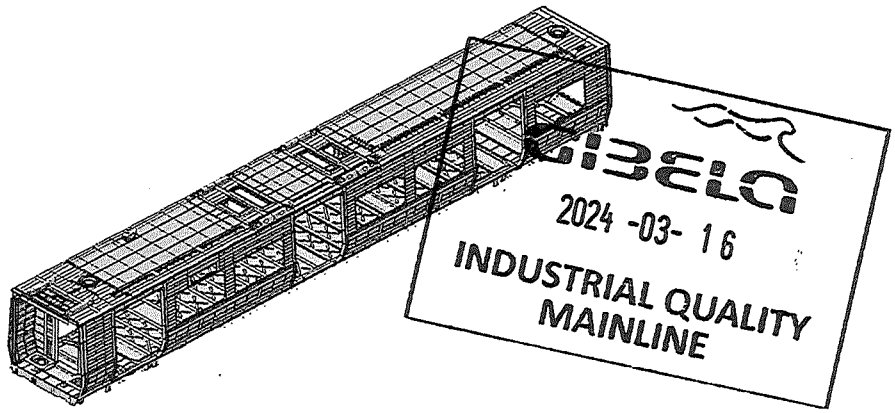
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	09/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Thanyani Mathegu	06/04/2018
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	2018/05/18
			CHECKER	Nosizo Pindela	2018/05/18
			REVISED BY	Ramokone Motama	2018/05/18
2	2018/06/18	MODIFICATION CONTENT	APPROVER	Itumeleng Modiba	2018/06/18
			CHECKER	Nosizo Pindela	2018/06/18
			REVISED BY	Ramokone Motama	2018/06/18
3	2018/12/12	Additional checkpoints	APPROVER	Itumeleng Modiba	2018/12/12
			CHECKER	Nosizo Pindela	2018/12/12
			REVISED BY	Ramokone Motama	2018/12/12
5	22/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	22/01/2019
			CHECKER	Nosizo Pindela	22/01/2019
			REVISED BY	Vanessa Ntuli	22/01/2019
6	2019/11/03	Record D1 and D2 on Self - Inspection	APPROVER	Itumeleng Modiba	2019/11/03
			CHECKER	Nosizo Pindela	2019/11/03
			REVISED BY	Nosizo Pindela	2019/11/03
10	21/08/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	21/08/2019
			CHECKER	Nosizo Pindela	21/08/2019
			REVISED BY	Nosizo Pindela	21/08/2019
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
20	19/04/2020	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	Mbhombhi 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	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
TS219	TC1	Jumbo 40081	17-03-24	SI.CB1210.322.V28	16

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

Car: TC1 & TC2 | NCR: | Work station: CB1210

Safety Related



1 - Documentation and Instruments

1.1 - Documentation Control

Document	Type of car: TC1	M1	M2	M3	M4	TC2	Revision	Obsevation	OK	NOK	Rework	Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30223319/3							28				N/A	17.03.24	17/03/24

1.2 - 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)
(30m) TAPE	GIBTP0102	13.11.24	✓		17.03.24	17/03/24
TURBIMAX2	32823-2	15.05.25	✓		17.03.24	
LASER TAPE	125425924	08.01.25	✓		17.03.24	

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	314018-740097	MIG	✓		17.05.24	17/03/24
ER 308 L	299687-7032	TIG	✓		17.03.24	

GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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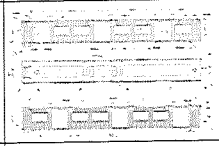
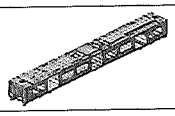
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Rework	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls,Endframes,Roof and Underframe)	DT00000284980	✓			17.03.24	
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓			17.03.24	
03		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			17.03.24	
04	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	**IND-SAL-WMS-016 e DTD0000210675**	✓			17.03.24	
05	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			17.03.24	
06		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			17.03.24	
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	✓			17.03.24	

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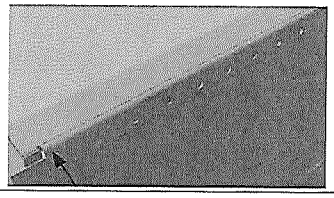
Welder traceability

Roof ring welds



END 1

LHS

Boiler maker (Name & Sign): LUNGA

Welder (Name & Sign): Keru K.

RHS

Boiler maker (Name & Sign): SEAN

Welder (Name & Sign): Thabang

END 2

LHS

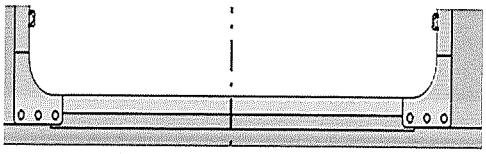
Boiler maker (Name & Sign): LUNGA

Welder (Name & Sign): Keru K.

RHS

Boiler maker (Name & Sign): SEAN

Welder (Name & Sign): Thabang



LHS

Boiler maker (Name & Sign): Lawrence

Welder (Name & Sign): Keru K.

RHS

Boiler maker (Name & Sign): Lawrence

Welder (Name & Sign): Thabang

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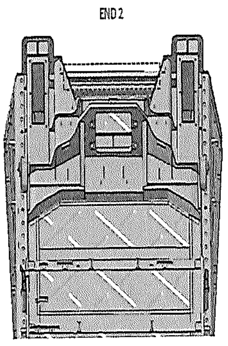
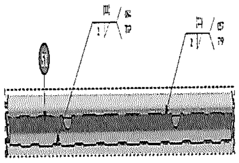
EUF Reinforcement Plates

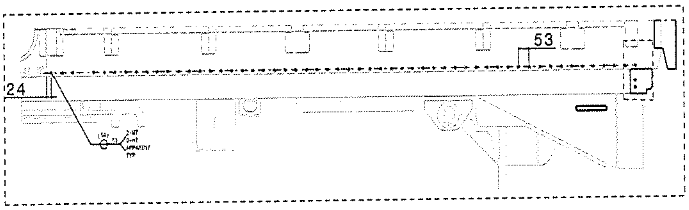




END 2

Boiler maker (Name & Sign): ____________

Welder (Name & Sign): ____________



FEDOLI

Operator: ____________

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GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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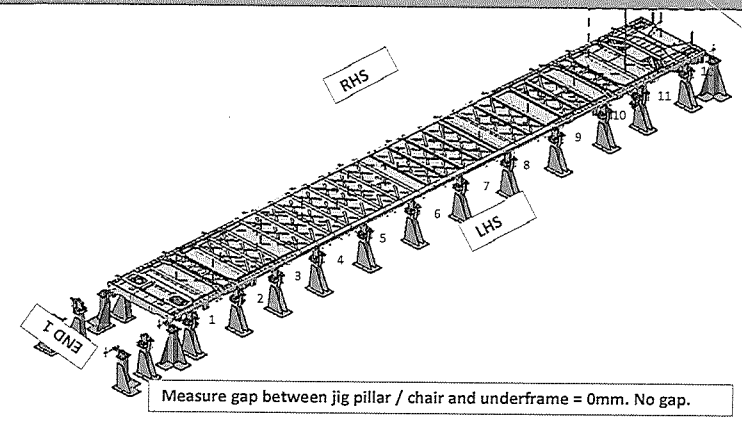
Specifications of Details for CBS measurement



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

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

After Loading Underframe and Clamping.

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

Signature Operations: Date: 17-03-24

After Welding.

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

Signature Industrial Quality: Date: 17/03/24

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GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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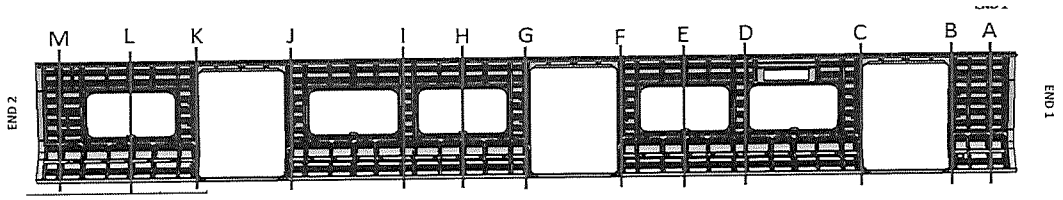
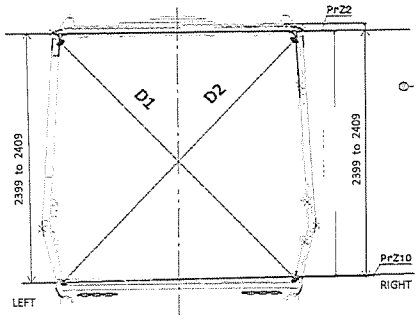
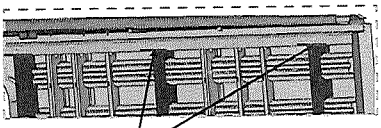
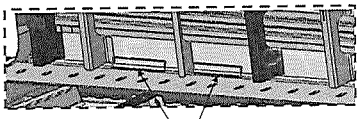
Specifications of Details for CBS measurement



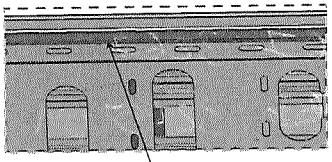




Measurement positions on roof rail and sidewall omega corner.



Measurement positions on sidewall and side sill corner.



Reinforcement area measurement positions on roof reinforcement area.

GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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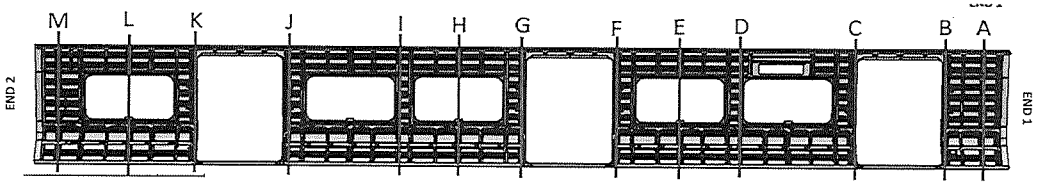
Specifications of Details for CBS measurement

BEFORE WELDING



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

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3268	3268	0	2405	2406	0
B	3266	3267	1	2406	2406	0
C	3267	3267	0	2405	2408	0
D	3270	3270	0	2406	2404	2
E	3269	3267	0	2406	2405	1
F	3266	3266	0	2403	2404	1
G	3267	3267	0	2406	2405	1
H	3268	3265	3	2406	2404	2
I	3269	3269	0	2406	2405	1
J	3267	3267	0	2406	2406	0
K	3266	3266	0	2405	2407	2
L	3268	3268	3	2406	2406	0
M	3267	3267	0	2406	2406	0

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GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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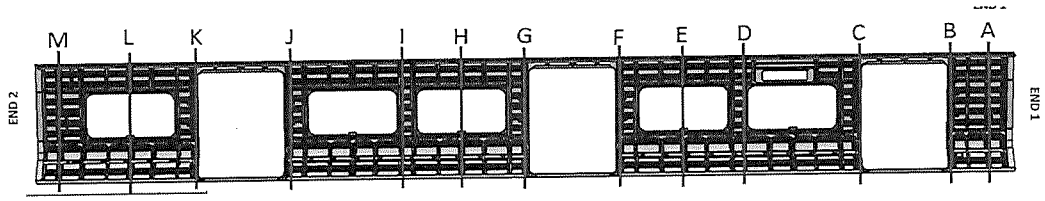
Specifications of Details for CBS measurement

