APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

APPLICATION REFERENCE

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

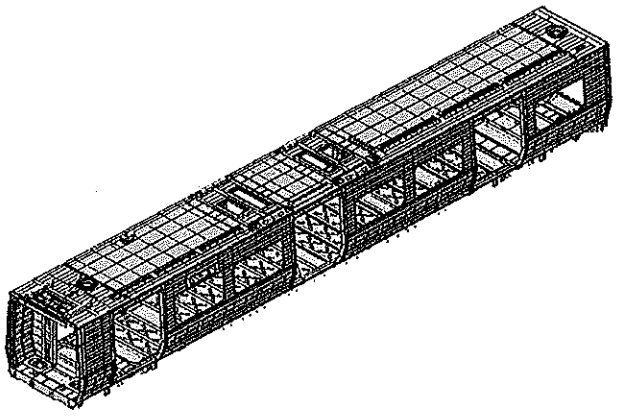
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	09/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Thanyani Mathegu	06/04/2018
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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
209	TC2	LUNGA 471497	05/02/24	SI.CB1210.322.V28	16

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

Car: TC1 & TC2	NCR:	Work station: CB1210

Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK	N.A.	N.C.	Signature/Date (Manufacturing)	Signature/Date (Quality)
	TC1	MT	M2	M3	M4	TC2							
DTR30223319/3						✓			✓		N/A		05/02/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

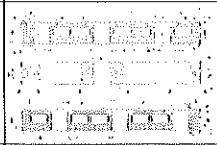
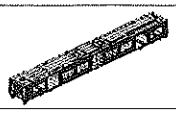
Instruments	Validation	Calibration or Verification Validation Date	OK	N.A.	Signature/Date (Manufacturing)	Signature/Date (Quality)
TUBULAR	22713	04/10/23	✓		05/02/24	
30M TAPE	GIBTP0084	23/03/31	✓		05/02/24	2/24
LASER TAPE	125425924	08/01/24	✓		05/02/24	

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	N.A.	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	327730-74791 (LOT)	MIG	✓		05/02/24	2/24
ER 309 LSI	318394	MIG	✓		05/02/24	

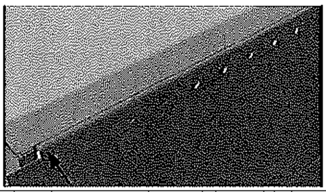
GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	SI.CB1210.322.V28

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	N/A	Defect	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verificotion of correct parts loaded (Sidewalls,Endframes,Roof and Underframe)	DT00000284980	✓			05/02/24	05/02/24
02	N/A	Carshell free of significant flows which compromise the appearance or functionality.	DTD0000210675	✓			05/02/24	05/02/24
03		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			05/02/24	05/2/24
04	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	**IND-SAL-WMS-016 e DTD0000210675**	✓			05/02/24	05/2/24
05	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			05/02/24	05/2/24
06		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			05/02/24	05/2/24
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	✓			05/02/24	05/2/24

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

Welder traceability

Roof ring welds



LHS

Boiler maker (Name & Sign): [illegible] Welder (Name & Sign): [illegible]

RHS

Boiler maker (Name & Sign): [illegible] Welder (Name & Sign): [illegible]

END 1

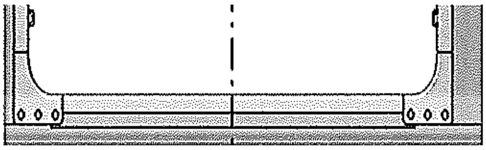
LHS

Boiler maker (Name & Sign): [illegible] Welder (Name & Sign): [illegible]

RHS

Boiler maker (Name & Sign): [illegible] Welder (Name & Sign): [illegible]

END 2



LHS

Boiler maker (Name & Sign): GERALD

Welder (Name & Sign): [illegible]

RHS

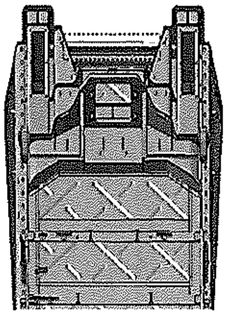
Boiler maker (Name & Sign): GERALD

Welder (Name & Sign): [illegible]

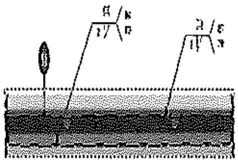
GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	SI.CB1210.322.V28

EUF Reinforcement Plates

END 2



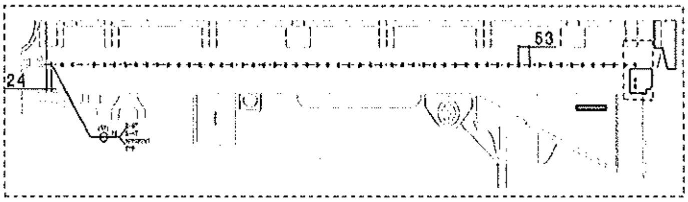
Underneath the CAR



END 2

Boiler maker (Name & Sign): JUSTICE

Welder (Name & Sign): Thabang

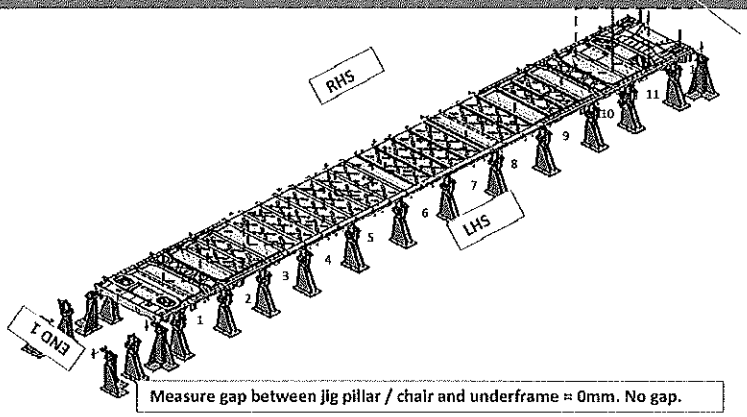


FEDOLI

Operator: LAWRENCE

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

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	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	0	0	0	0	0	0

Signature Operations: Date: 05/02/24

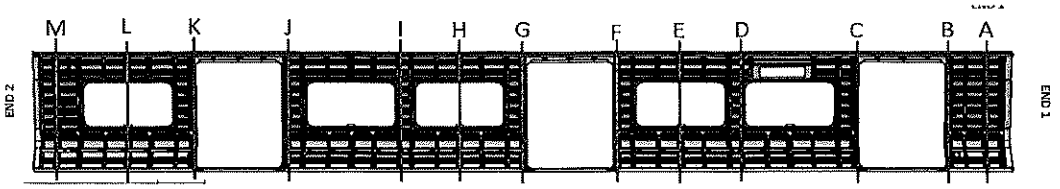
After Welding.

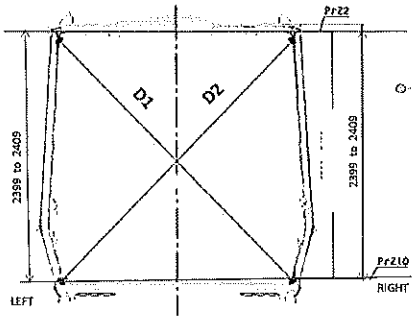
	1	2	3	4	5	6	7	8	9	10	11	12
Left Hand Side	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	0	0	0	0	0	0

Signature Industrial Quality: Date 05/02/24

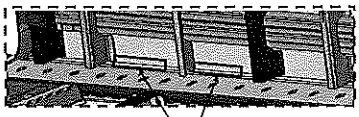
GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	SI.CB1210.322.V28

Specifications of Details for CBS measurement

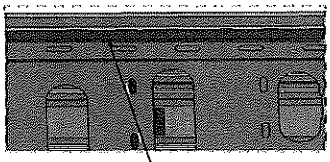




Measurement positions on roof rail and sidewall omega corner.



Measurement positions on sidewall and side sill corner.

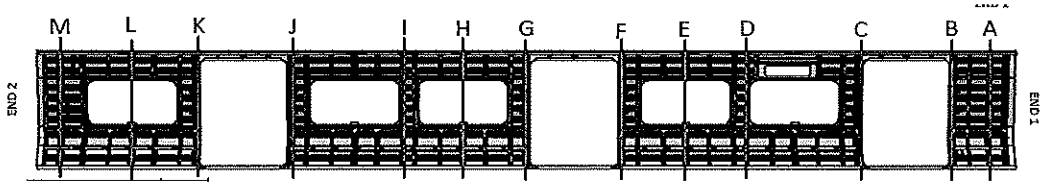


Reinforcement area measurement positions on roof reinforcement area.

