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 TC1	M4	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY ?
☐ DTR30225487/3	AAD0001278566	CARBODYSHELL M3,M4 ASSEMBLY	CB2210		X			X		PRA.CB2210.DTR30225 487/3.V30	YES
☐					X						

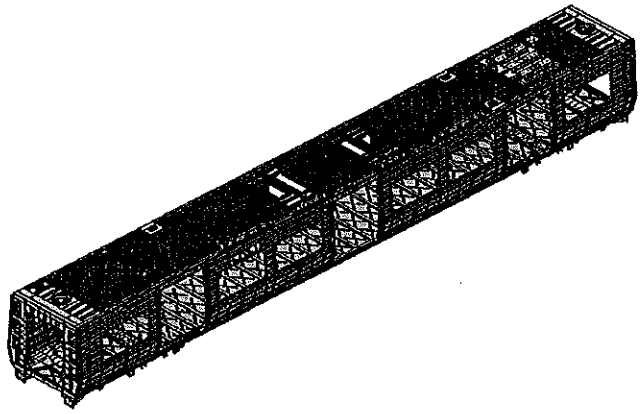
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	10/01/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	10/01/2018
			CHECKER	Nosizo Pindela	10/01/2018
			COMPILER	Thanyani Mathegu	10/01/2018
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	2018/05/18
			CHECKER	Nosizo Pindela	2018/05/18
			REVISED BY	Ramokone Motama	2018/05/18
2	2018/07/04	Certain dimensional checks moved to CB1220 and CB1230	APPROVER	Itumeleng Modiba	2018/07/04
			CHECKER	Nosizo Pindela	2018/07/04
			REVISED BY	Ramokone Motama	2018/07/04
3	2018/12/12	Added dimensional check points to CB2210	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	13/03/2019	Added D1 and D2 on Self - Inspection	APPROVER	Itumeleng Modiba	13/03/2019
			CHECKER	Nosizo Pindela	13/03/2019
			REVISED BY	Nosizo Pindela	13/03/2019
10	21/08/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	21/08/2019
			CHECKER	Nosizo Pindela	21/08/2019
			REVISED BY	Nosizo Pindela	21/08/2019
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi collins	17/08/2021
			CHECKER	Mpho Mulaudzi	
			REVISED BY	Mpho Mulaudzi	
25	19/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombi collins	19/02/2022
			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	
30	20/07/2023	New Baseline change 10.4	APPROVER	Ngobeni Tyson	28/07/2023
			CHECKER	Mohlampe Amogelang	
			REVISED BY	Mohlampe Amogelang	
31	07/11/2023	Added traceability for welding sections	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Mohlampe Amogelang	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
152 ~~150~~ 209	M4	Tumi 00410081	02/02/24	SI.CB2210.254.V30	17

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

Car: M3 & M4	NCR:	Work station: CB2210

Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car TC1	M1	M2	M3	M4	TC2	Revision	Observation	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30225487/3					✓				✓		02/02/24	02/02/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubilow	2316	2023/02/07	✓		02/02/24	02/02/24
Laser TAPE	12543592	2023/08/01	✓		02/02/24	
(3mm) TAPE	4161/0084	2025/02/31	✓		02/02/24	

1.3 Consumables

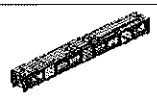
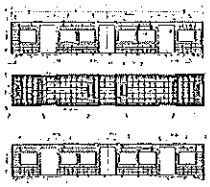
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 Ø1	814018	MIG	OK		02/02/24	02/02/24
ER 308 1.6mm	49687-7038R	TIG			02/02/24	

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

II - Self Inspection - Items to Check

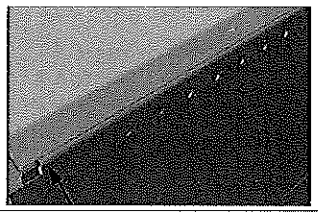
II.1 - Items to check

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

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

Welding Traceability

Roof ring welds



END 1

LHS

Boiler maker (Name & Sign): JUSTICE Welder (Name & Sign): GIBELA

RHS

Boiler maker (Name & Sign): JUSTICE Welder (Name & Sign): GIBELA

END 2

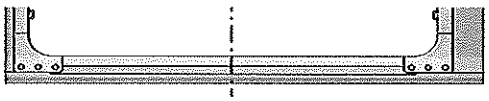
LHS

Boiler maker (Name & Sign): JUSTICE Welder (Name & Sign): GIBELA

RHS

Boiler maker (Name & Sign): JUSTICE Welder (Name & Sign): GIBELA

Door ring welds



LHS

Boiler maker (Name & Sign): LAWRENCE

Welder (Name & Sign): MTHOKOZISI

RHS

Boiler maker (Name & Sign): GERALD

Welder (Name & Sign): MTHOKOZISI

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB2210.254.V30
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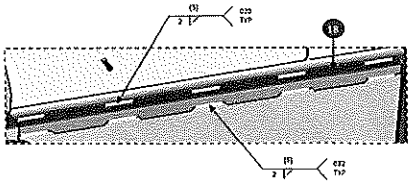
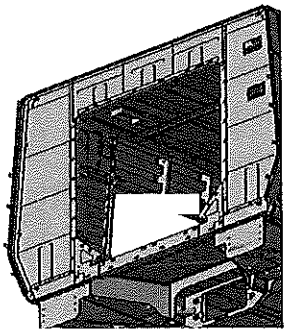
EUF Reinforcement Plates