AFTER WELDING



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

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3269	3269	0	2405	2405	0
B	3297	3297	0	2406	2406	0
C	3298	3298	0	2406	2406	0
D	3274	3271	3	2404	2406	2
E	3268	3267	1	2406	2406	0
F	3298	3298	0	2406	2405	1
G	3296	3296	0	2406	2405	1
H	3269	3265	4	2405	2404	1
I	3270	3271	1	2406	2406	0
J	3297	3296	1	2405	2406	1
K	3298	3297	2	2404	2406	2
L	3269	3267	2	2406	2405	1
M	3297	3297	0	2406	2406	0

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17.03.24

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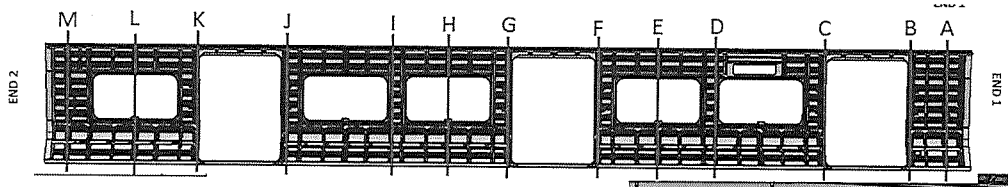
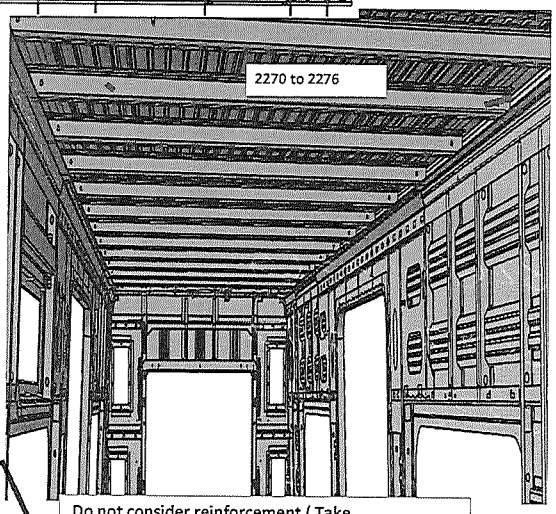
CBS measurement

BEFORE WELDING





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

2270 to 2276

2268 a 2274

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

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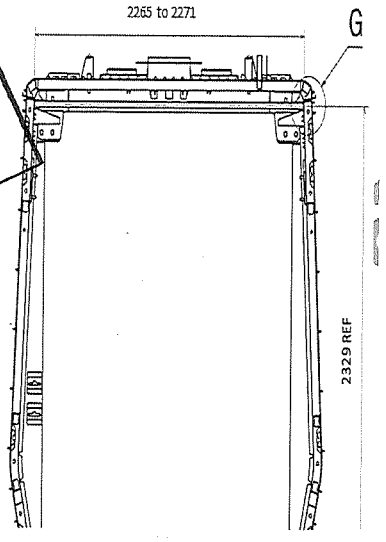

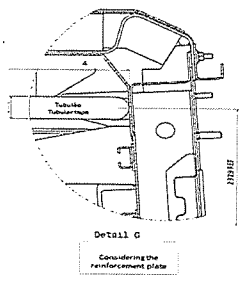

2265 to 2271

17.03.24

GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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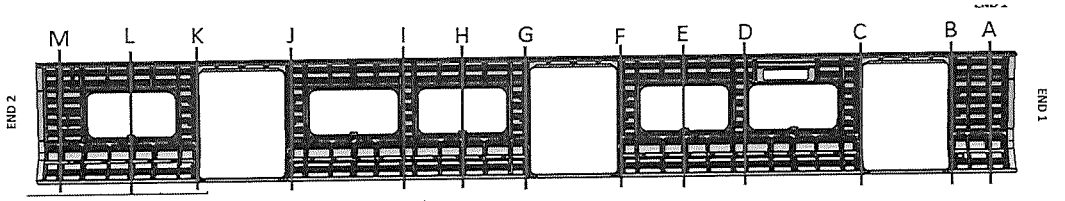
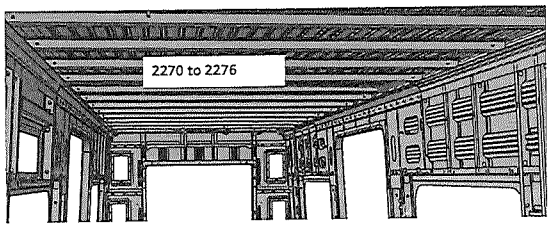
Specifications of Details for CBS measurement

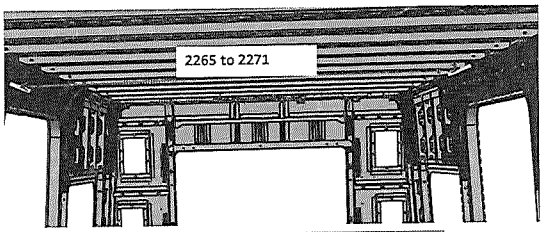
AFTER WELDING



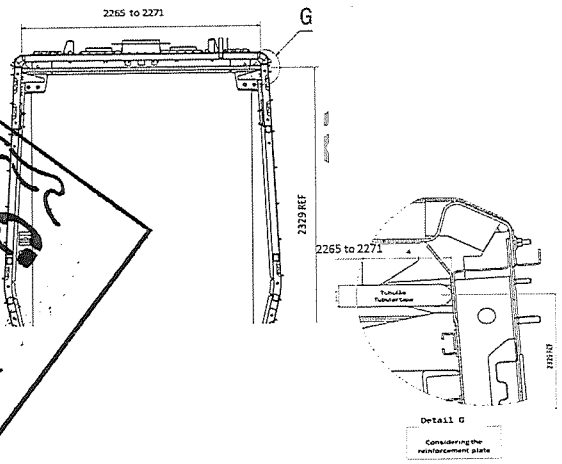
	2265 to 2271	2270 to 2276
A	N/A	2273
B	2268	N/A
C	2269	N/A
D	N/A	2276
E	N/A	2274
F	2267	N/A
G	2268	N/A
H	N/A	2273
I	N/A	2275
J	2268	N/A
K	2267	N/A
L	N/A	2274
M	2268	N/A



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



Take measurement close to radius (considering reinforcement)



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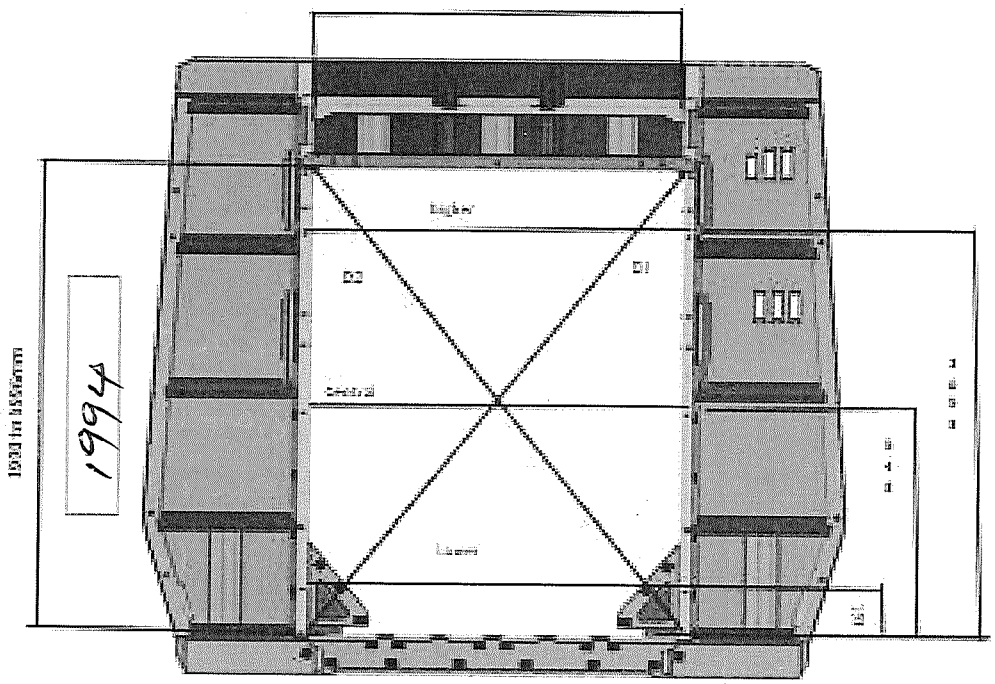
17.03.24

GIBELA	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



1380 to 1382 mm

DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension	1381	D1	2418
Central Dimension	1380	D2	2417
Lower Dimension	1380	D1-D2	1

17.03.24

GIBELA
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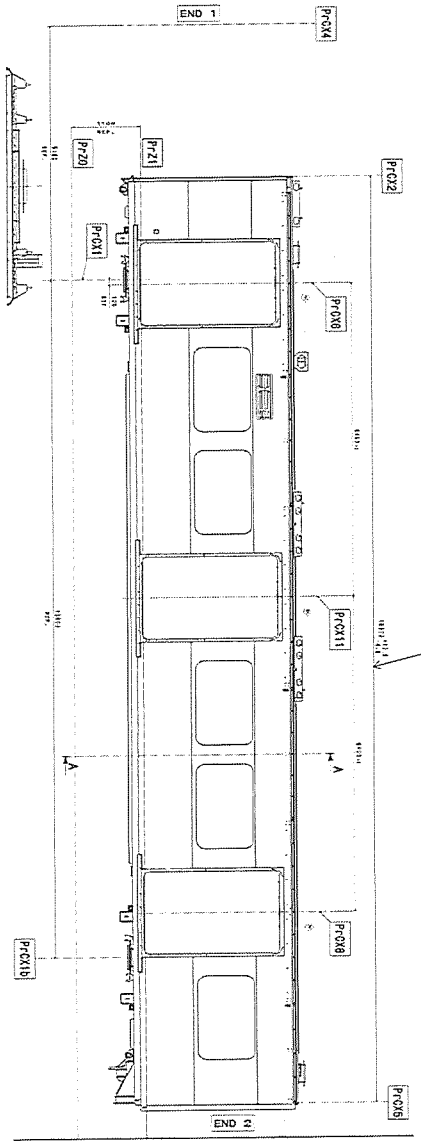
Specifications of Details for CBS measurement



	LEFT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	18870 +10.5 -4.5	18872

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

CBS
2024-03-16
INDUSTRIAL QUALITY
MAINLINE
1A

17.03.24

Dye penetrant test

Dye-penetration test to be performed by quality personnel

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

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	NOK	Rework	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX				17.9.24	

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Self Inspection - Final Result

			Is Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)	DATE	NAME	SIGNATURE
HOLD POINT		GO	If activities are not complete, the missing activities must not impact the next stage!	17/03/24	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	17/03/24	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)		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