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

Specifications of Details for CBS measurement

BEFORE WELDING



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

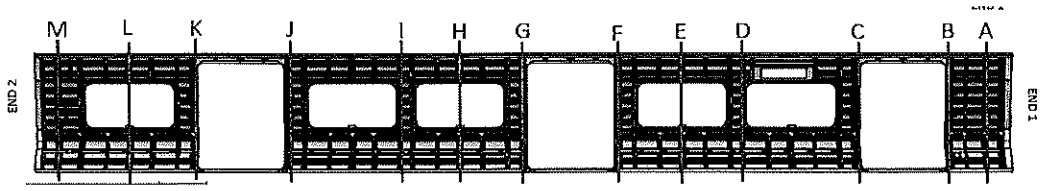
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3269	3269	0	2404	2405	1
B	3268	3268	0	2405	2406	1
C	3269	3270	1	2406	2406	0
D	3268	3267	1	2403	2405	2
E	3266	3266	0	2404	2406	2
F	3268	3266	2	2405	2404	1
G	3267	3268	1	2406	2406	0
H	3266	3268	2	2405	2405	0
I	3267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

05/02/24

GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	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 ≤ 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	2404	2404	0
B	3295	3295	0	2406	2405	1
C	3294	3296	2	2403	2404	1
D	3266	3266	0	2406	2406	0
E	3265	3265	0	2405	2403	2
F	3295	3295	0	2404	2404	0
G	3296	3295	1	2407	2405	2
H	3265	3266	1	2406	2408	2
I	3266	3266	0	2404	2405	1
J	3295	3295	0	2403	2404	1
K	3296	3294	2	2406	2405	1
L	3265	3266	1	2405	2405	0
M	3295	3295	0	2408	2407	1

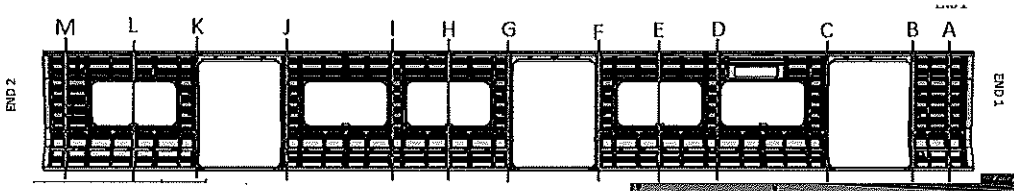
10/10

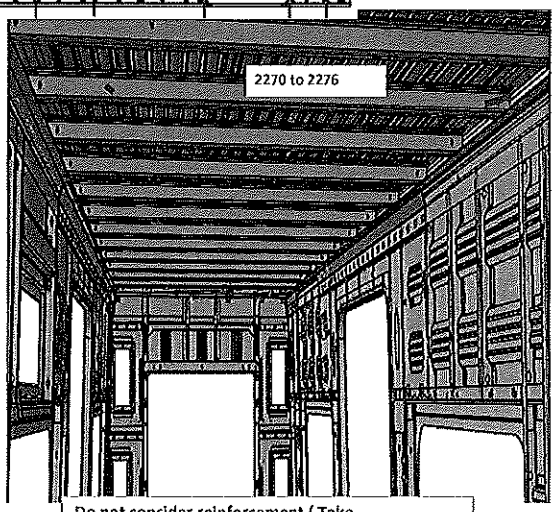
05/02/24

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

CBS measurement

BEFORE WELDING



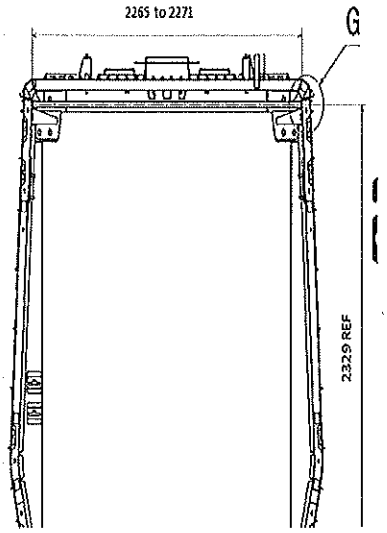


Do not consider reinforcement (Take measurements top area of zee profile

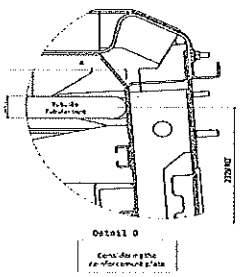
2270 to 2276

2268 a 2274

A	2276
B	2273
C	2275
D	2276
E	2275
F	2272
G	2274
H	2277
I	2277
J	2272
K	2270
L	2273
M	2271



2265 to 2271

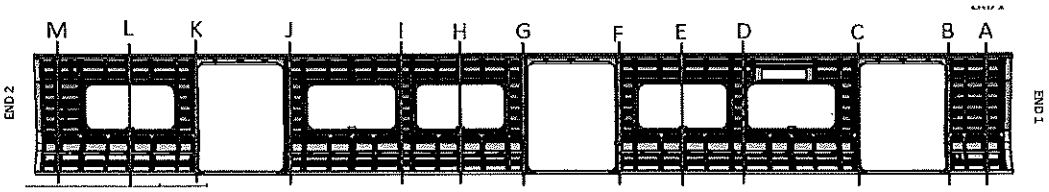


05/02/24

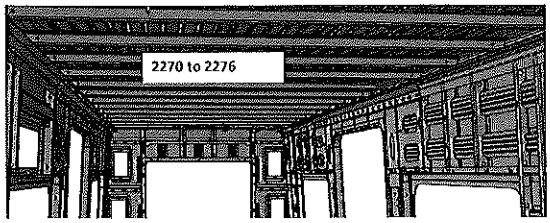
GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	SI.CB1210.322.V28

Specifications of Details for CBS measurement

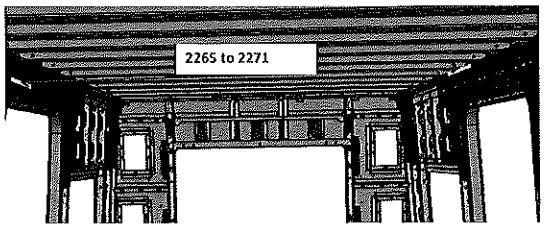
AFTER WELDING



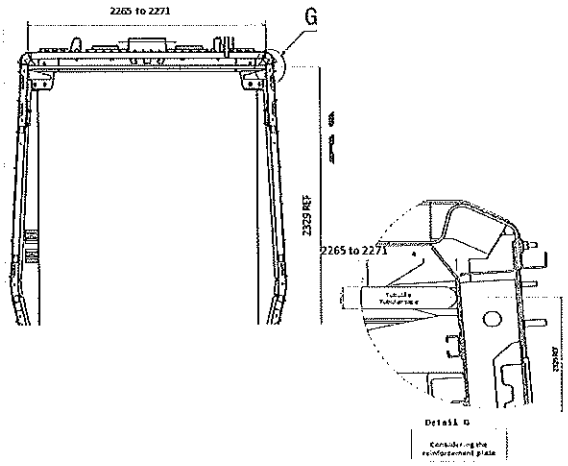
	2265 to 2271	2270 to 2276
A	NA	2273
B	2268	NA
C	2265	NA
D	NA	2275
E	NA	2274
F	2266	NA
G	2269	NA
H	NA	2275
I	NA	2276
J	2271	NA
K	2265	NA
L	NA	2270
M	2266	NA



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



Take measurement close to radius (considering reinforcement)

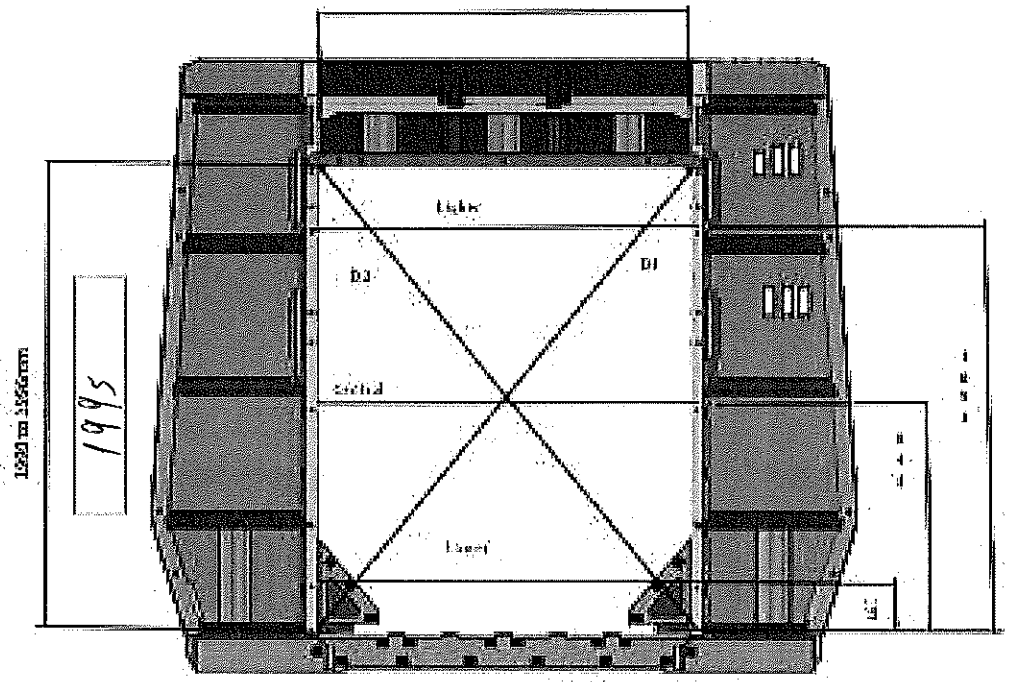


10/10
05/02/24

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

Specifications of Details for CBS measurement

Endframe 2



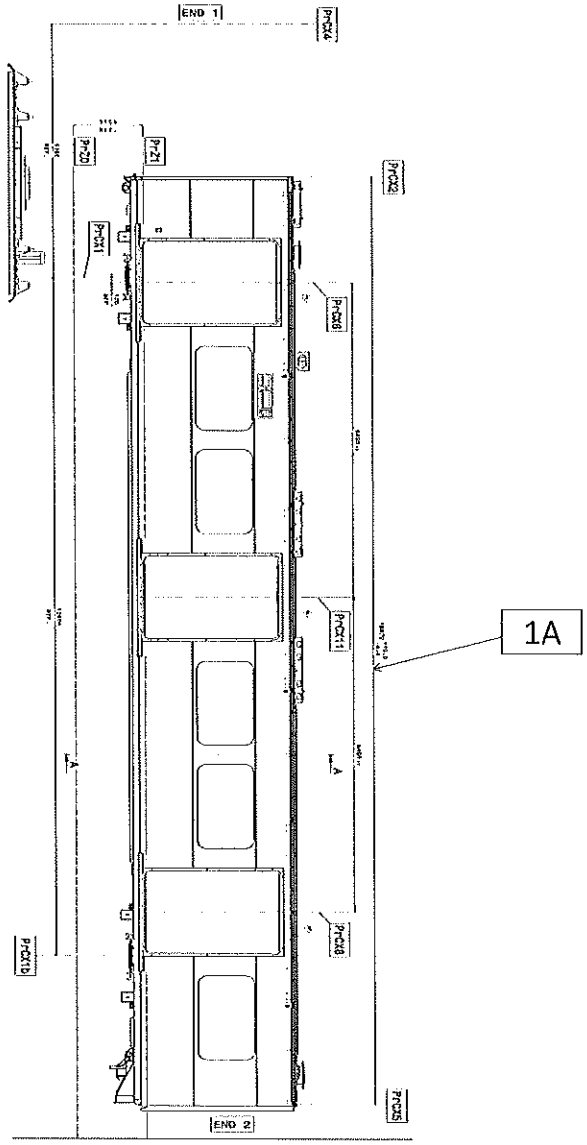
DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Upper Dimension	1381	D1	2414
Central Dimension	1380	D2	2414
Lower Dimension	1380	D1-D2	0