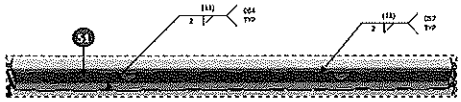




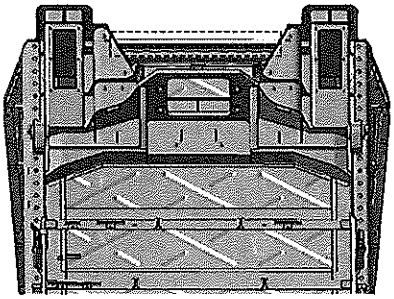
END 1

Boiler maker (Name & Sign): GERALD

Welder (Name & Sign): SIPHOKAZI



END 2

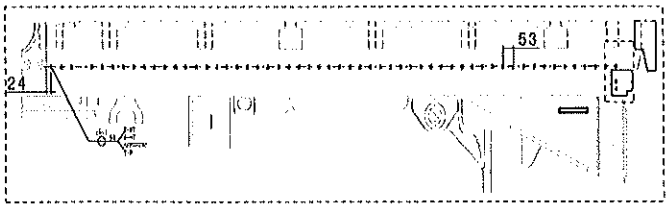


Underneath the CAR

END 2

Boiler maker (Name & Sign): LAWRENCE

Welder (Name & Sign): MTHOKOZISI

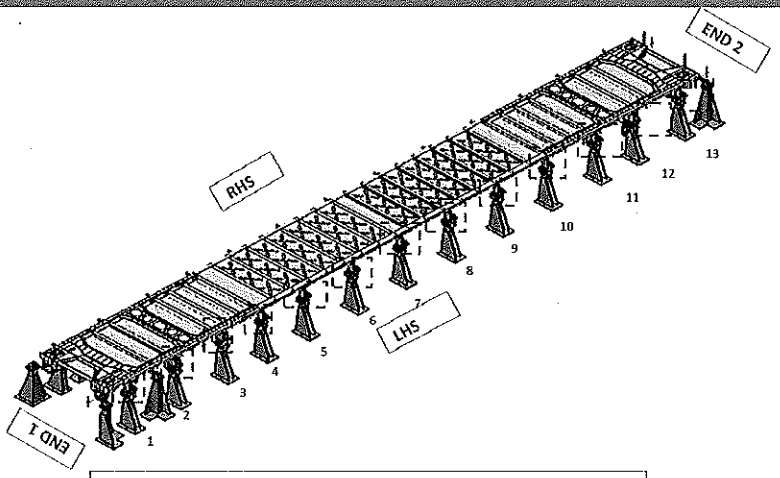


FEDOLI

Operator: LAWRENCE

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

Specifications of Details for CBS measurement



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

After loading and clamping

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

	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand Side	0	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	0

Signature Operations: [signature] Date: 02/02/24

After Welding.

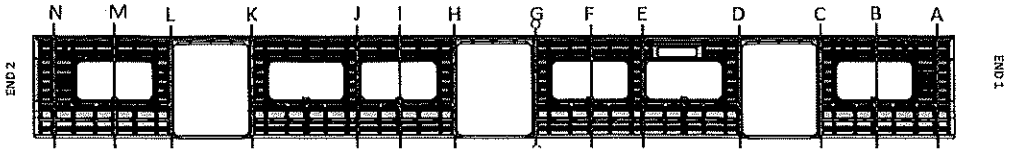
Fill in the gap found each jig pillars / chair and underframe should be 0mm.

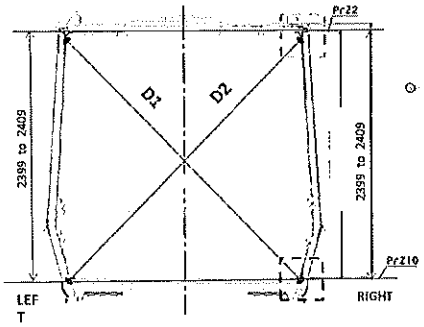
	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0

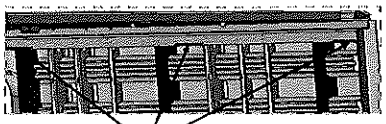
Signature Industrial Quality: [signature] Date: 02/02/24

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB2210.254.V30
		Date 07/11/2023	

Specifications of Details for CBS measurement

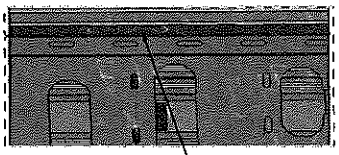




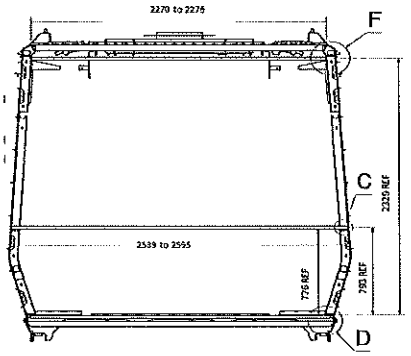


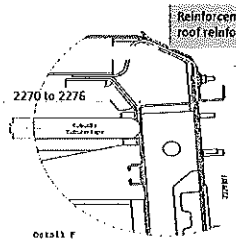
Measurement positions on roof rail and sidewall omega corner.

Measurement positions on sidewall and side sill corner.



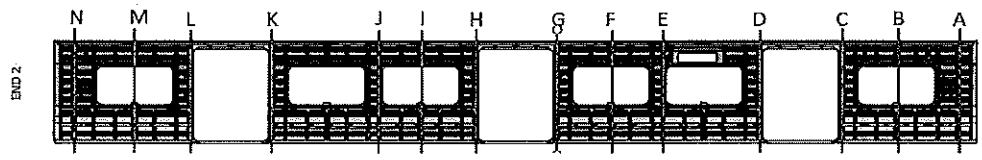
Reinforcement area measurement positions on roof reinforcement area.





GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB2210.254.V30
		Date 07/11/2023	

Specifications of Details for CBS measurement



PME Column LHS - RHS should be ≤2MM on each point.

BEFORE WELDING

	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	3269	3267	2	2403	2404	2
C	3266	3266	0	2408	2404	1
D	3267	3267	0	2404	2404	0
E	3269	3269	0	2403	2405	2
F	3267	3266	1	2404	2404	0
G	3265	3266	1	2405	2406	1
H	3267	3267	0	2404	2404	0
I	3269	3265	4	2403	2405	2
J	3269	3270	1	2404	2405	1
K	3266	3264	0	2405	2407	2
L	3268	3267	1	2404	2404	0
M	3267	3269	2	2404	2403	1
N	3269	3268	1	2404	2404	0

02/02/24

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB2210.254.V30
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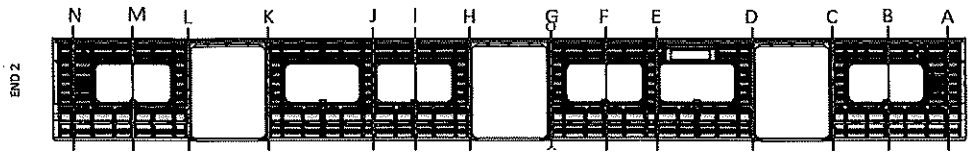
Specifications of Details for CBS measurement



PME Column LHS - RHS should be ≤2MM on each point.

AFTER WELDING

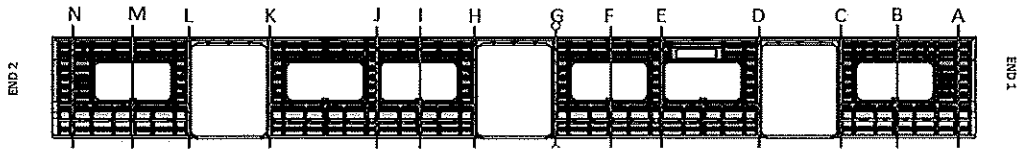
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3298	3298	0	2404	2405	1
B	3268	3267	1	2404	2404	0
C	3296	3296	0	2404	2403	1
D	3298	3298	0	2404	2405	1
E	3269	3270	1	2405	2404	1
F	3267	3265	2	2404	2404	0
G	3298	3297	1	2404	2405	1
H	3296	3296	0	2403	2404	1
I	3267	3265	2	2404	2404	0
J	3270	3269	1	2403	2404	1
K	3298	3297	1	2405	2404	1
L	3297	3297	0	2403	2404	1
M	3267	3265	2	2404	2404	0
N	3298	3298	0	2405	2404	1

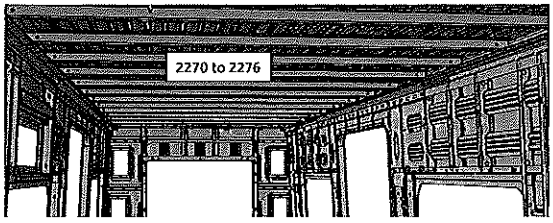
02.02.24

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30226487/3	Rev. 31	Project: PRASA SI.CB2210.254.V30
		Date 07/11/2023	

CBS measurement

BEFORE WELDING

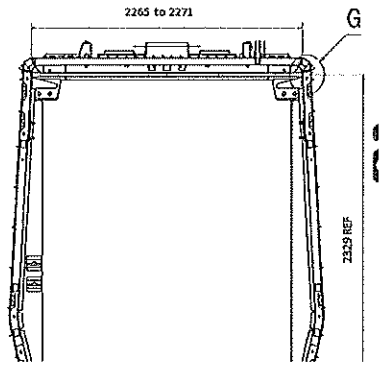




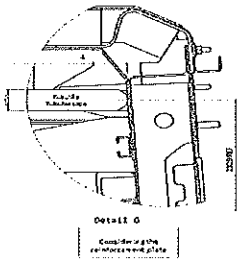
2270 to 2276

A	2273
B	2275
C	2271
D	2271
E	2274
F	2273
G	2270
H	2271
I	2274
J	2275
K	2272
L	2273
M	2405
N	2404

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



2265 to 2271

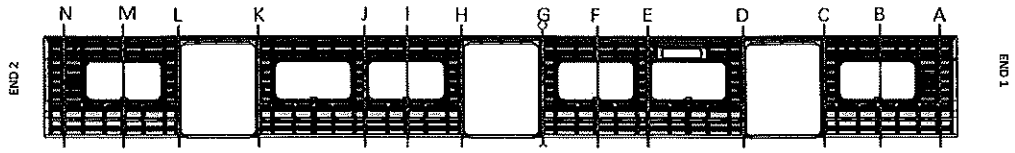


2/02/24

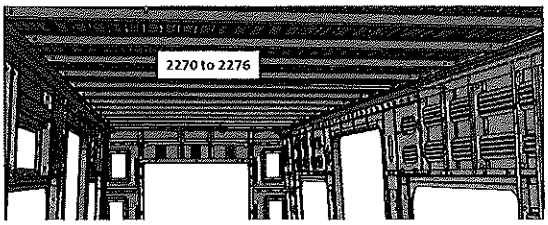
GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB2210.254.V30
		Date 07/11/2023	