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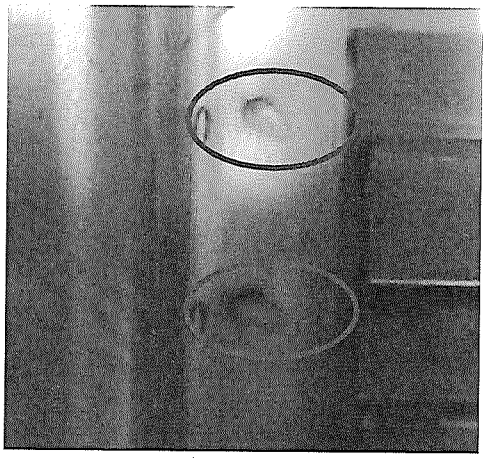
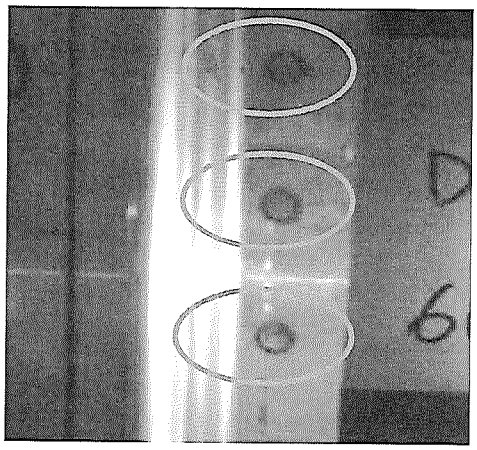
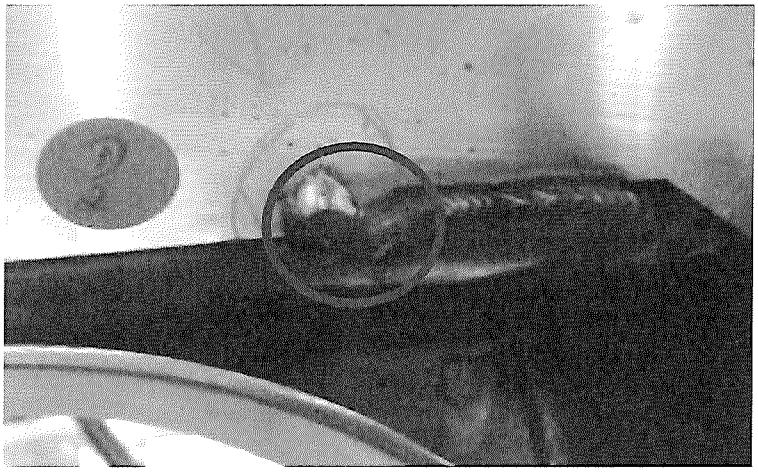
ANNEXURE A: Spot Welding Quality Acceptance Standard





ANNEXURE B: Arc Welding Quality Acceptance Standard



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

MOUNTING	DRAWING	DESCRIPTION	STATION	TC1	M4	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY?
DTR30223319/2	AAD0001241033	Carshell Assembly TC	CB1220	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	Thanyani Mathegu	06/04/2018
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	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	[illegible]	24/01/2019
6	13/03/2019	Added D1 and D2 on Self - Inspection Remove 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	
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline 10.2.6	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	Mulaudzi Mpho	
			REVISED BY	Mulaudzi Mpho	
25	20/02/2022	New Baseline 10.2.6	APPROVER	Mbhombhi Collins	20/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Mbhombhi Collins	14/06/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
27	17/10/2022	Addition of traceability for sealant application and welding.	APPROVER	Mbhombhi Collins	17/10/2022
			CHECKER	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	
28	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	
29	28/10/2023	Addition of bracket quantity	APPROVER	Ngobeni Tyson	28/10/2023
			CHECKER	Mathapo Kelebone	
			REVISED BY	Amogelang Mohlampe	

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
TS219	TC1	Asanda 40894	18-5-24	SI.CB1220.323.V29	17

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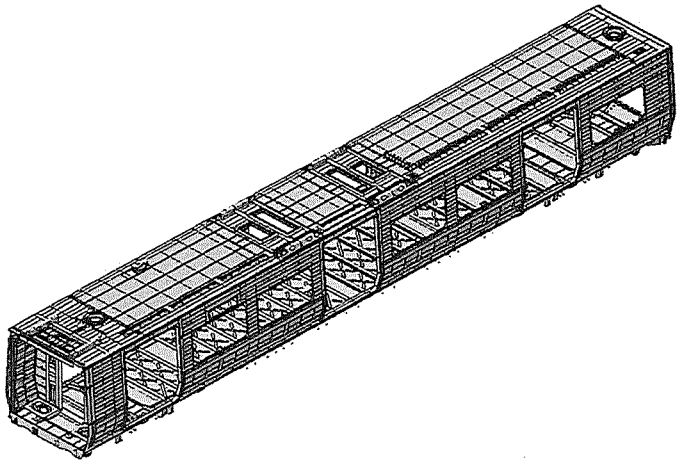
Carro Car: TC1, TC2	NCR:	Work station: CB1220

Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car: TC1	M1	M2	M3	M4	TC2	Revision	Obsevation	OK	NOK	Rework	Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30223319/2	√						29	28-10-2023	X		N/A	18-03-24	18/3/24

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)
measuring tape	GIBELA0231	30/03/2024	X		18-03-24	18/3/24
Tubular	32 8453	15/03/2025	X		18-03-24	18/3/24

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	231057	MIG	X		18-03-24	18/3/24

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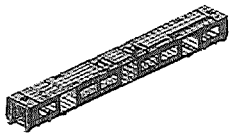
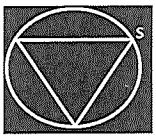
II - Control Activities of Prodution

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Rework	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	✓			18-03-24	18/03/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓			18-03-24	18/03/24
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	**IND-SAL-WMS-016 e DTD0000210675**	✓			18-03-24	18/03/24
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			18-03-24	18/03/24
05		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			18-03-24	18/03/24
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.	✓			18-03-24	18/03/24
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	✓			18-03-24	18/03/24
08	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 - Max (1) Min-Max 25% - 80%	Sealant Batch No: V70-0 Exp Date: 7/03/24 Actuals Temparature: 22 Humidity: 61	✓			18-03-24	18/03/24

GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
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09	NA	Verification of sealant application in certain regions in the drawing.	AAD0001241033	✓			18/03/24	18/03/24
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**	✓			18/03/24	18/03/24

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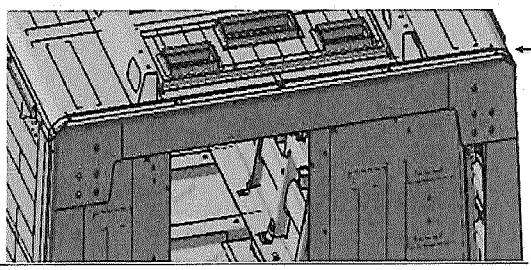
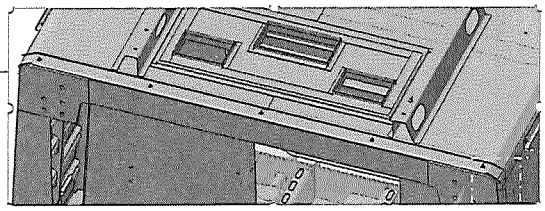


END 1
SEALANT

OPERATOR (Name & sign): Mthokozisi

OPERATOR (Name & sign): Mthokozisi



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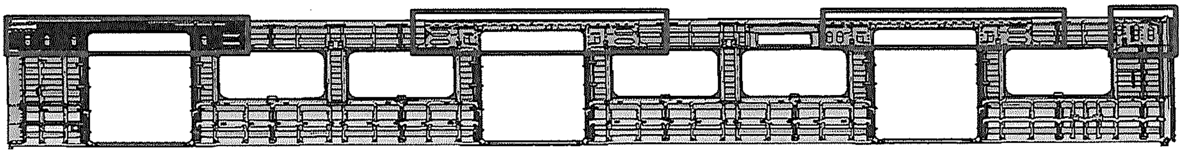
GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29 Date- 28/10/2023	**Project: PRASA** **SI.CB1220.323.V29**

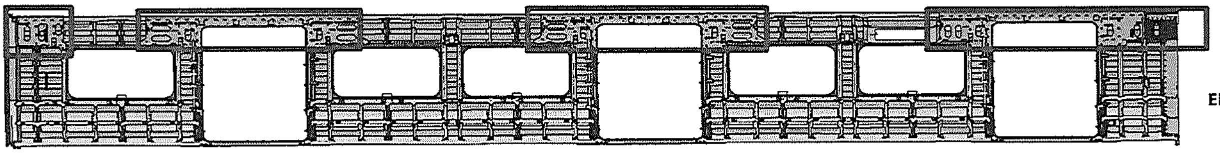
RHS

A **B** **C** **D** **E**

END 1  **END 2**

LHS

E **D** **C** **B** **A**

END 2  **END 1**

REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): Nokulunga	Xulu
B	Operator (Name&sign): Nokulunga	[illegible]
C	Operator (Name&sign): [illegible]	[illegible]
D	Operator (Name&sign): Sibiya	Thulani
E	Operator (Name&sign): Sibiya	Thulani

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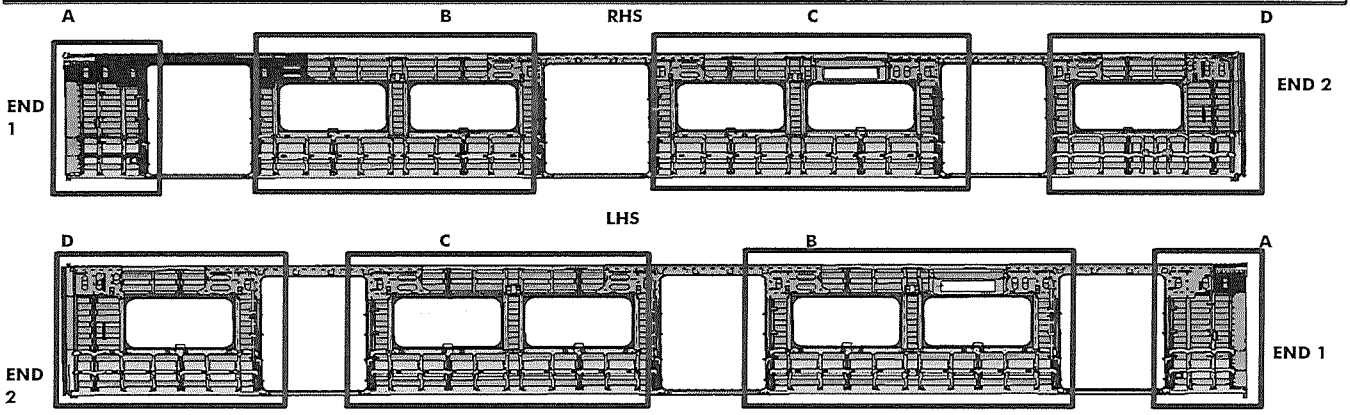

BRACKETING

INSTALLATION

C-RAILS:	Operator:	Priscilla
	Operator:	
DOOR MECHANISMS:	Operator:	Mthokozisi
	Operator:	
TAPPING PADS	Operator:	Mthoko
	Operator:	

INSTALLATION & VERIFICATION

SEAT & LUGGAGE BRACKETS:	Operator:	Levi
	Operator:	
SEAT BRACKETS VERIFICATION:	Operator:	Levi
	Operator:	

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WELDING

AREA		LHS	RHS
A	(Seat brackets) : Operator (Name&sign):		
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):		
B	(Seat brackets) : Operator (Name&sign):	LINDO	LINDO
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	LINDO	LINDO
C	(Seat brackets) : Operator (Name&sign):		
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	LINDO	LINDO
D	(Seat brackets) Operator (Name&sign):		
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):		