05/02/24

GIBELA	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 +10.5 -4.5	18871

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

Dye penetrant test

Dye-penetration test to be performed by quality personnel

GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date- 07/11/2023	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	N/A	Comments	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX					

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

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!	05/02/24	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	05/02/24	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

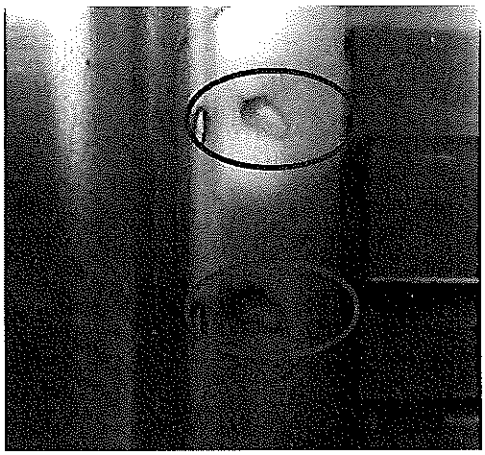
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

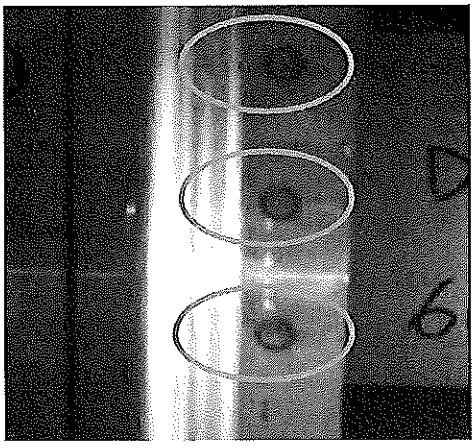
Item	Description	Action	Responsible	Due date	Status

Operations

Quality

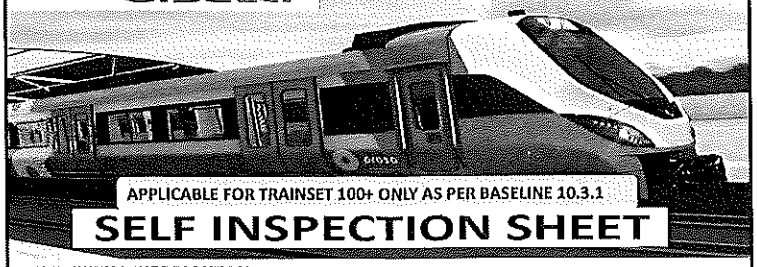
ANNEXURE A: Spot Welding Quality Acceptance Standard





GIBELA

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?
☐	DTR3022331372	AAD0001141033	Cantail 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	Vanessa Ntuli	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	Ngoberi Tyson	28/10/2023
			CHECKER	Mathapo Kelebone	
			REVISED BY	Amogelang Mohlampe	

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
2009	TC	Lesi 48300S	01/02/24	SI.CB1220.323.V29	17

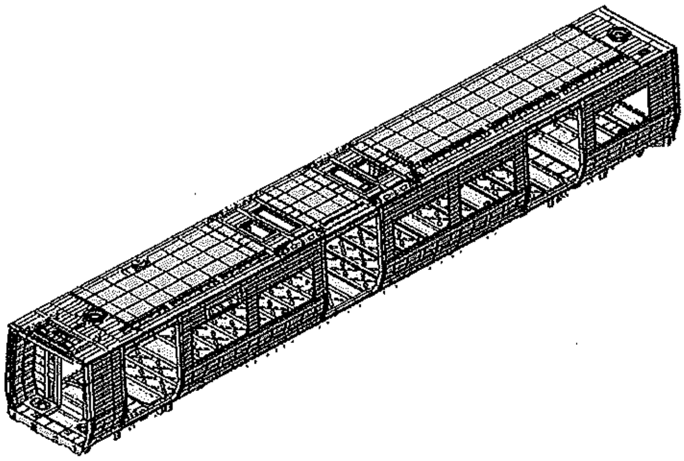
GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29 Date- 28/10/2023	Project: PRASA SI.CB1220.323.V29

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	Observation	OK	NOK		Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30223319/2							29	28/10/2023	X		N/A	LWB 07/02/24	[signature] 07/02/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular	22713-1	29/11/2023 - 29/11/2024	X		LWB 07/02/24	[signature] 07/02/24
Measuring Tape	9IBT4C001	22/09/2023 - 22/09/2024	X		LWB 07/02/2024	

1.3 Consumables

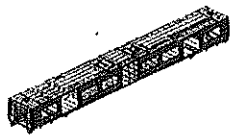
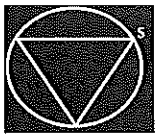
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Welding 308LSI	E221880	Mig	X		LWB 07/02/24	[signature] 07/02/24

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

II - Control Activities of Prodution

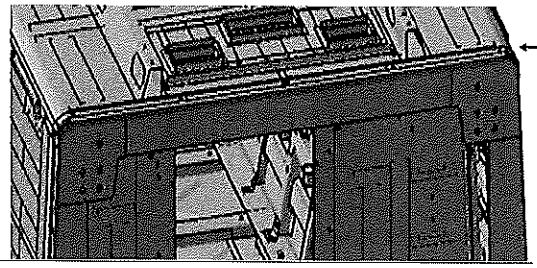
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	N/A	Remark	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	✓			07/02/24	07/02/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓			07/02/24	07/02/24
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	**IND-SAL-WMS-016 e DTD0000210675**	✓			07/02/24	07/02/24
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			07/02/24	07/02/24
05		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			07/02/24	07/02/24
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.	✓			07/02/24	07/02/24
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	✓			07/02/24	07/02/24
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% - 60%	Sealant Batch No: ISR 7003 Exp Date: ____ / 02 / 24 Actuals Temperature: 15°C Humidity: 20%	✓			07/02/24	07/02/24

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

09	NA	Verification of sealant application in certain regions in the drawing.	AAD0001241033	✓			07/oct/24	07/02/24
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**	✓			07/oct/24	07/02/24

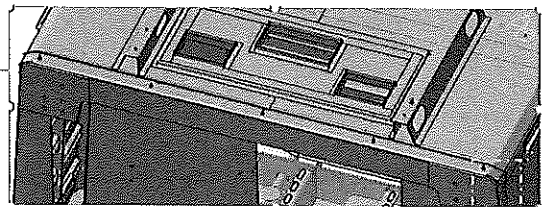
GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
		Date- 28/10/2023	SI.CB1220.323.V29



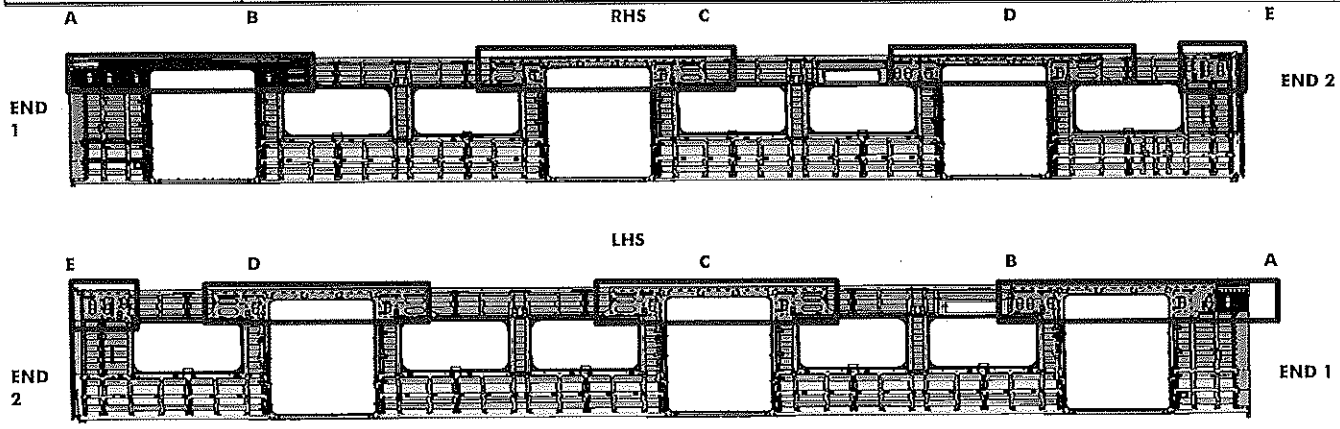
END 1
SEALANT

OPERATOR (Name & sign): Priscilla

OPERATOR (Name & sign): Priscilla



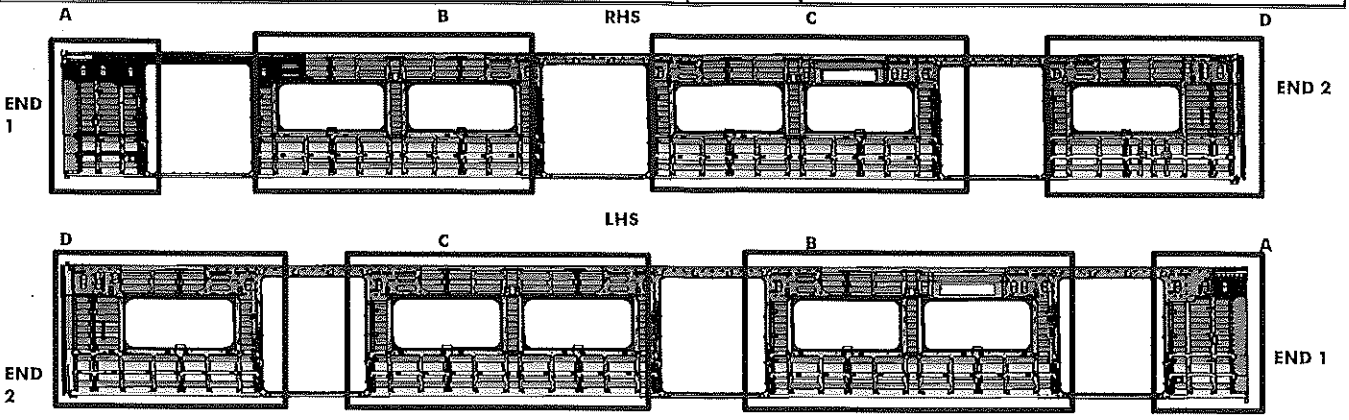
GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
		Date- 28/10/2023	SI.CB1220.323.V29