CBS measurement

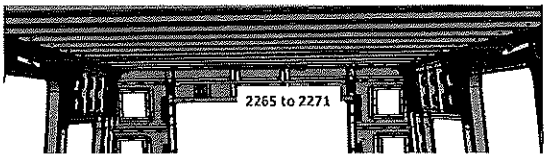
AFTER WELDING



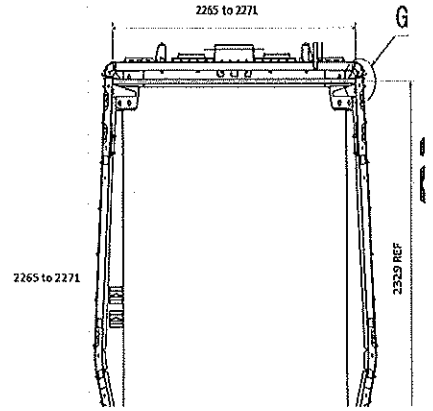
	2265 to 2271	2270 to 2276
A	2268	
B		2272
C	2267	
D	2267	
E		2273
F		2274
G	2268	
H	2267	
I		2275
J		2276
K	2269	
L	2267	
M		2274
N	2268	

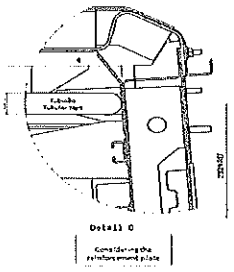


Do not consider reinforcement (Take measurements top area of zee profile



Take measurement close to radius (considering reinforcement)

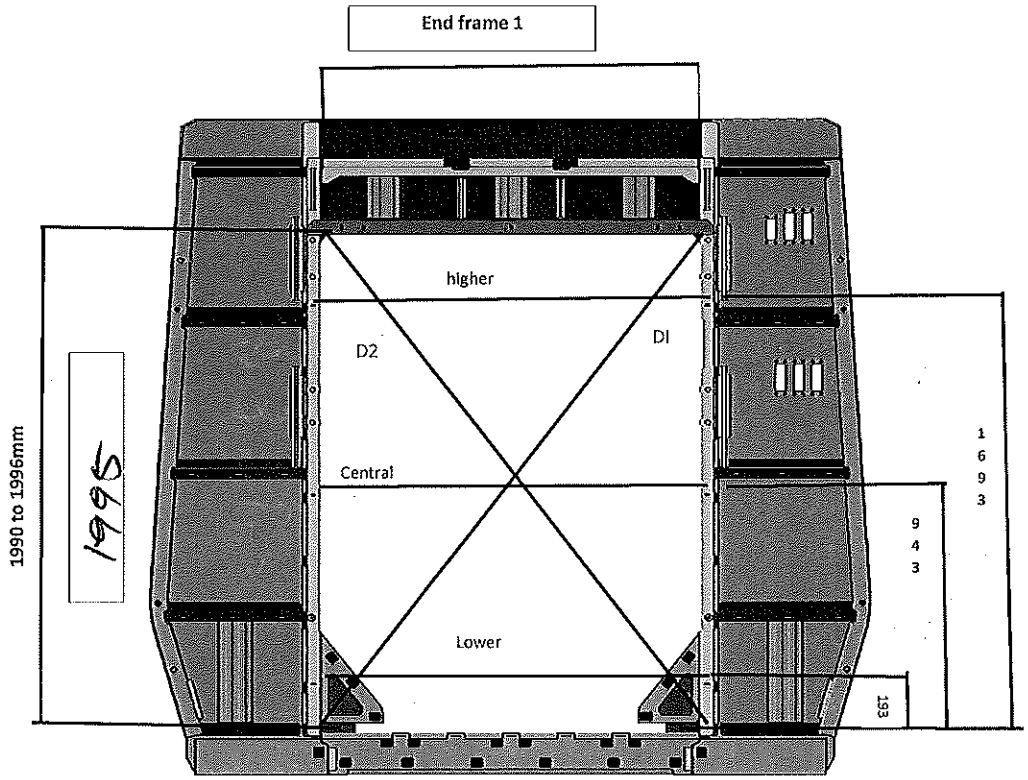




02/02/24

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB2210.254.V30
		Date 07/11/2023	

Specifications of Details for CBS measurement



1380 to 1382 mm

DIAGONAL DIFFERENCE **D1-D2** ≤ 3mm

Higher Dimension	1381	D1	2415
Central Dimension	1382	D2	2418
Lower Dimension	1	D1-D2	3