ENDS

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

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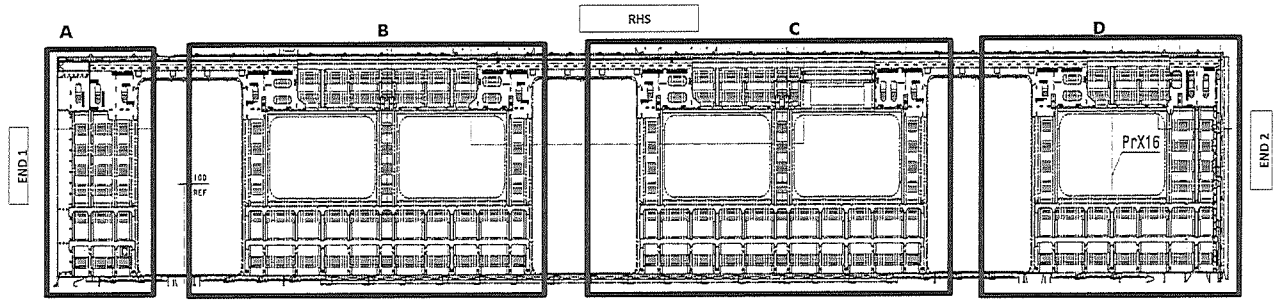
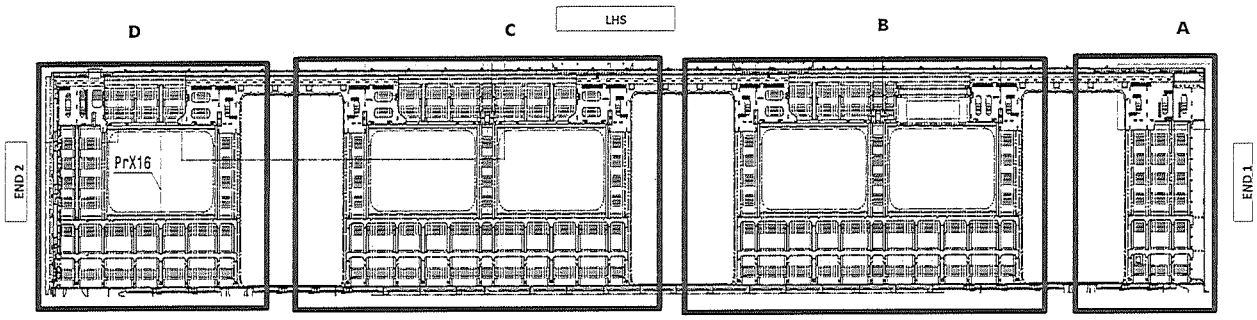
TC BRACKET INSTALLATION

RHS



LHS



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: ASHWIN

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: ASHWIN

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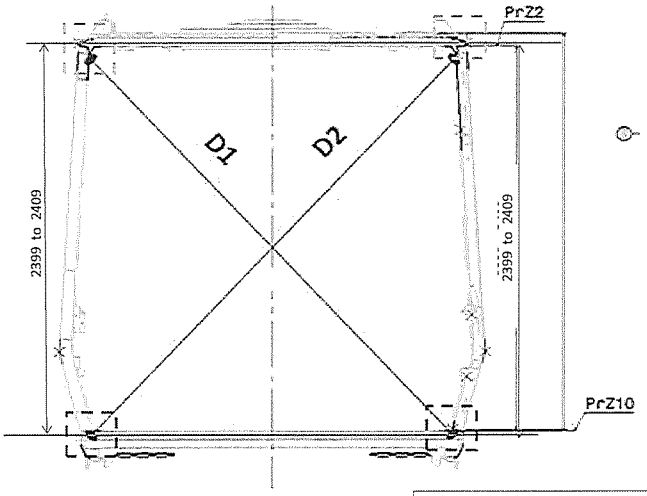
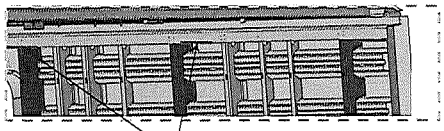
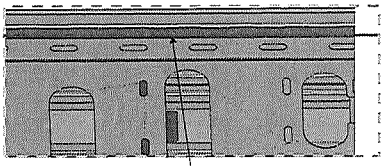


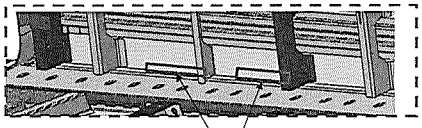
Take measurement close to radius



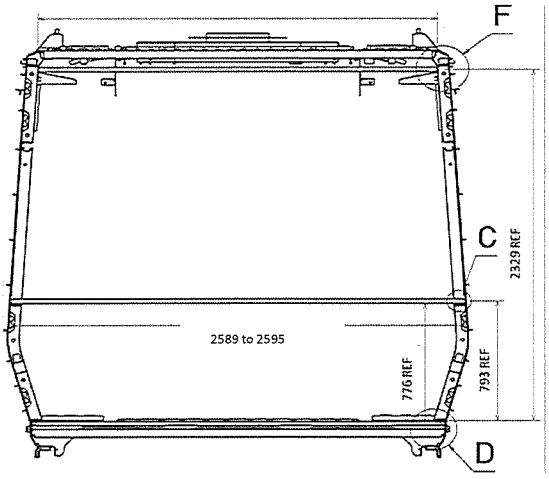
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.

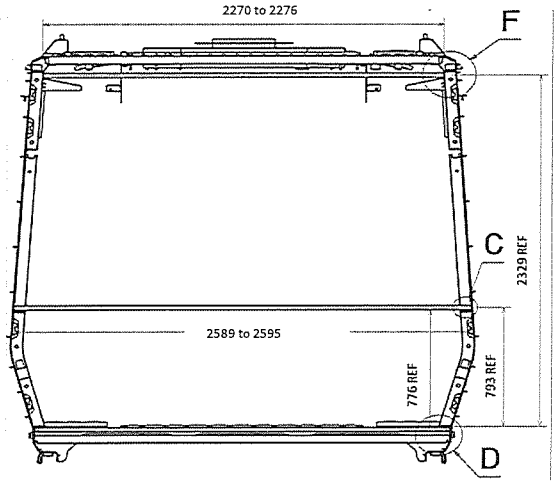


Measurement positions on sidewall and side sill corner.

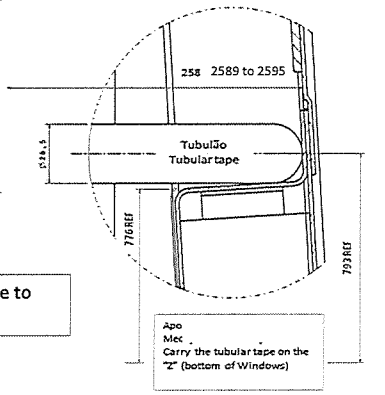


Take measurement close to radius

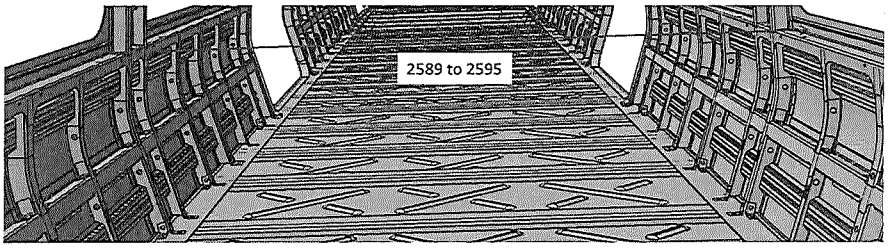
GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
		Date- 28/10/2023	SI.CB1220.323.V29

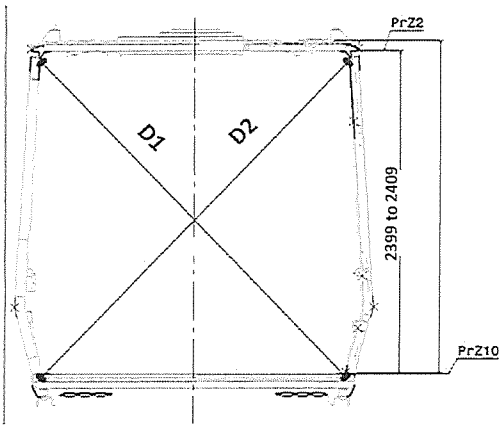


Take measurement close to radius



Detail C





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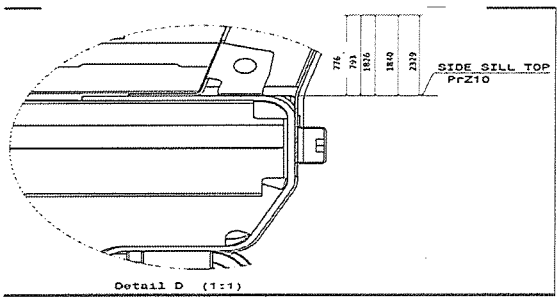
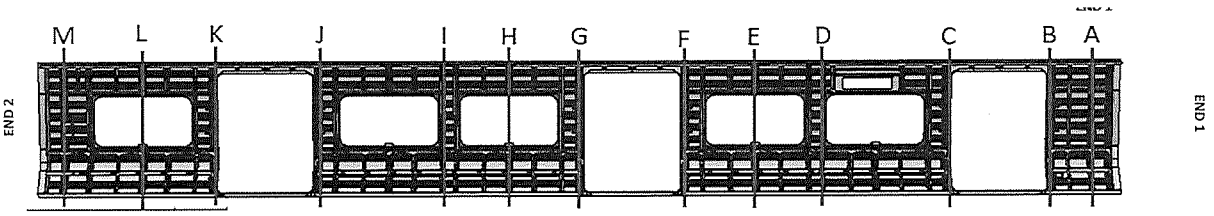


Detail D (1:1)

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



BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3296	3291	5	
B	3295	3291	4	
C	3298	3296	2	
D	3266	3267	1	
E	3268	3265	3	
F	3296	3295	1	
G	3300	3300	0	
H	3266	3265	1	
I	3268	3266	2	
J	3293	3295	2	
K	3296	3294	1	
L	3269	3267	2	
M	3295	3295	0	

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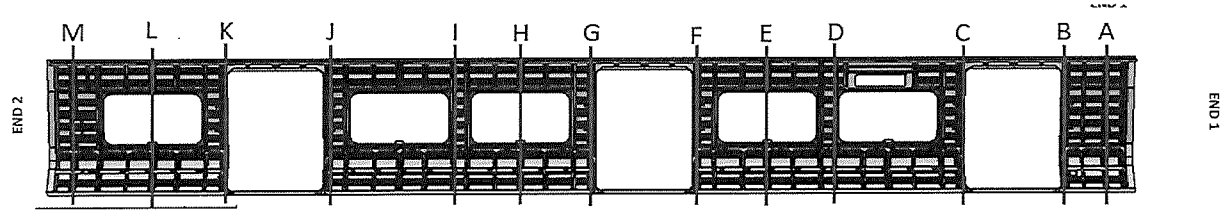

AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3292	3296	4	2591
B	3296	3291	5	2589
C	3298	3291	7	2595
D	3269	3263	6	2589
E	3263	3266	3	2589
F	3292	3296	4	2593
G	3298	3300	2	~~33~~ 2595
H	3263	3264	1	2595
I	3267	3267	0	2592
J	3294	3294	0	2591
K	3299	3298	1	2591
L	3267	3266	1	2589
M	3293	3294	1	2594

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FT 03-24

GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
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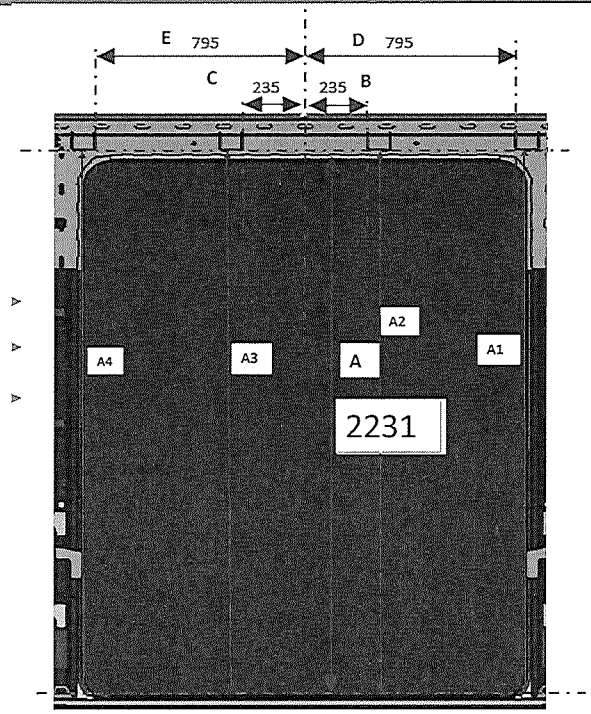
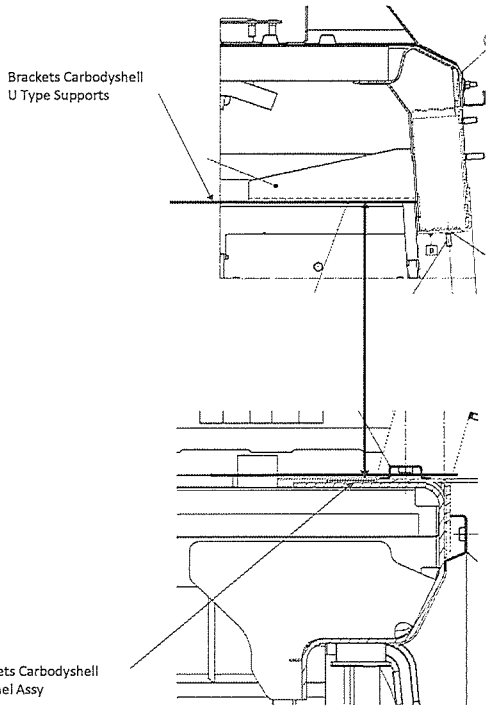
Specifications of Details for CBS measurement





DOOR 1 - LHS

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

DOOR 2 - LHS

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

DOOR 3 - LHS

	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	794
E	794 to 796	795

DOOR 1 - RHS

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

2024 -03-

INDUSTRIAL QUALITY
MAINLINE

DOOR 2 - RHS

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

DOOR 3 - RHS

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

18-03-24

GIBELA

DTR30223319/2 Carshell Assembly TC

Rev. 29

Date- 28/10/2023

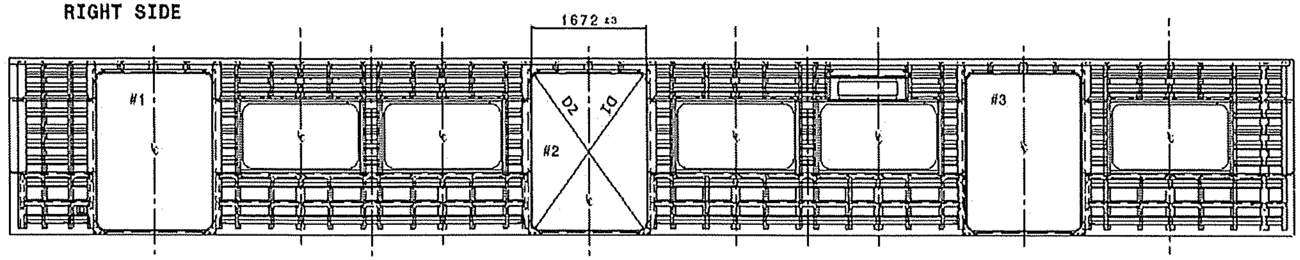
Project: PRASA

SI.CB1220.323.V29

Specifications of Details for CBS measurement

RIGHT SIDE

End #1



End #2

Doors length - 1672 ±3mm

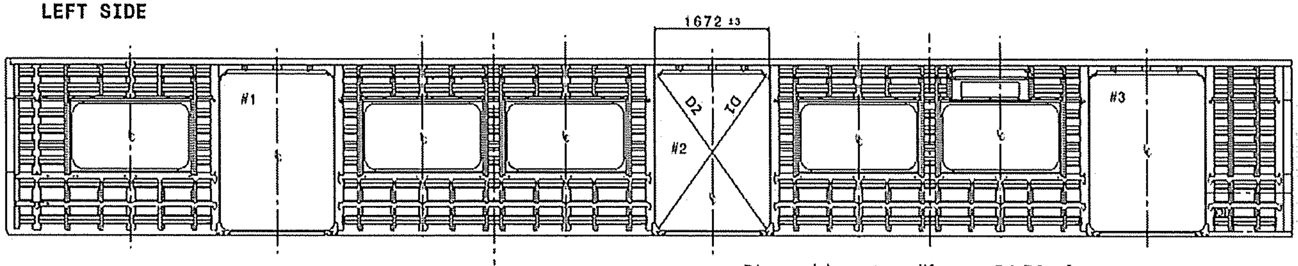
	#1	#2	#3
HIGHER DIMENSION	1672	1674	1673
CENTRAL DIMENSION	1671	1673	1671
LOWER DIMENSION	1671	1672	1671

Doors diagonal D1-D2 maximum difference ≤4 mm

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

LEFT SIDE

End #2



End #1

Vão de Portas - 1672 ±3mm

Doors length - 1672 ±3mm

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

Diagonal de portas - diferença D1-D2 ≤4 mm

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

GIBELA
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

18-03-24

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

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	NOK	Rework	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX					

GIBELO
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

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

Self Inspection - Final Result

Is 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!	18-03-24	SANDA Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	18/03/24	Ntokozo 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":

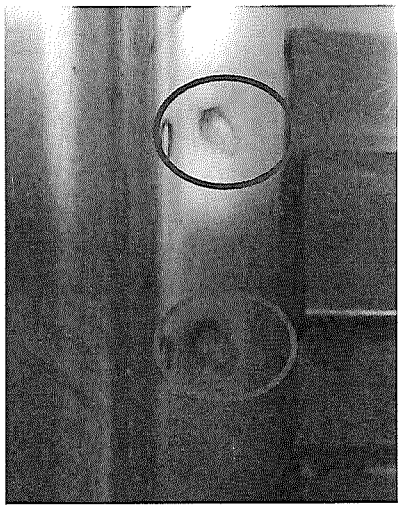
Item	Description	Action	Responsible	Due date	Status

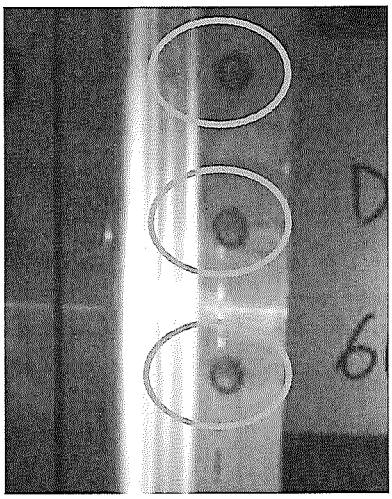
Operations

GIBELA
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

Quality

ANNEXURE A: Spot Welding Quality Acceptance Standard



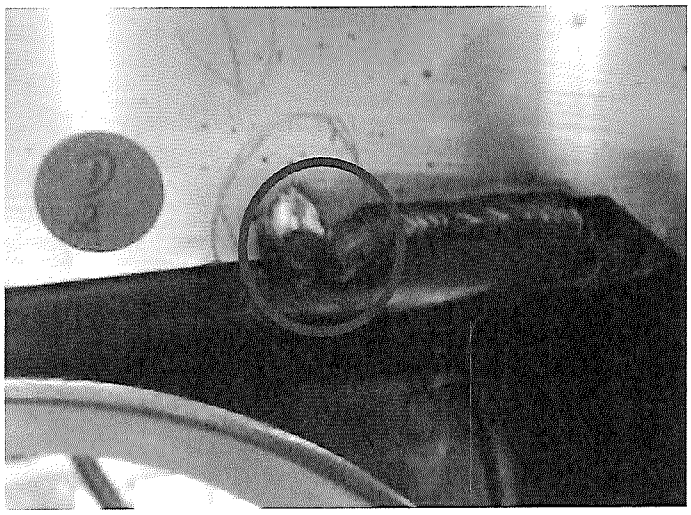


GIBELA

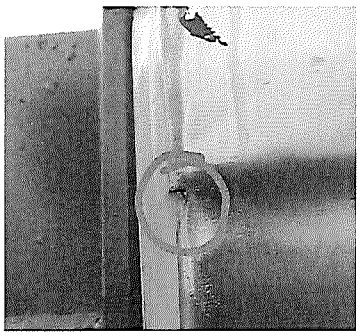
2024 -03- 13

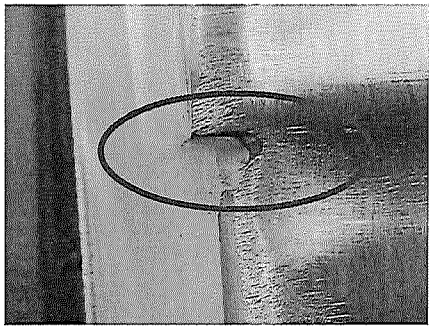
INDUSTRIAL QUALITY
MAINLINE

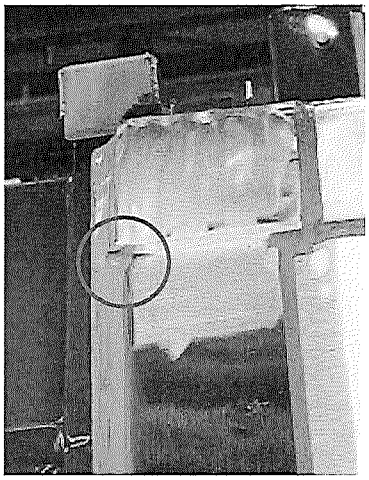
ANNEXURE B: Arc Welding Quality Acceptance Standard



ANNEXURE B: Sealant







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

MOUNTING	DRAWING	DESCRIPTION	STATION	TC1	M4	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY ?
DT00000223319	AAD0001238963	DT00000223319 Carshell Assembly TC	CB1230	X					X	PRA.CB1230.DT0000012 23319.V20	YES