REINFORCEMENT WELDING

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

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



BRACKETING

C-RAILS:	Operator:	INSTALLATION Leni
	Operator:	
DOOR MECHANISMS:	Operator:	Mthokozisi
	Operator:	
TAPPING PADS	Operator:	Leni
	Operator:	

INSTALLATION & VERIFICATION

SEAT & LUGGAGE BRACKETS:	Operator:	
	Operator:	Mthokozisi
SEAT BRACKETS VERIFICATION:	Operator:	Mthokozisi
	Operator:	

WELDING

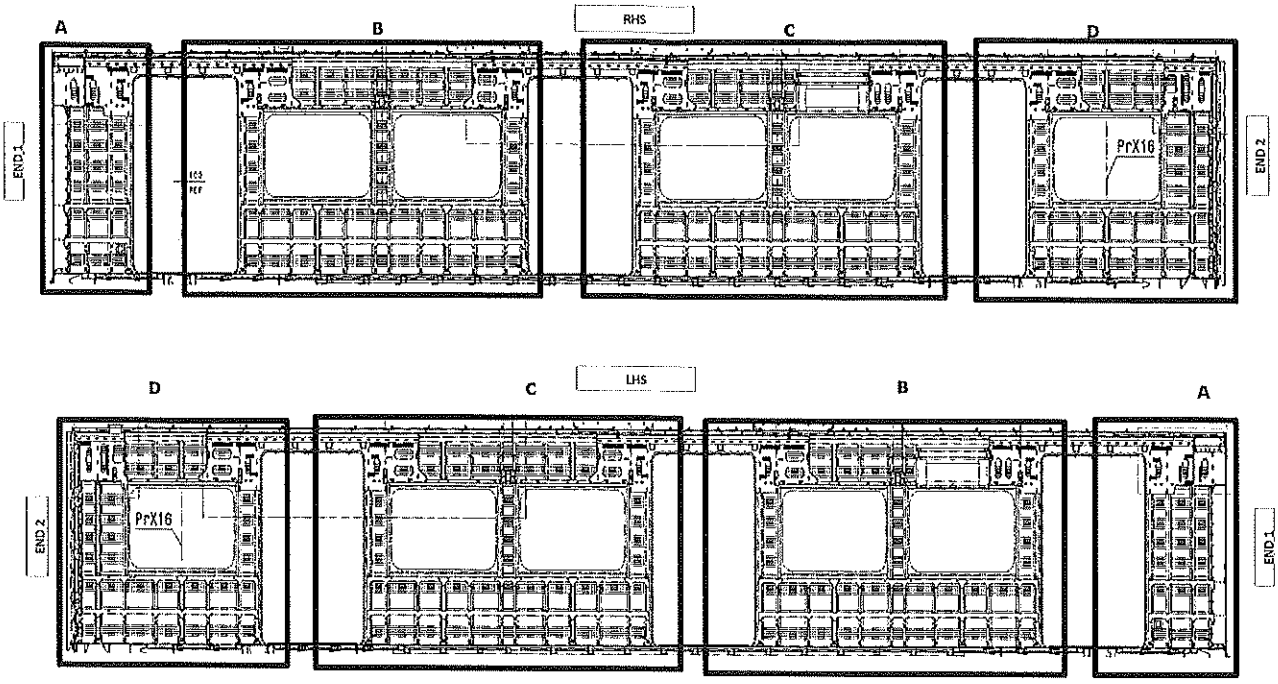
AREA		LHS	RHS
A (Seat brackets)	: Operator (Name&sign):	N/A	N/A
(C-rails, Luggage and earth bushes)	: Operator (Name&sign):		
B (Seat brackets)	: Operator (Name&sign):		
(C-rails, Luggage and earth bushes)	: Operator (Name&sign):		
C (Seat brackets)	: Operator (Name&sign):		
(C-rails, Luggage and earth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

ENDS

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

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

LHS

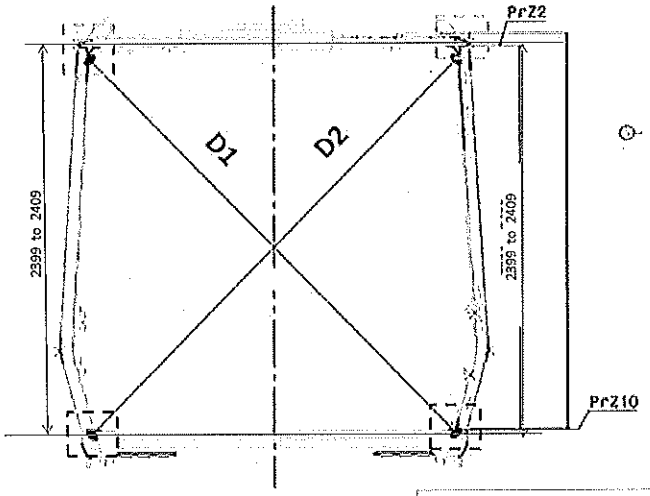
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	4		
	B	8		
	C	4		
	D	6		
SEAT BRACKETS	A	0		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	1		
	B	4		
	C	4		
	D	2		

ROOF ENDS:

CRAILS 2 OFF END 2
EARTH BUSH 4 OFF END 2

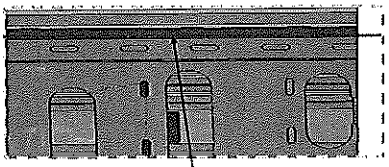
VERIFICATION BY: _____

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

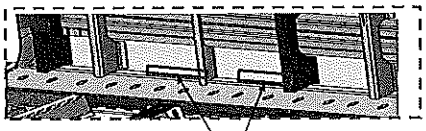


Take measurement close to radius

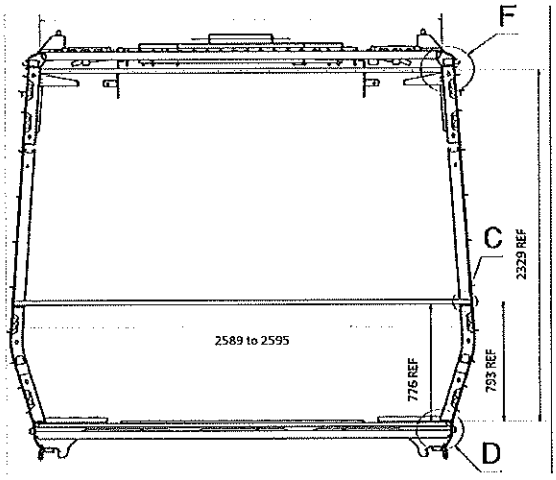
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.

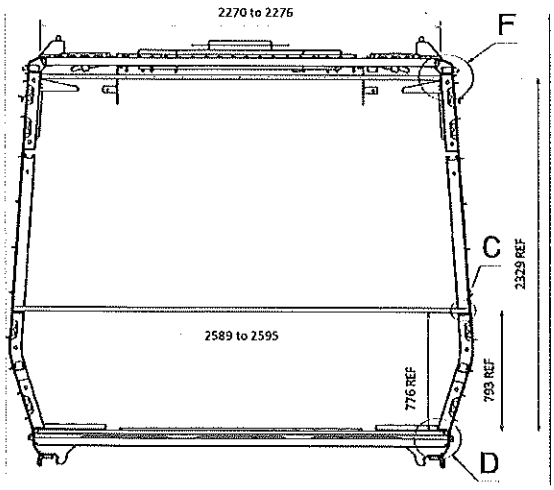


Measurement positions on sidewall and side sill corner.