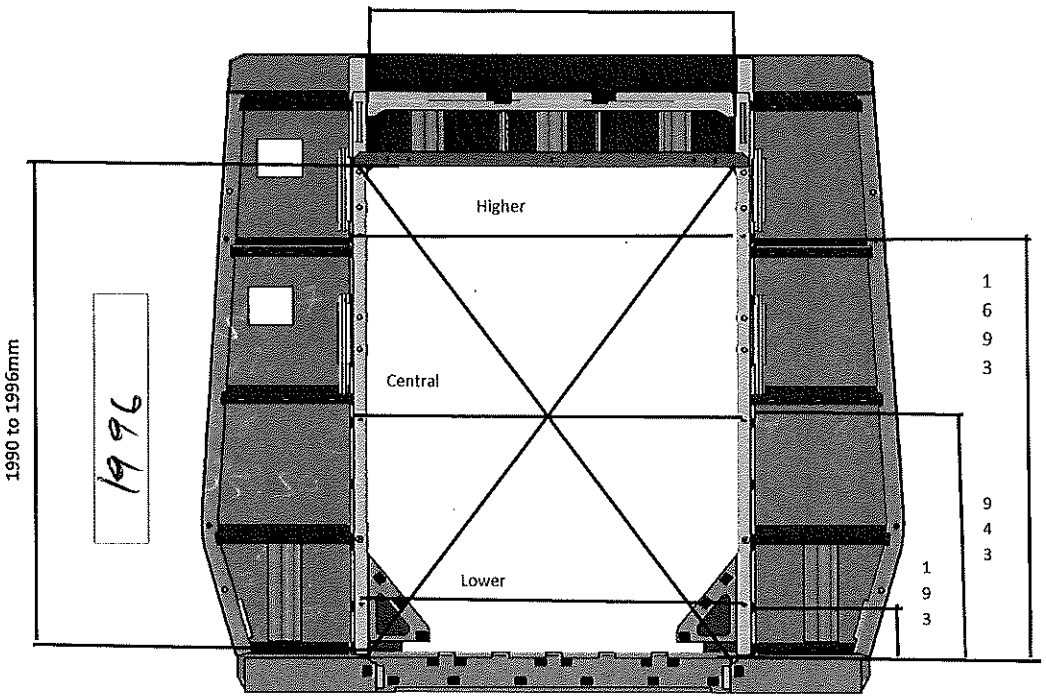
02/02/24

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB2210.254.V30
		Date 07/11/2023	

Specifications of Details for CBS measurement

Endframe 2

1380 to 1382 mm



1380 to 1382 mm

Higher Dimension	1380
Central Dimension	1381
Lower Dimension	1381

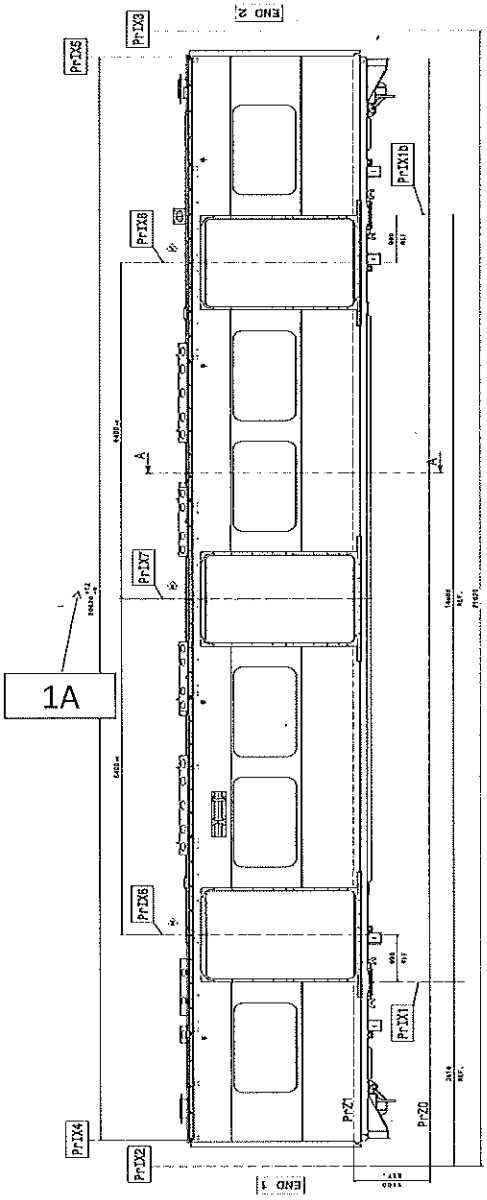
DIAGONAL DIFFERENCE **D1-D2 ≤ 3mm**

D1	2417
D2	2415
D1-D2	2

02.02.24

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB2210.254.V30
		Date 07/11/2023	

Specifications of Details for CBS measurement



	LEFT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20628

	RIGHT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20630

CBS
02.02.24

Dye penetrant test

Dye-penetration test to be performed by quality personnel

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR302254B7/3	Rev. 31 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

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

II.2 - Check List REX

Check List Items

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

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

Self Inspection - Final Result

				DATE	NAME	SIGNATURE
HOLD POINT		GO	(If activities are not complete, the missing activities must not impact the next stage)	02/02/24	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	02/02/24	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		Responsible	Due date	Status

Operations

Quality

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 ?
☐	OTR30225497/2	AAD0001278566	CARBODYSHELL Ms,M3,M4 ASSEMBLY	CB2220		X	X		X		PRA.CB2220.DTR3022548 7/2.V21	YES
☐												
☐												
☐												
☐												
☐												
☐												

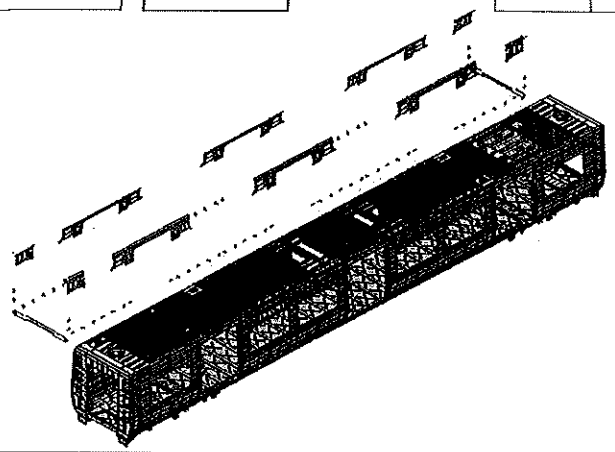
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	01/02/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	01/02/2018
			CHECKER	Nosizo Pindela	01/02/2018
			COMPILER	Thanyani Mathegu	01/02/2018
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	18/05/2018
			CHECKER	Nosizo Pindela	18/05/2018
			REVISED BY	Ramokone Motama	18/05/2018
2	2018/07/05	Certain dimensional checks added and others moved to CB1210	APPROVER	Itumeleng Modiba	2018/07/05
			CHECKER	Nosizo Pindela	2018/07/05
			REVISED BY	Ramokone Motama	2018/07/05
3	2018/06/12	Width tolerance as per OT0000336500	APPROVER	Itumeleng Modiba	2018/06/12
			CHECKER	Nosizo Pindela	2018/06/12
			REVISED BY	Nosizo Pindela	2018/06/12
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 D1 and D2 on Self - Inspection Remove length measurements	APPROVER	Itumeleng Modiba	13/03/2019
			CHECKER	Nosizo Pindela	13/03/2019
			REVISED BY	Nosizo Pindela	13/03/2019
10	22/08/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	22/08/2019
			CHECKER	Nosizo Pindela	22/08/2019
			REVISED BY	Nosizo Pindela	22/08/2019
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020
			CHECKER	Bongane Masina	06/08/2020
			REVISED BY	Bongane Masina	06/08/2020
20	19/04/2021	New Baseline 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	20/02/2022	New Baseline change 10.3.1	APPROVER	Collins Mbhombhi	19/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Collins Mbhombhi	14/06/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
27	19/10/2022	Addition of traceability for sealant application & welding	APPROVER	Collins Mbhombhi	19/10/2022
			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	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
209	M4	Leni 4830658	03/02/24	SI.CB2220.250.V29	13