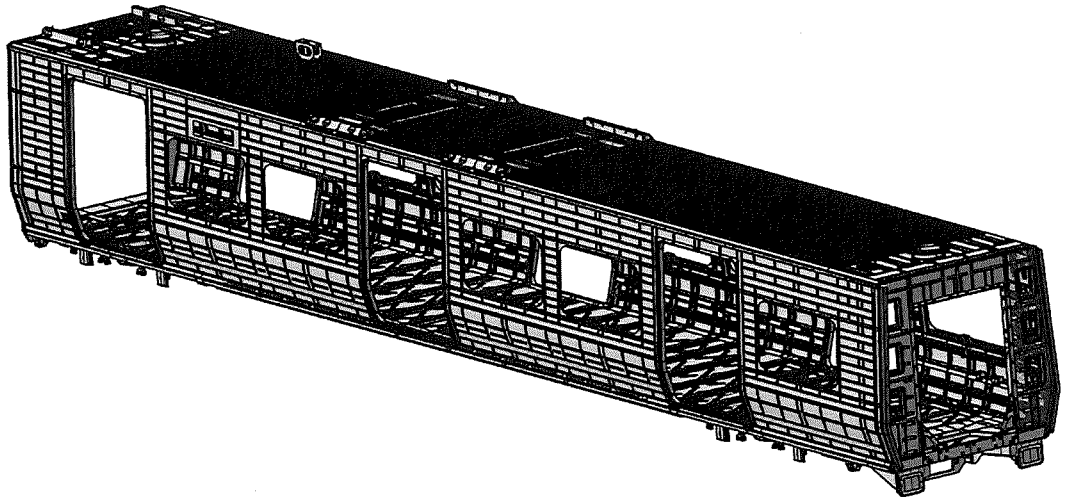
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	06/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Thanyani Mathegu	06/04/2018
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	30/5/2018
			CHECKER	Nosizo Pindela	30/5/2018
			REVISED BY	Nosizo Pindela	30/5/2018
2	05/07/2018	Certain dimensional checks moved to CB1220	APPROVER	Itumeleng Modiba	05/07/2018
			CHECKER	Nosizo Pindela	05/07/2018
			COMPILER	Ramokone Motama	05/07/2018
5	24/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	24/01/2019
			CHECKER	Nosizo Pindela	24/01/2019
			REVISED BY	Vanessa Ntuli	24/01/2019
6	13/03/2019	Added Twist and Door Bracket Measurements Remove Door Measurements	APPROVER	Itumeleng Modiba	13/03/2019
			CHECKER	Nosizo Pindela	13/03/2019
			COMPILER	Nosizo Pindela	13/03/2019
7	17/09/2019	Added Cab Fire Barrier Flatness Measurements	APPROVER	Itumeleng Modiba	17/09/2019
			CHECKER	Nosizo Pindela	17/09/2019
			COMPILER	Nosizo Pindela	17/09/2019
10	20/09/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	20/09/2019
			CHECKER	Nosizo Pindela	20/09/2019
			COMPILER	Nosizo Pindela	20/09/2019
15	28/01/2021	New Baseline 10.2.6	APPROVER	Timothy Maimela	28/01/2021
			CHECKER	Bongane Masina	28/01/2021
			COMPILER	Bongane Masina	28/01/2021
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	19/04/2021
			COMPILER	Bongane Masina	19/04/2021
25	20/04/2022	New Baseline change 10.3.1	APPROVER	Collins Mbhombhi	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 Mbhombhi	14/06/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
27	26/07/2022	Threashold measurements addition	APPROVER	Collins Mbhombhi	26/07/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
28	17/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mbhombhi	17/10/2022
			CHECKER	Ntokozo Zwane	
			COMPILER	Amogelang Mohlampe	
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokozo Zwane	
			COMPILER	Amogelang Mohlampe	
30	06/11/2023	Added traceability for thresholds for boiler makers and welders	APPROVER	Tyson Ngobeni	06/11/2023
			CHECKER	Andani Muthelo	
			COMPILER	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
219	TC1	Zonele 482774	19/03/24	SI.CB1230.324.V28	14

GIBELA	DT00000223319 Carshell Assembly TC	Rev. 30 Date- 06/11/2023	**Project: PRASA** **SI.CB1230.324.V29**

Carro Car:	NCR:	Work station: **CB1230**

Safety Related



1 - Documentation and Instruments

1.1 - Documentation Control

Document	Type of car TC1	M1	M2	M3	M4	TC2	Revision	Obsevation	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
DT00000223319							30		X		N/A	19/03/24	~~19/03/24~~ 19/03/24

1.2 - 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)
Tubular Combinationsquare	2261S GIBCS0137	2024/08/07 2024/10/04	X X		19/03/24 19/03/24	~~19/03/24~~ 19/03/24 ~~19/03/24~~ 19/03/24
Tape measurement	GIBTA0394	2024/04/05	X		19/03/24	~~19/03/24~~ 19/03/24

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308LSi	E231067	MIG	X		19/03/24	~~19/03/24~~ 19/03/24
GR i/4361	299687	TIG	X			~~19/03/24~~ 19/03/24

GIBELA	DT00000223319 Carshell Assembly TC	Rev. 30	Project: PRASA
		Date- 06/11/2023	SI.CB1230.324.V29

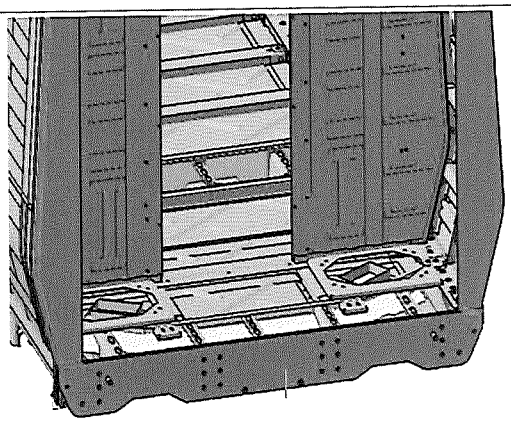
II - Control Activities of Prodution

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			19/03/24	19/03/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	X			19/03/24	19/3/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 DTD0000210675	X			19/03/24	19/3/24
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			19/03/24	19/3/24
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			19/03/24	19/3/24
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 - Max (1) Min-Max 25% - 80%	Sealant Batch No: 1SR 70-03 Exp Date: ___/05/25 Actuals Temparature: 27,1°C Humidity: 35%	X			19/03/24	19/03/24
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			19/03/24	19/03/24

2024-02-15

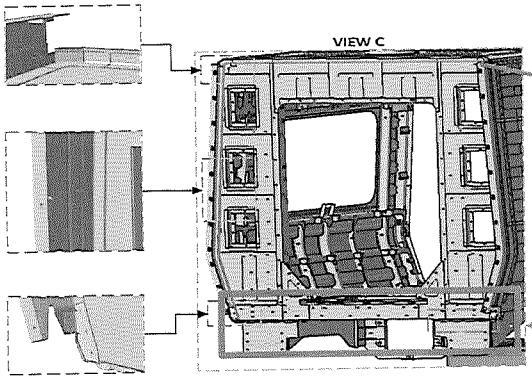
VIEW A



END 1 SEALANT Levato

OPERATOR (Name & sign): ~~Leray~~

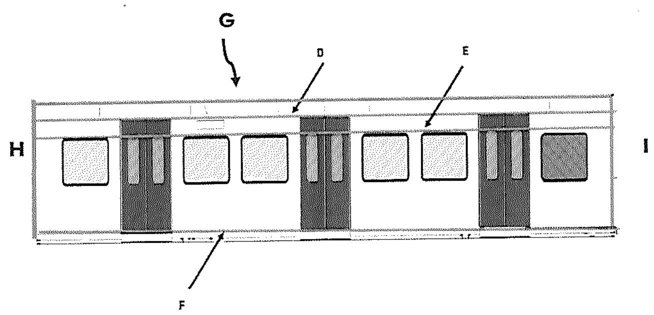
OPERATOR (Name & sign): Leray Levato



OPERATOR (Name&sign): KHOOY

OPERATOR (Name&sign):

OPERATOR (Name&sign):



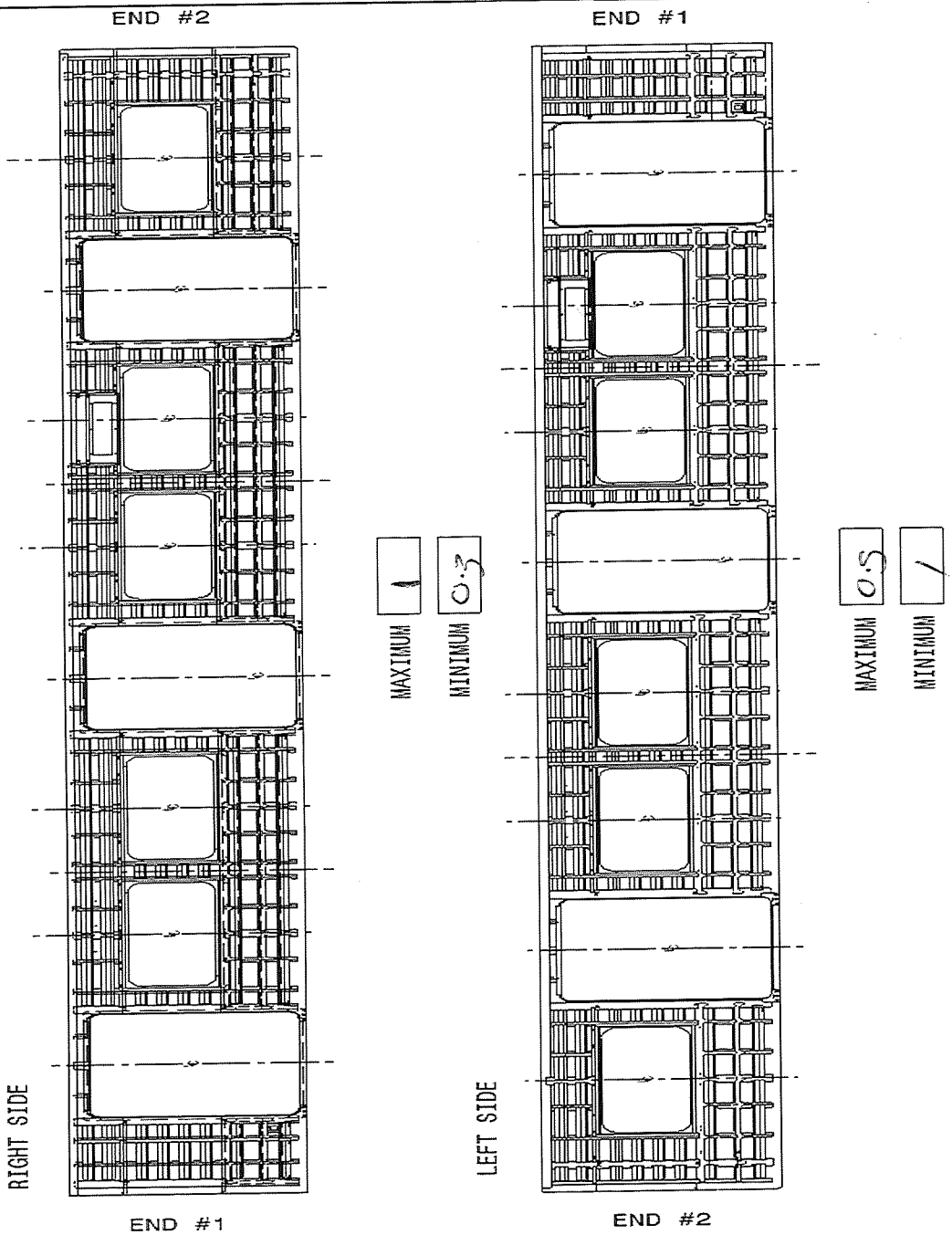
Area D,E,F,G,H,I

	LHS	RHS
Operator (Name & sign) :	F, G,D	F,G,D
Operator (Name & sign) :	KHOSY	KHOSY
Operator (Name & sign) :	F,I,H,E	F,I,H,E
Operator (Name & sign) :	TSHENOLO	TSHENOLO
Operator (Name & sign) :		
Operator (Name & sign) :		

2024-02-15
QUALITY
Signature ....