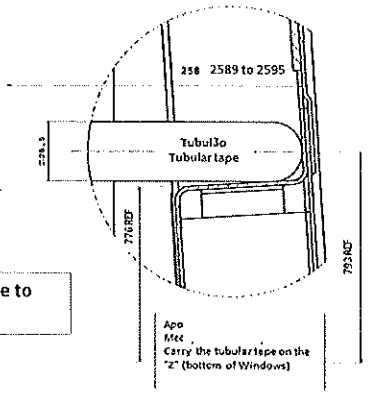


Take measurement close to radius

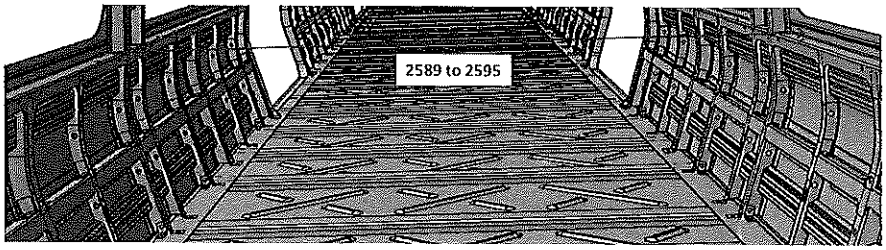
GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
		Date- 28/10/2023	SI.CB1220.323.V29

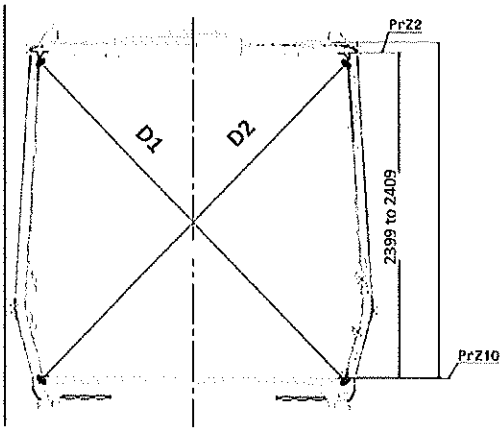


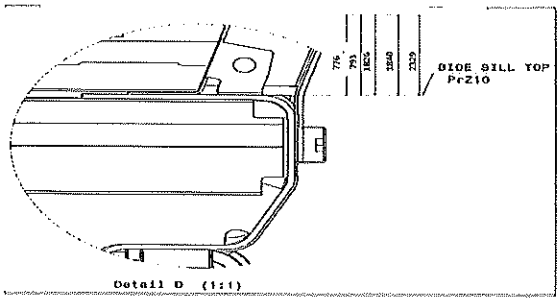
Take measurement close to radius



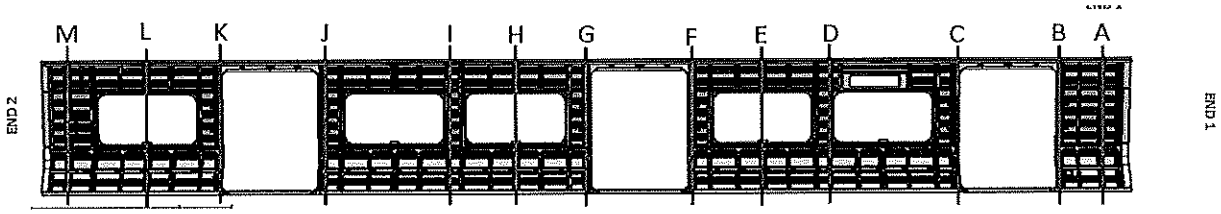
Detail C







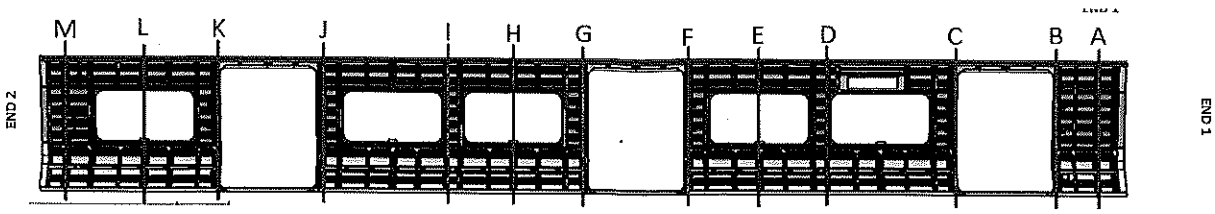
GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
		Date- 28/10/2023	SI.CB1220.323.V29



BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3300	3300	0	-
B	3298	3299	1	-
C	3300	3300	0	-
D	3273	3272	1	-
E	3270	3269	1	-
F	3300	3302	2	-
G	3297	3302	5	-
H	3265	3269	4	-
I	3268	3273	5	-
J	3300	3302	2	-
K	3301	3298	3	-
L	3270	3265	5	-
M	3296	3299	4	-

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

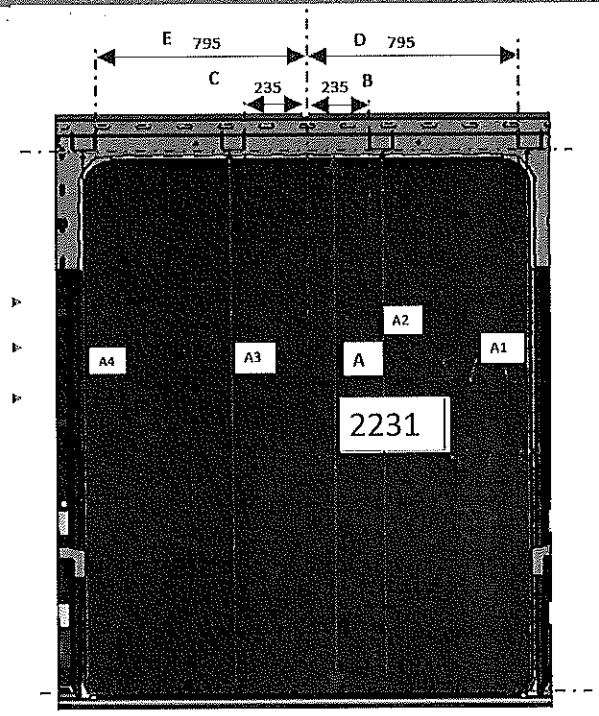


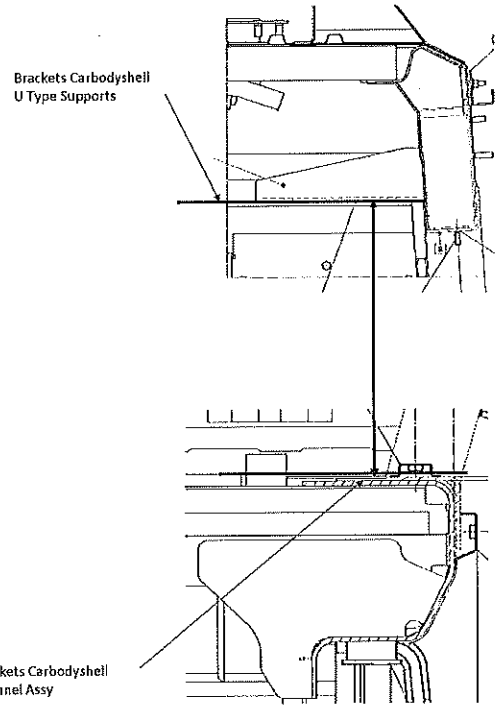
AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3294	3292	2	2592
B	3294	3293	1	2593
C	3295	3302	7	2595
D	3268	3265	3	2595
E	3264	3264	0	2595
F	3298	3297	1	2595
G	3298	3298	0	2595
H	3264	3262	2	2595
I	3268	3268	0	2595
J	3295	3298	3	2595
K	3305	3292	11	2595
L	3265	3265	0	2590
M	3292	3295	3	2595

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

Specifications of Details for CBS measurement





DOOR 1 - LHS

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

DOOR 2 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	2233
A2	2230 to 2232	2232
A3	2230 to 2232	2233
A4	2230 to 2232	2233
B	234 to 236	234
C	234 to 236	236
D	794 to 796	795
E	794 to 796	796

DOOR 3 - 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	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	2231
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	795
E	794 to 796	795

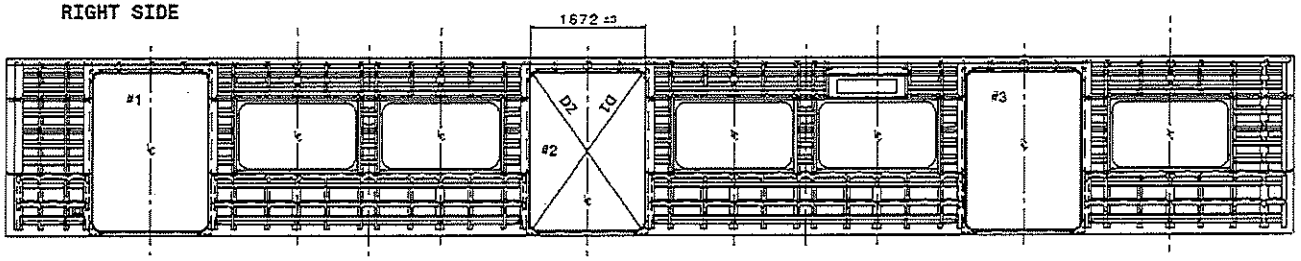
DOOR 2 - RHS

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

DOOR 3 - RHS

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

RIGHT SIDE



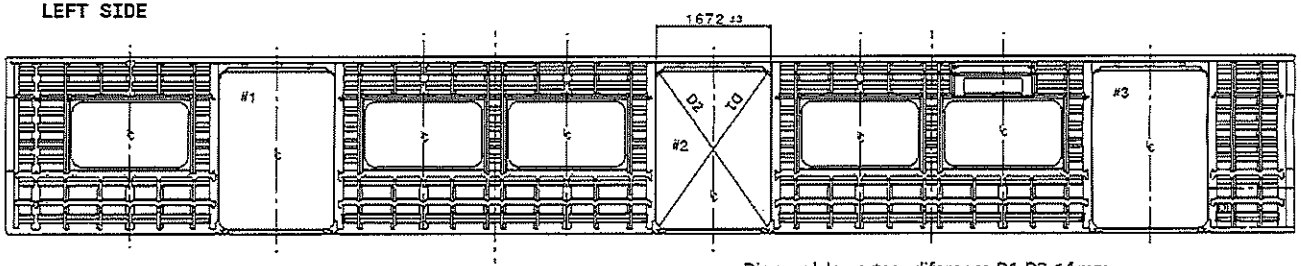
Doors lengh - 1672 ±3mm

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

Doors diagonal D1-D2 maximum difference ≤ 4 mm

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

LEFT SIDE



Vão de Portas - 1672 ±3mm

Doors lengh - 1672 ±3mm

	#1	#2	#3	
	1671	1672	1673	DIMENSÃO SUPERIOR HIGHER DIMENSION
	1671	1671	1672	CENTRAL DIMENSION
	1671	1670	1672	LOWER DIMENSION