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR302254872	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

Car: M1,M3&M4	NCR:	Work station:	CB2220

Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car: TC1	M1	M3	M3	M4	TC2	Revision	Observation	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR302254872							29	28/10/2023	X		N/A	03/02/24 SJB	03/02/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular Measuring Tape	22317 SJB/1001	22/09/2023-22/09/2024 22/02/2023-22/02/24	X X		SJB 03/02/24 SJB 03/02/24	03/02/24

I.3 Consumables

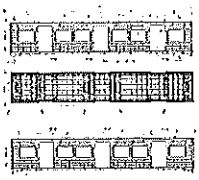
Welding Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Welding 308 LSI	E221880	Mig			SJB 02/02/24	03/02/24

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

II - Self Inspection - Items to Check

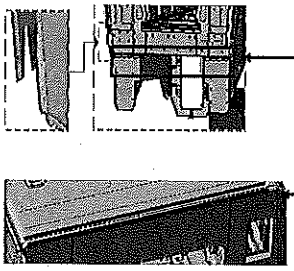
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Not OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB2220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	PRA.CB2220.DTR30225487/2	✓			03/02/24	03/02/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			03/02/24	03/02/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			03/02/24	03/02/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			03/02/24	03/02/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			03/02/24	03/02/24
06		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.	✓			03/02/24	03/02/24
07	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (°) Min-Max 10°C - 35°C Relative humidity Min – Max (%) Min-Max 25% - 80%	Sealant Batch No: IP538 Exp Date: ___/05/24 Actuals Temparature: 19°C Humidity: 76%	X			03/02/24	03/02/24
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001278566	X			05/02/24	03/02/24
09		Verfication of safety welds	Approved according to DTD000210658 reference and Self inspection	✓			03/02/24	03/02/24

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR302256487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