	DT00000223319 Carshell Assembly TC	Rev. 30	Project: PRASA
		Date- 06/11/2023	SI.CB1230.324.V29

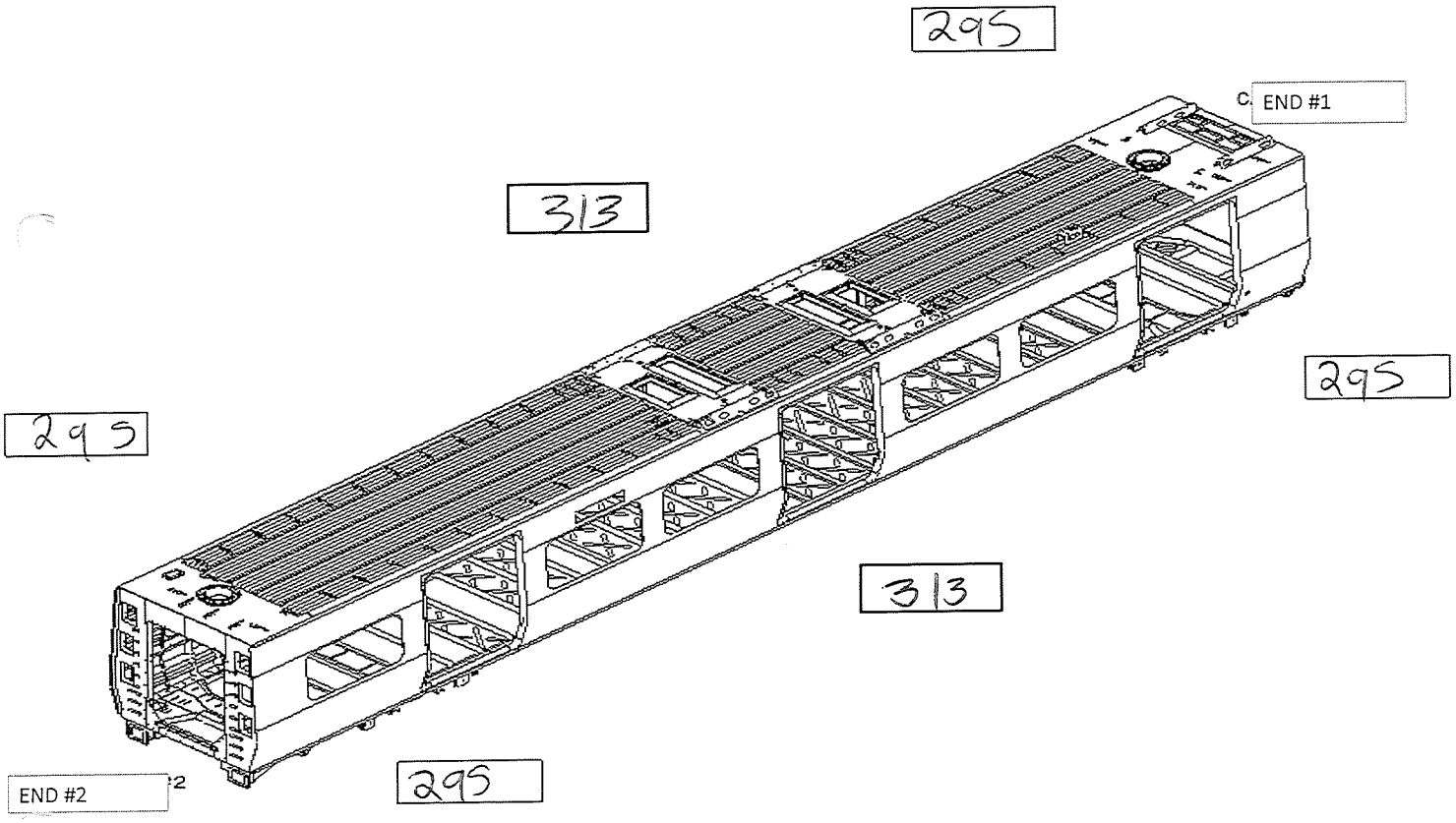
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



GIBELA	DT00000223319 Carshell Assembly TC	Rev. 30	Project: PRASA
		Date- 06/11/2023	SI.CB1230.324.V29

Specifications of Details for CBS measurement CB1230

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

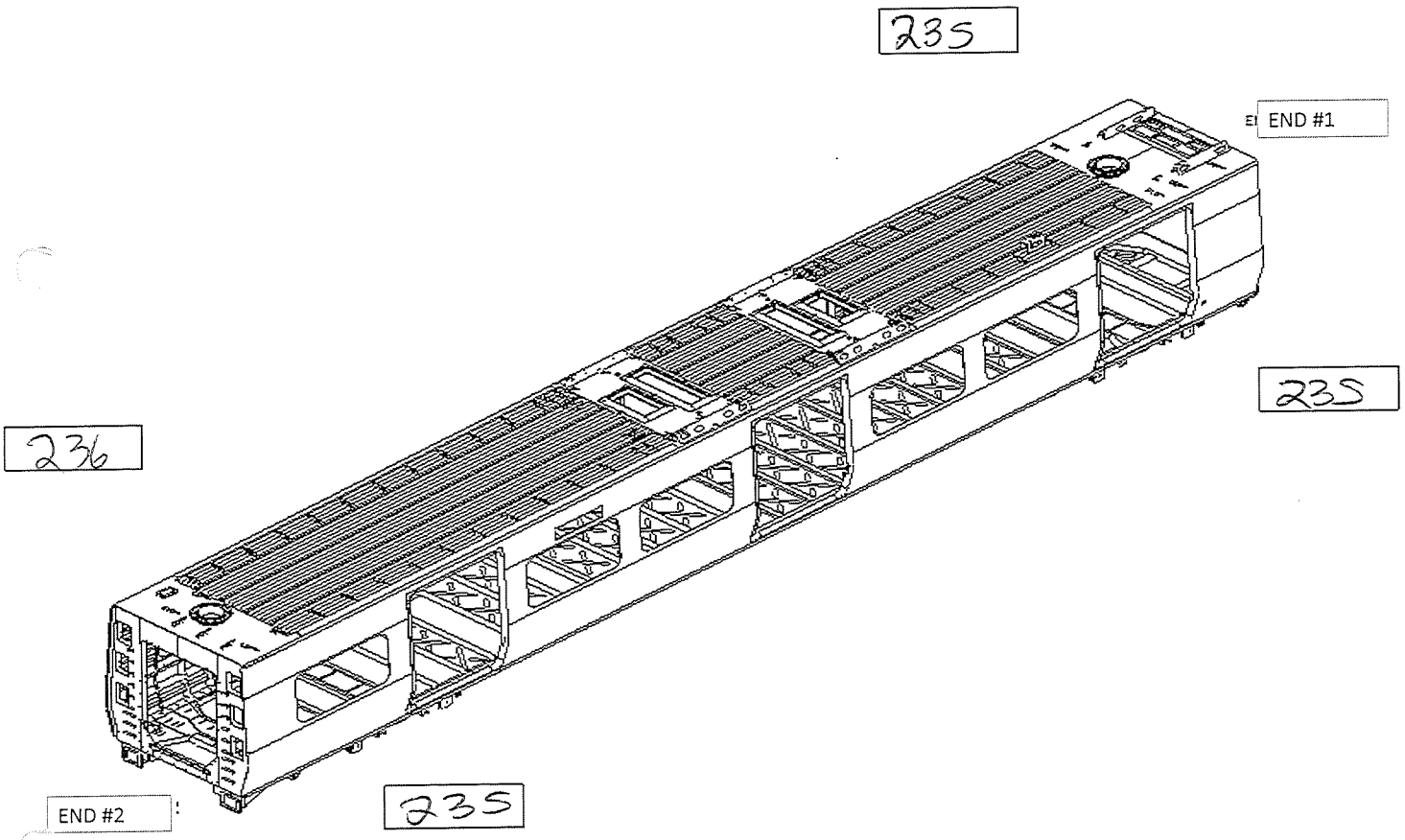


MEASURED CAMBER VALUES	
RIGHT	15
LEFT	15

GIBELA	DT00000223319 Carshell Assembly TC	Rev. 30	Project: PRASA
		Date- 06/11/2023	SI.CB1230.324.V29

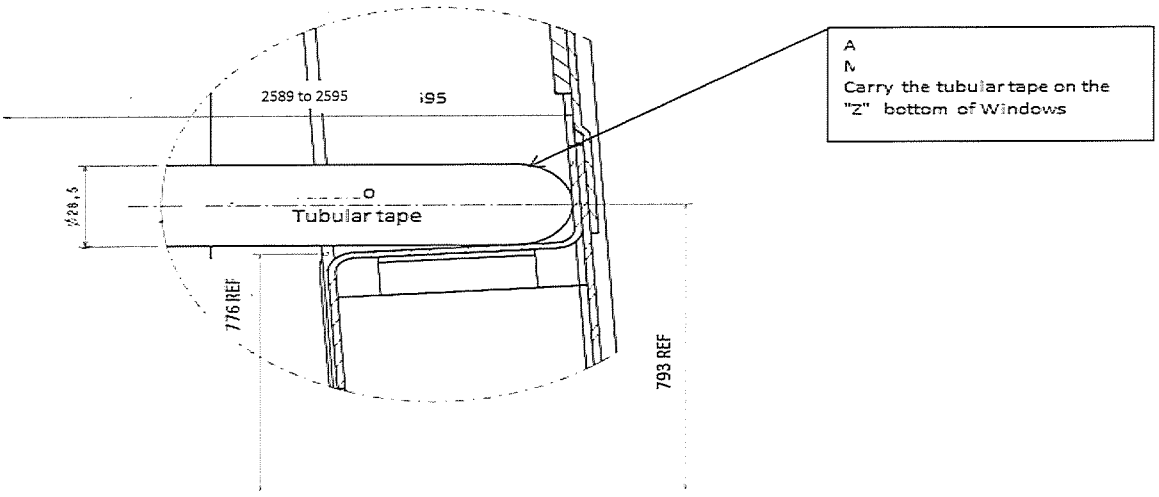
Specifications of Details for CBS measurement CB1230