Diagonal de portas - diferença D1-D2 ≤ 4 mm

mm

	#1	#2	#3
D1	2751	2749	2749
D2	2748	2750	2747
D1-D2	3	1	2

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

GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29 Date- 28/10/2023	Project: PRASA 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!	07/02/24	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	07/02/24	Richmond Industrial Quality	
		NO GO	There are activities pendings that impact/stop the activities of the next process Obs: (To describe problems below)		Operations	
			There are non-conformities impact the quality of the product and there is no corrective action defined yet)		Industrial Quality	

In case of "NO GO", describe blocking problems

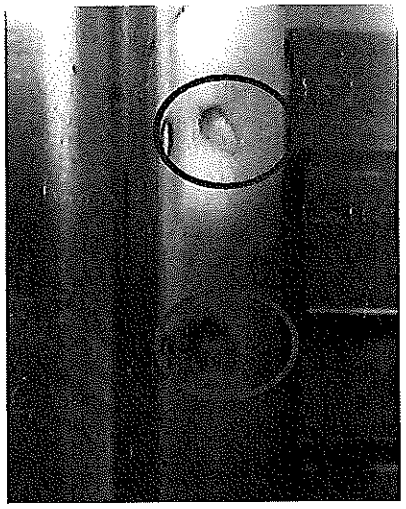
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

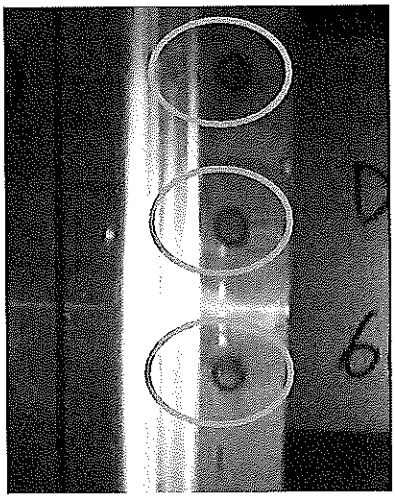
Item	Description	Action	Responsible	Due date	Status

Operations

Quality

ANNEXURE A: Spot Welding Quality Acceptance Standard





APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

This document and the information contemplated therein have to be considered as Confidential information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	WORK INSTRUCTION	SAFETY?
DT0000023319	AAD0001238963	DT0000023319 Carshell Assembly TC	CB1230	X					X	PRA.CB1230.DT0000012 23319.V20	YES

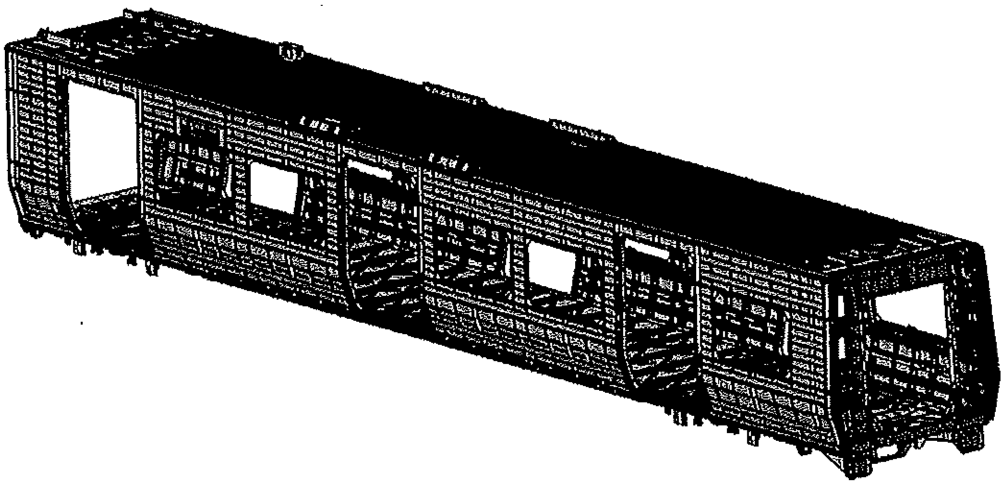
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	06/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Thanyani Mathegu	06/04/2018
1	30/5/2018	Team leader and Quality Technician to sign. Change final signature from PME Manager to Quality 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	Ramakone Metamo	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 Mkhombhi	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 Mkhombhi	14/06/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
27	26/07/2022	Threashold measurements addition	APPROVER	Collins Mkhombhi	26/07/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
28	17/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mkhombhi	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
209	TC2	Zanele 482779	07/10/24	SI.CB1290.324.V28	14

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

Carro Car	NCR:	Work station: CB1230

Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of oer: TC1	MC	M2	M3	Mc	TC2	Revision	Observation	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
DT00000223319							30		`		N/A	07/02/24	07/02/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Tubular	22615	2024/02/07	X		07/02/24	2024/02/24
Combination square	91850137	2024/10/11	X		07/02/24	07/02/24
Tape Measurement	SHETA 0394	2024/04/05	X		07/02/24	07/02/24

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	E221880	Mig	X		07/02/24	07/02/24
ER29968ILSi	143113-A	Tig	X		07/02/24	07/02/24

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

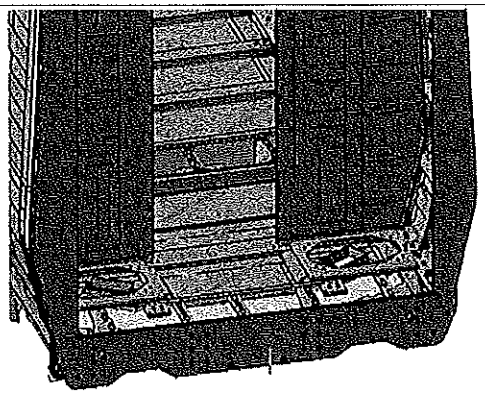
II - Control Activities of Prodution

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Remark	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº DT00000223319	DT00000223319	X			07/02/24	01/02/23
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	X			07/02/24	01/02/23
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 DTD0000210675	X			07/02/24	01/02/23
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			07/02/24	01/02/23
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			07/02/24	01/02/23
06	N/A	Before appplication 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: 20019435P Exp Date: 02/24 Actuals Temperature: 27,1°C Humidity: 29%	X			07/02/24	01/02/23
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			07/02/24	01/02/23