II - Self Inspection - Items to Check

SEALANT APPLICATION



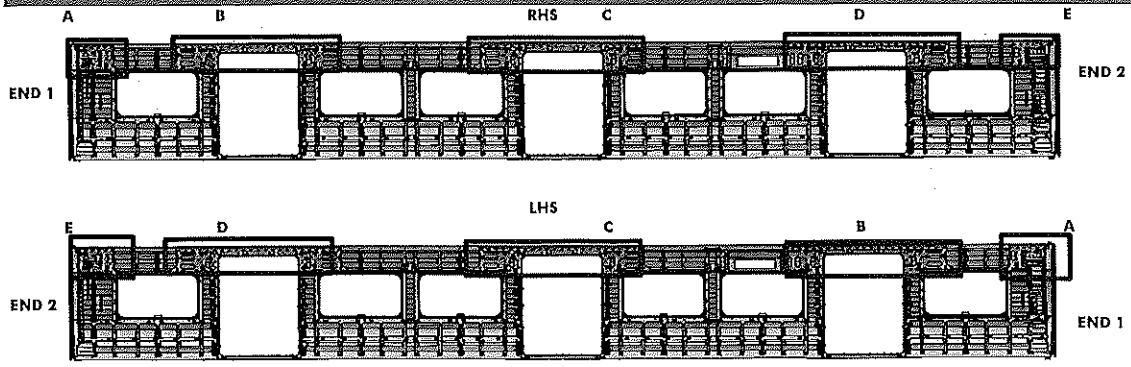
AREA 1 & 2 END 1

Operator (Name & sign): Baitumelo

Operator (Name & sign): Baitumelo

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

II - Self Inspection - Items to Check

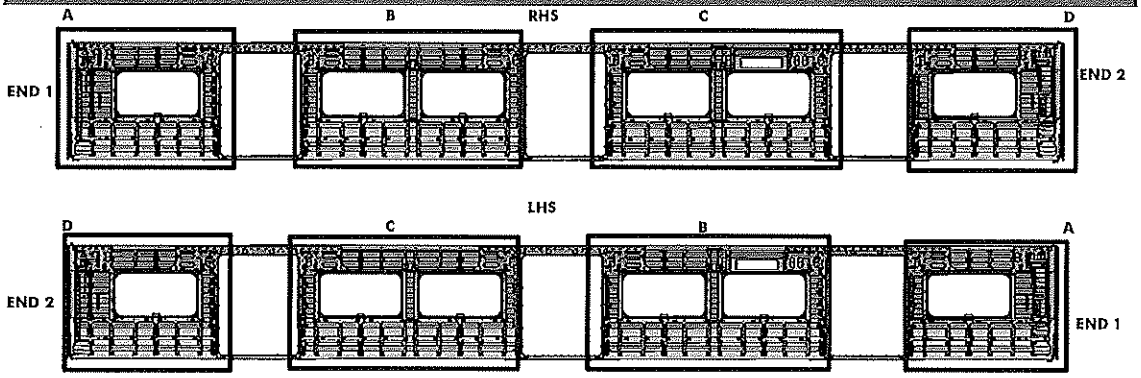


REINFORCEMENT WELDING

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

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

II.- Self Inspection - Items to Check



BRACKETING

		INSTALLATION
C-RAILS:	Operator:	Leni LSMB
	Operator:	
DOOR MECHANISMS:	Operator:	Leni LSMB
	Operator:	
TAPPING PADS	Operator:	End1 Mthethwa MM
	Operator:	End 2 Mthwa
		INSTALLATION & VERIFICATION
SEAT & LUGGAGE BRACKETS:	Operator:	Mmasuelo Mare
	Operator:	Medini MKhize
SEAT BRACKETS VERIFICATION:	Operator:	Leni LSMB
	Operator:	

WELDING

AREA		LHS	RHS
A	(Seat brackets) : Operator (Name&sign):	Mathapelo Mdala	Mathapelo Mdala
	(C-rails, Luggage and earth bushes) : Operator (Name&sign)	Mathapelo Mdala	S. Mthwa
B	(Seat brackets) : Operator (Name&sign):	MKhize	S. Mthwa
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	Mathapelo Mdala	Medini
C	(Seat brackets) : Operator (Name&sign):	MKhize	Emanuel
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	Nhlanhla	Emanuel
D	(Seat brackets) Operator (Name&sign):	Mmasuelo Mare	Mmasuelo Mare
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	MKhize	Mmasuelo Mare

ENDS

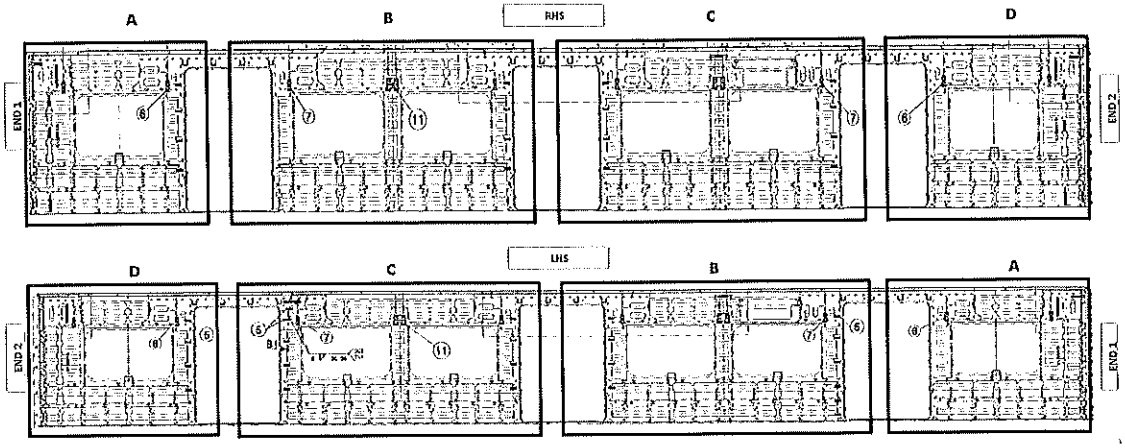
END 1 TAPPING PADS WELDING: Operator (Name&sign): Medini

END 1 TAPPING PADS WELDING: Operator (Name&sign): MKhize

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

II - Self Inspection - Items to Check

M1/M3/M4 BRACKET INSTALLATION



QUANTITIES (M3/M4)

RHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	7	✓	
	B	4	✓	
	C	8	✓	
	D	6	✓	
SEAT BRACKETS	A	13	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	3	✓	
	B	5	✓	
	C	4	✓	
	D	3	✓	

ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: Leon

LHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	2	✓	
	B	8	✓	
	C	11	✓	
	D	8	✓	
SEAT BRACKETS	A	13	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	3	✓	
	B	5	✓	
	C	6	✓	
	D	2	✓	

ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: Leon

QUANTITIES (M1)

RHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	7		
	B	8		
	C	8		
	D	8		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	2		
	B	4		
	C	5		
	D	3		

ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: Leon

LHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	2		
	B	10		
	C	11		
	D	6		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	7		
	C	6		
	D	2		

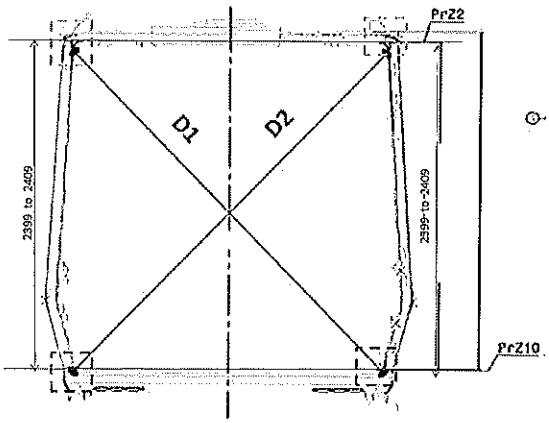
ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

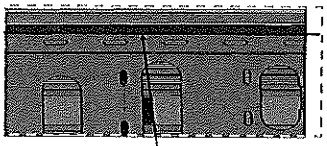
VERIFICATION BY:

GIBELO	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

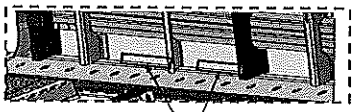
Specifications of Details for CBS measurement



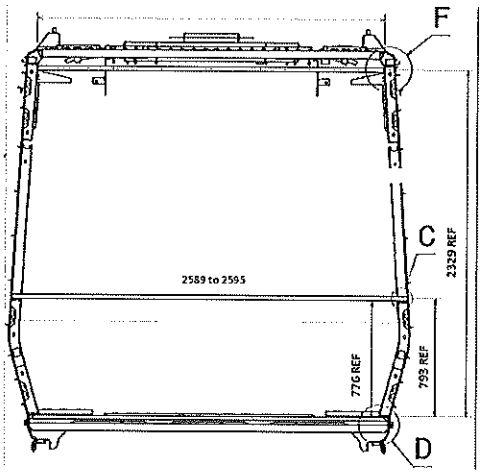
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.