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

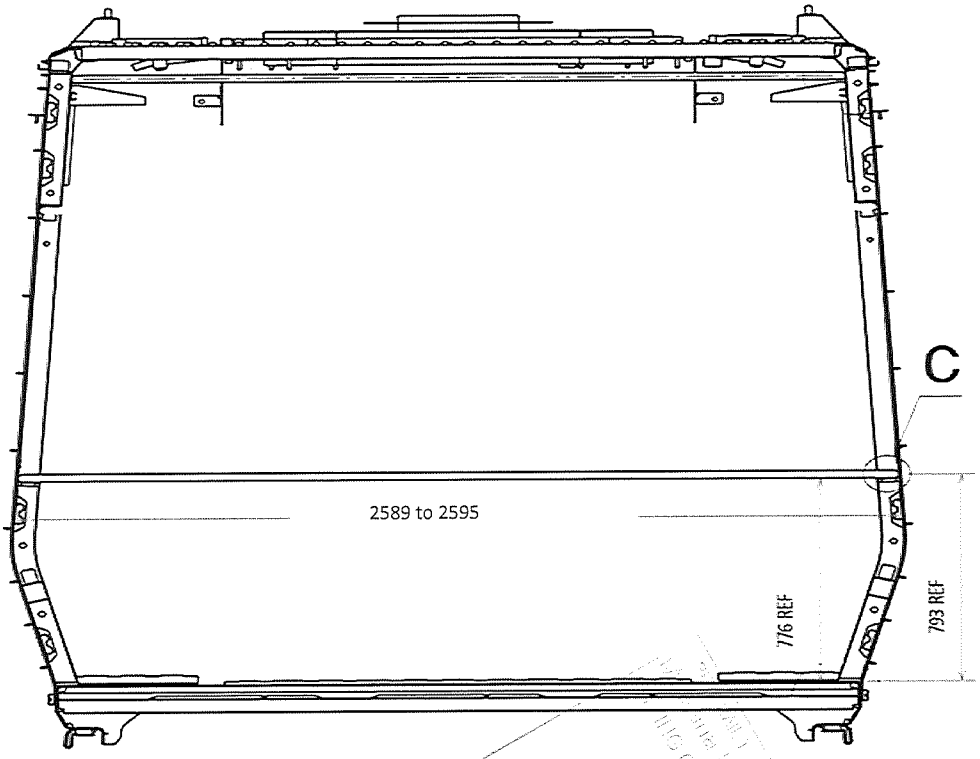


MEASURED TWIST VALUES END 1		MEASURED TWIST VALUES END 2	
LATERAL	1	LATERAL	1
LONGITUDINAL	0	LONGITUDINAL	0

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

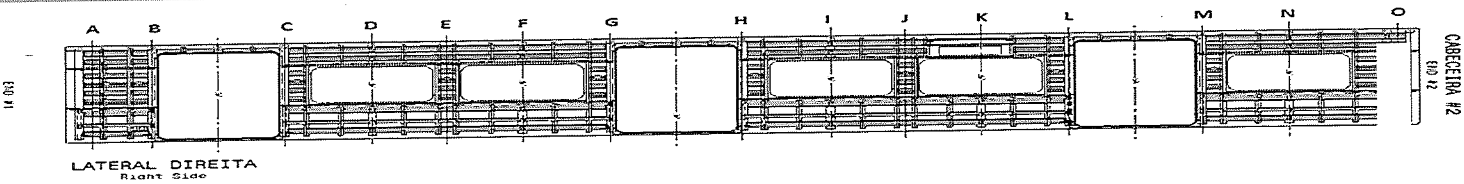


Detail C



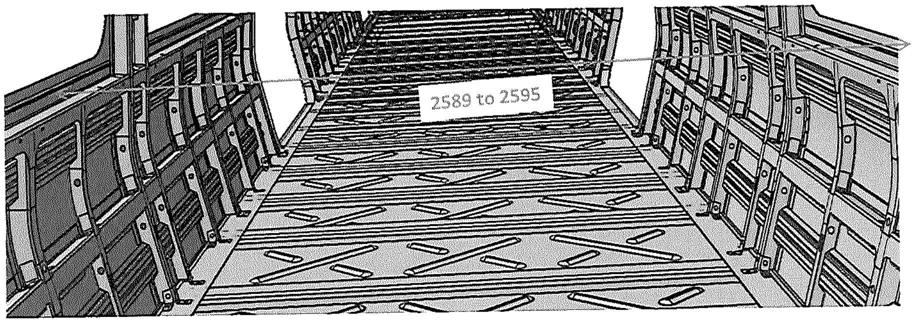
GIBELA	DT00000223319 Carshell Assembly TC	Rev. 30	Project: PRASA
		Date- 06/11/2023	SI.CB1230.324.V29

Specifications of Details for CBS measurement



2589 to 2595mm

A	2590
B	2595
C	2593
D	2592
E	2590
F	2591
G	2592
H	2590
I	2593
J	2592
K	2595
L	2594
M	2594
N	2590
O	2589



Threashold verification

Nominal value :38

Door 1		Door 2		Door 3	
L	R	L	R	L	R
38	39	38	38	39	39

Door 4		Door 5		Door 6	
L	R	L	R	L	R
39	38	39	38	38	39

BOILER MAKER: Mmathapelo Mkhabela

WELDER: Zanele

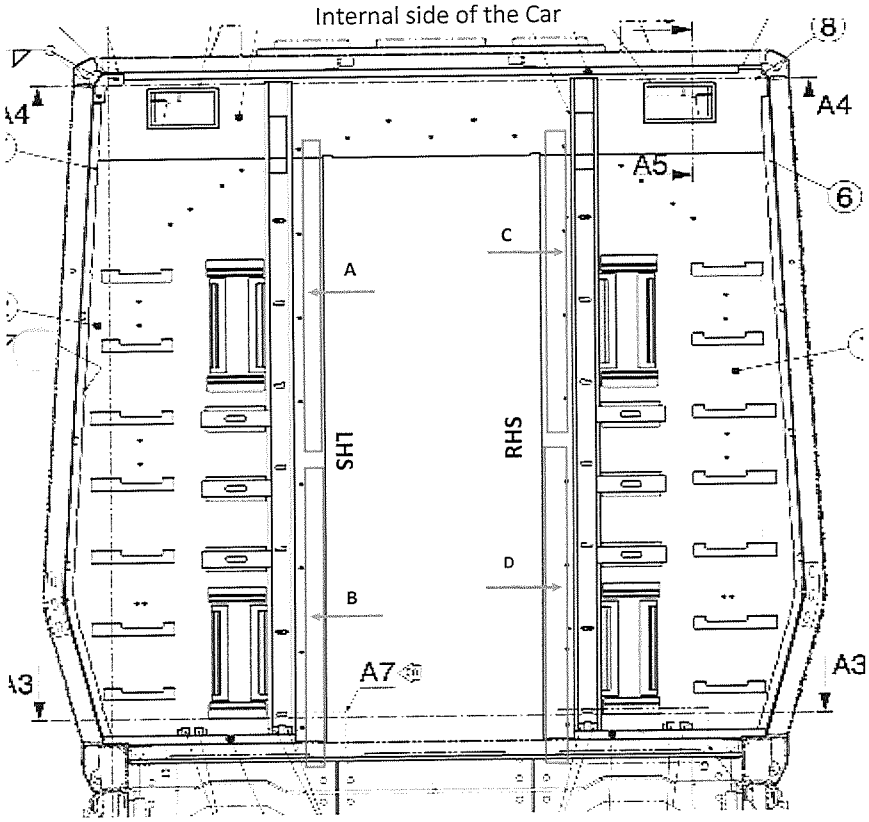
GIBELA	DT00000223319 Carshell Assembly TC	Rev. 30	Project: PRASA
		Date- 06/11/2023	SI.CB1230.324.V29

Specifications of Details for CBS measurement

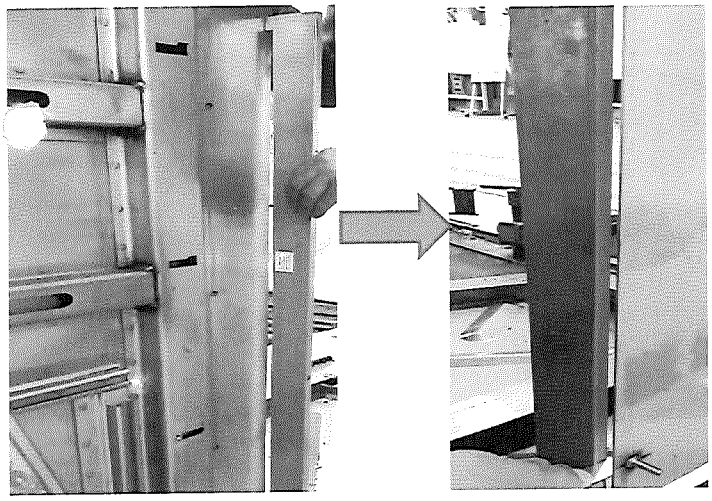
Measure the flatness on the Cab Fire Barrier after installation and welding. Measure positions A, B,C and D using 1000mm flatness ruler and taper gauge.

Specified Maximum Flatness deviation on Cab Fire Barrier = 2mm

Internal side of the Car



	Measured Values		
	Minimum	Maximum	Deviation
A	9.1	9.5	0.4
B	9.2	9.8	0.6
C	10.4	10.9	0.5
D	10.4	10.5	0.1



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					

GIBELA	DT00000223319 Carshell Assembly TC	Rev. 30	Project: PRASA
		Date- 06/11/2023	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!	19/03/24	Zonele Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	25/03/24	Andani 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)	19/03/24	Andani Industrial Quality	

In case of "NO GO", describe blocking problems

Paint Spots not cleared : closed

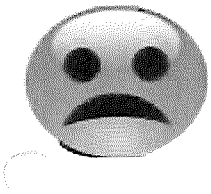
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

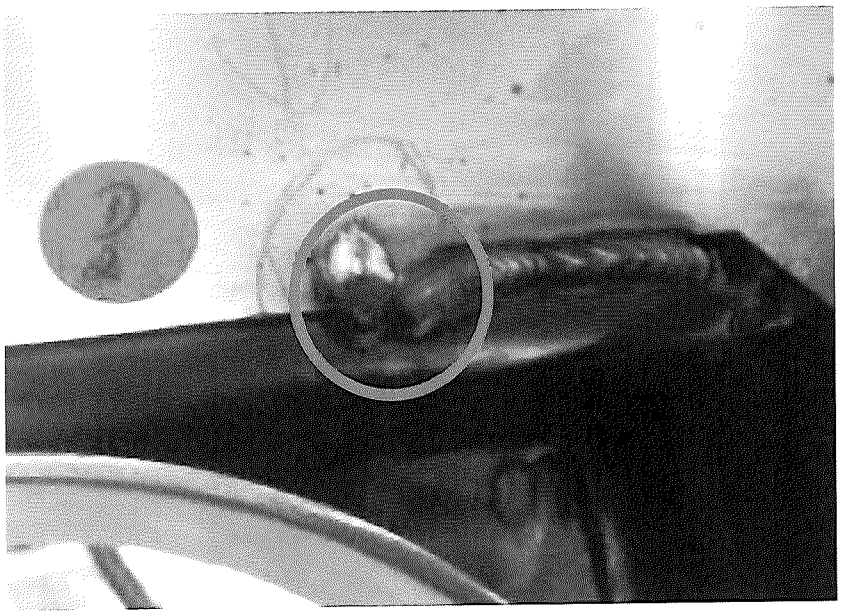
Item	Description	Action	Responsible	Due date	Status

Operations

Quality

ANNEXURE A: Arc Welding Quality Acceptance Standard





ANNEXURE B: SEALANT