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

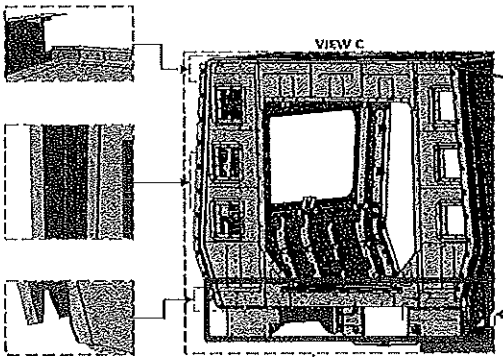
VIEW A



END 1
SEALANT

OPERATOR (Name & sign): Bunle Alajola

OPERATOR (Name & sign): Lerato

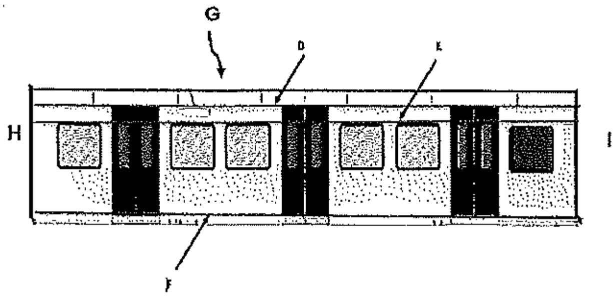


OPERATOR (Name&sign): Leroy

OPERATOR (Name&sign): Leroy

OPERATOR (Name&sign): Leroy

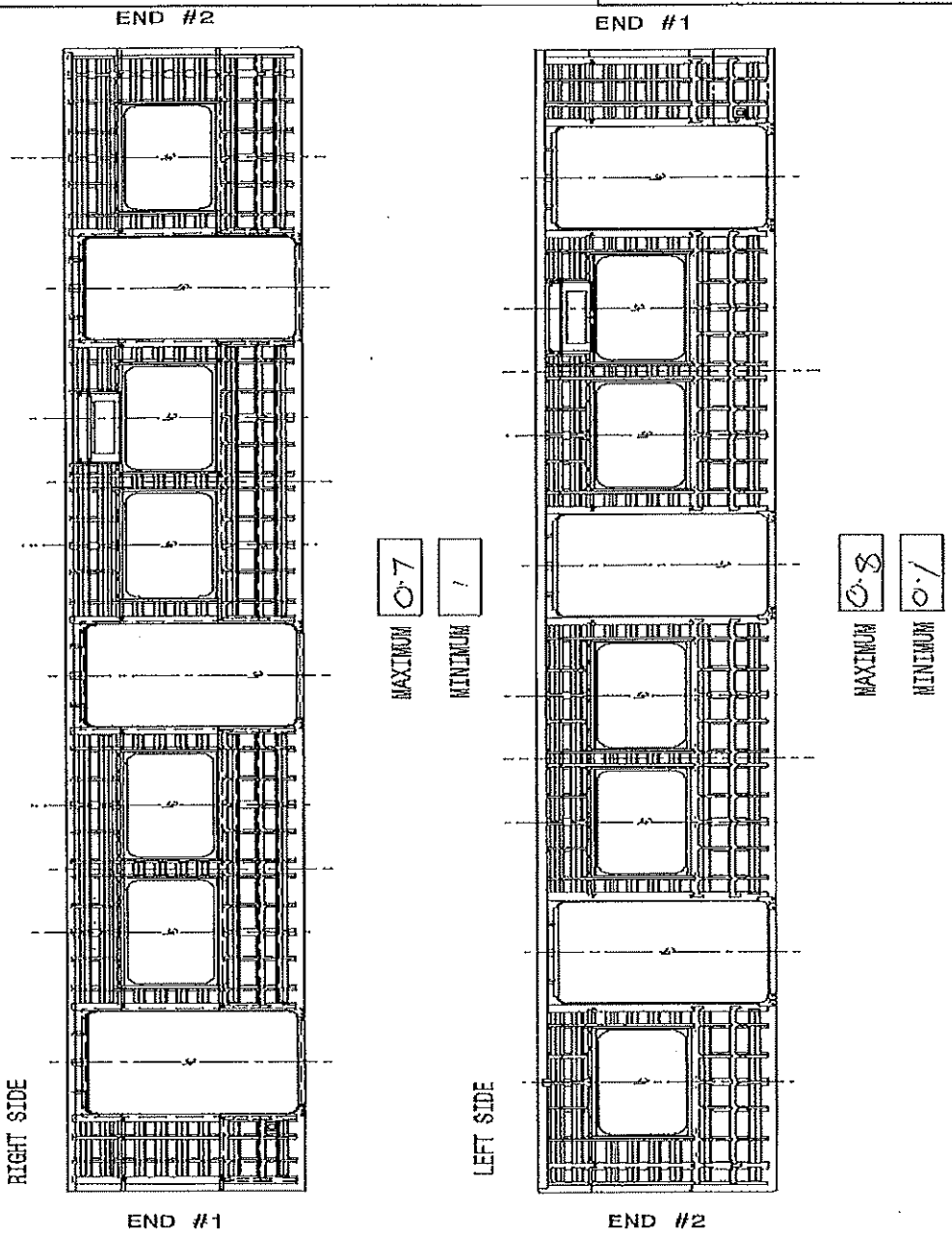
GIBELA	DT00000223319 Carshell Assembly TC	Rev. 30	Project: PRASA
		Date- 06/11/2023	SI.CB1230.324.V29



Area D,E,F,G,H,I	LHS	RHS
Operator (Name & sign) :	D,E,F,G,H,I	D,E,F,G,H,I
Operator (Name & sign) :	Bukle	Lerato
Operator (Name & sign) :	Lerato	Bukle
Operator (Name & sign) :		
Operator (Name & sign) :		
Operator (Name & sign) :		

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

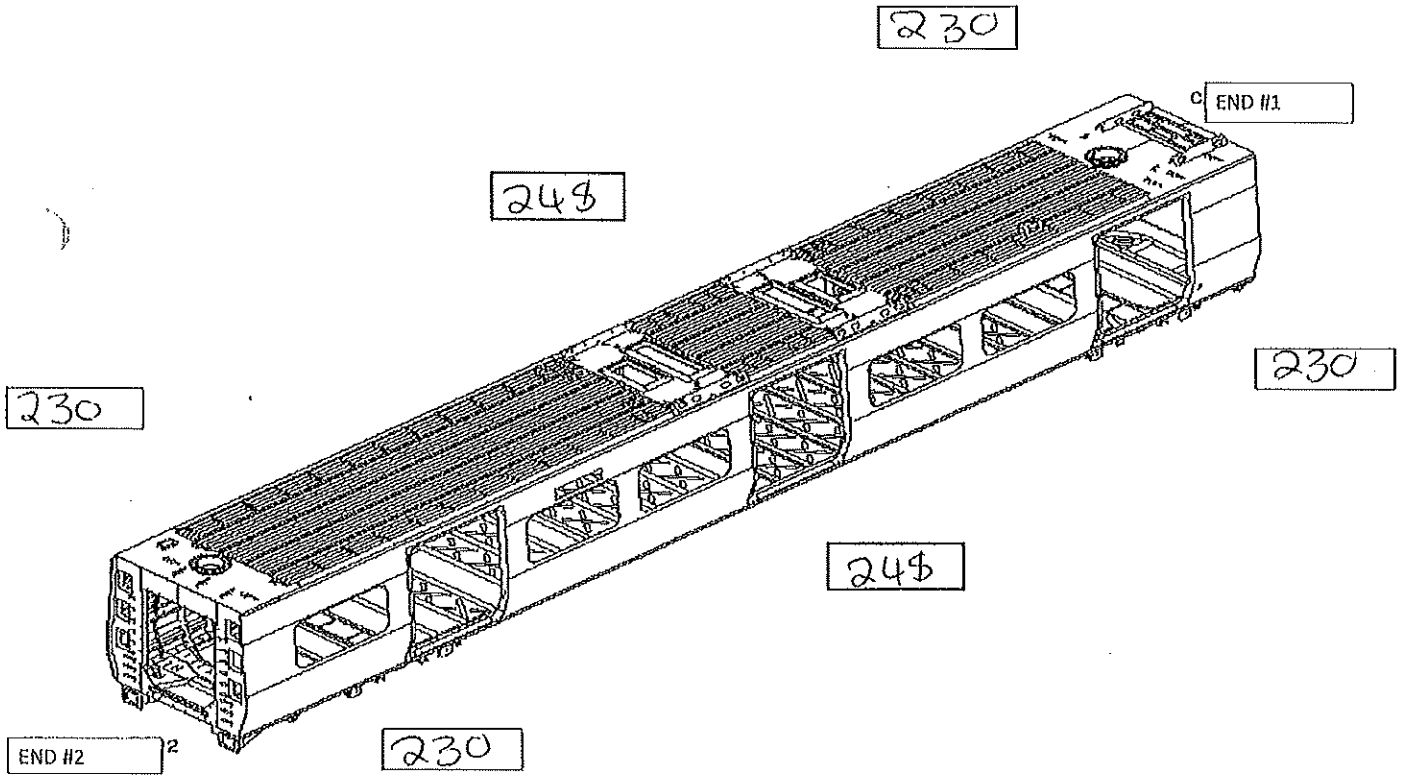
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



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)

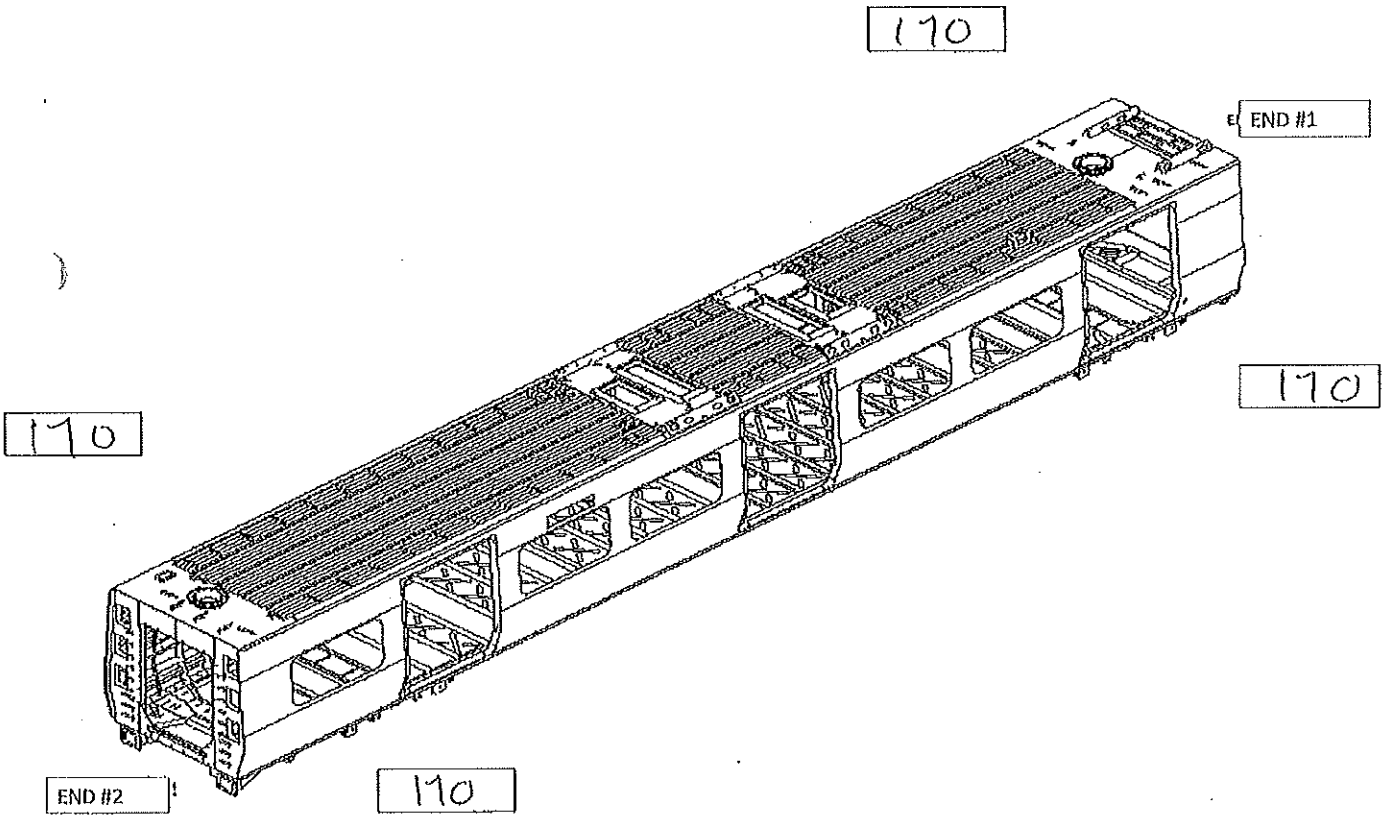


MEASURED CAMBER VALUES	
RIGHT	19
LEFT	19

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

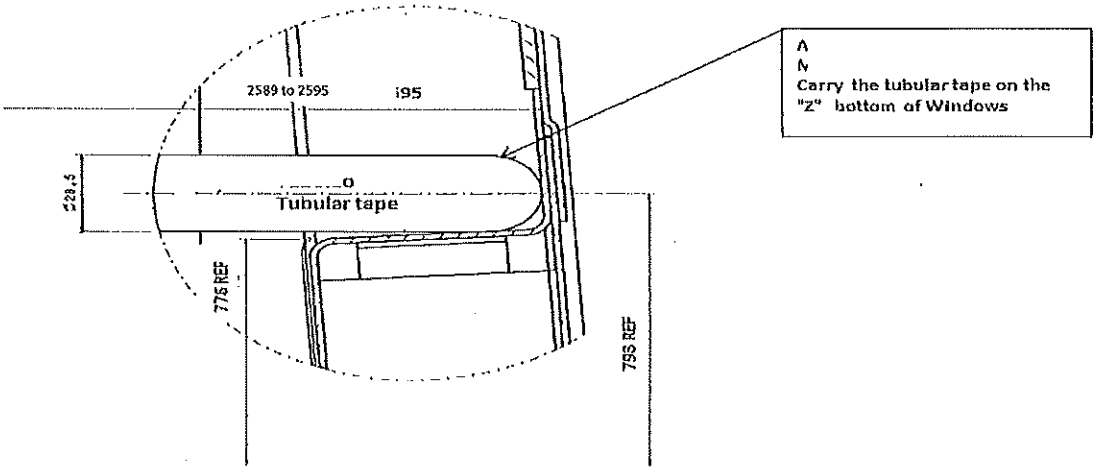
Specifications of Details for CBS measurement CB1230

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

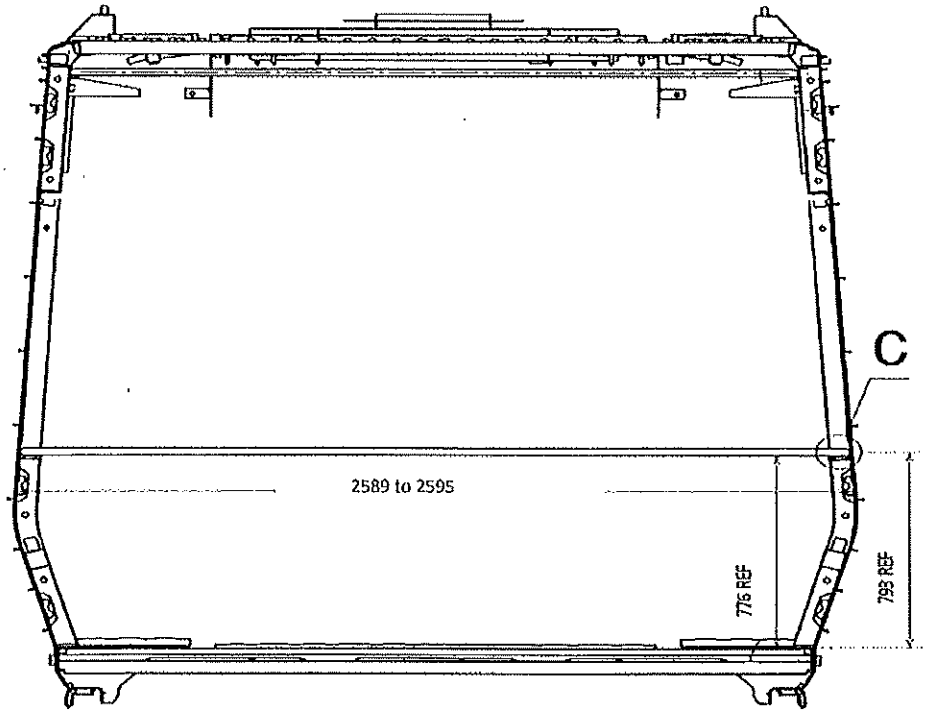


MEASURED TWIST VALUES END 1		MEASURED TWIST VALUES END 2	
LATERAL	0	LATERAL	0
LONGITUDINAL	0	LONGITUDINAL	0

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

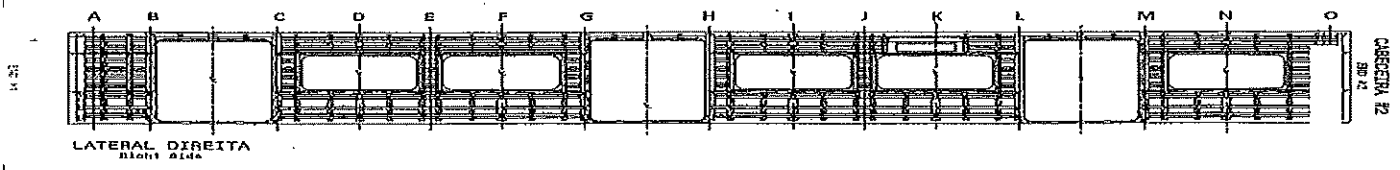


Detail C



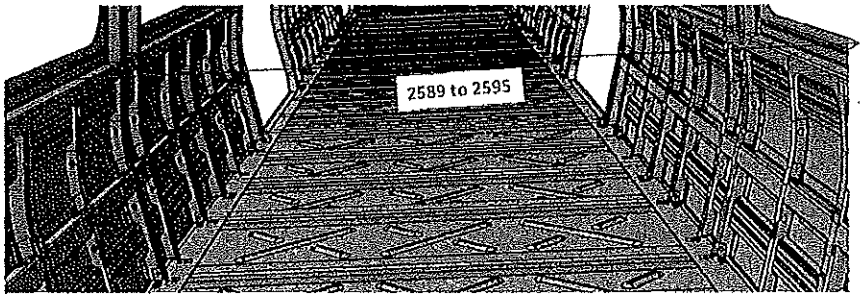
GIBELA	DT00000223319 Carshell Assembly TC	Rev. 30	Project: PRASA
		Date- 06/11/2023	SI.CB1230.324.V29

Specifications of Details for CBS measurement



2589 to 2595mm

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



Threashold verification

Nominal value :38

Door 1		Door 2		Door 3	
L	R	L	R	L	R
38	38	38	37	39	37
Door 4		**Door 5**		**Door 6**	
L	R	L	R	L	R
39	37	39	38	38	38

BOILER MAKER: mmathagelo Kdda

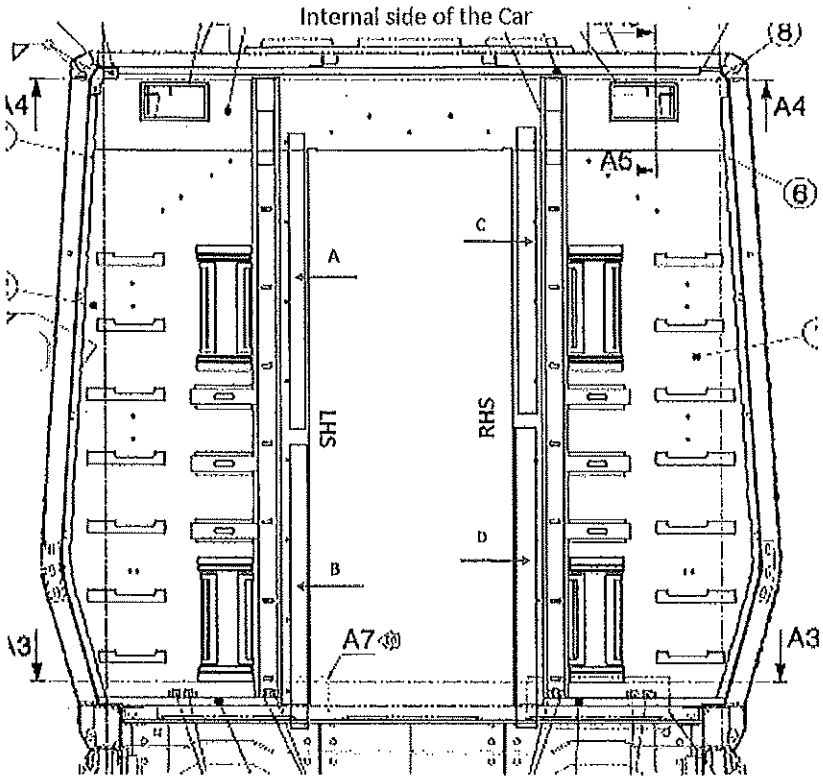
WELDER: mmathagelo Kdda

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

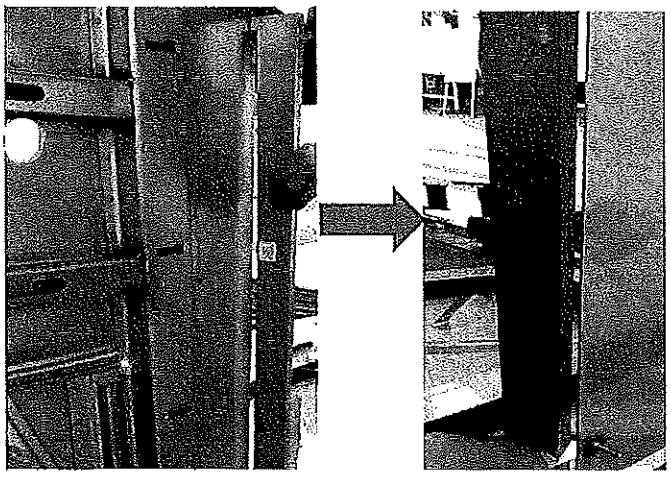
Specifications of Details for CBS measurement

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



	Measured Values		
	Minimum	Maximum	Deviation
A	9.9	10.4	1.5
B	10.2	10.8	0.6
C	11.2	11.9	0.7
D	11.6	11.8	0.2



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

Dye penetrant test

Dye-penetration test to be performed by quality personnel

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

II.2 - Check List REX

Check List Items

Item	Picture/Drawing	Description	Criteria /Record	OK	NOK	Remark	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!	07/01/24	Zanele Mahlangu Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	07/01/24	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)		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