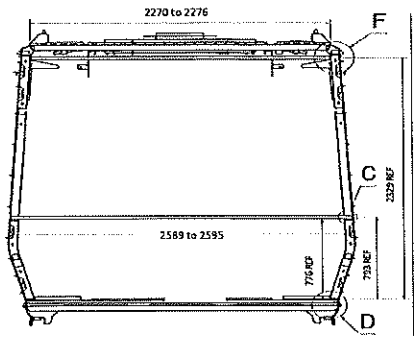


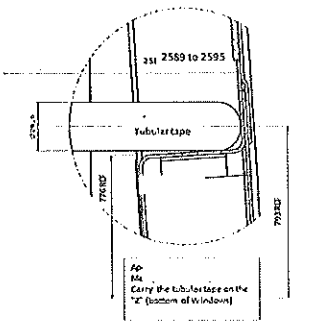
Measurement positions on sidewall and side sill corner.



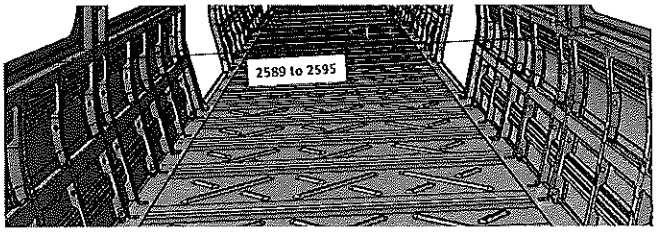
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

CBS measurement

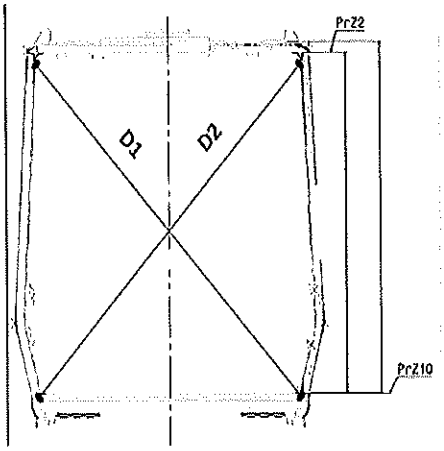


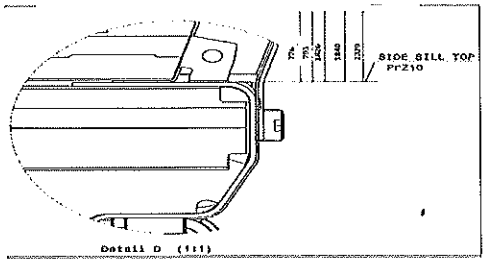


Detail C



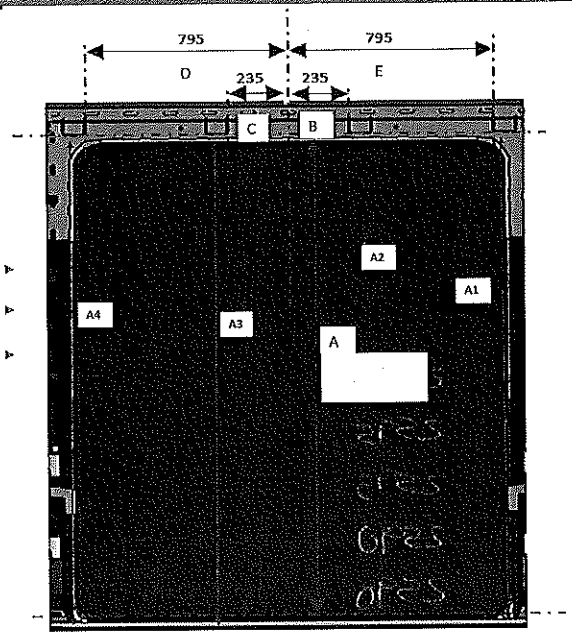
Take measurement close to radius

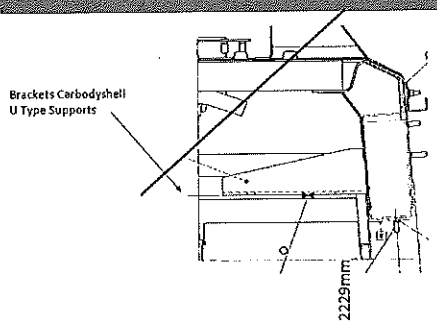


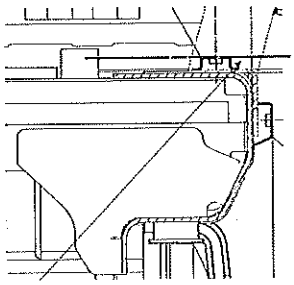


GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

Specifications of Details for CBS measurement CB1220







DOOR 1 - LHS

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

DOOR 2 - LHS

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

DOOR 2 - LHS

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

DOOR 1 - RHS

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

DOOR 2 - RHS

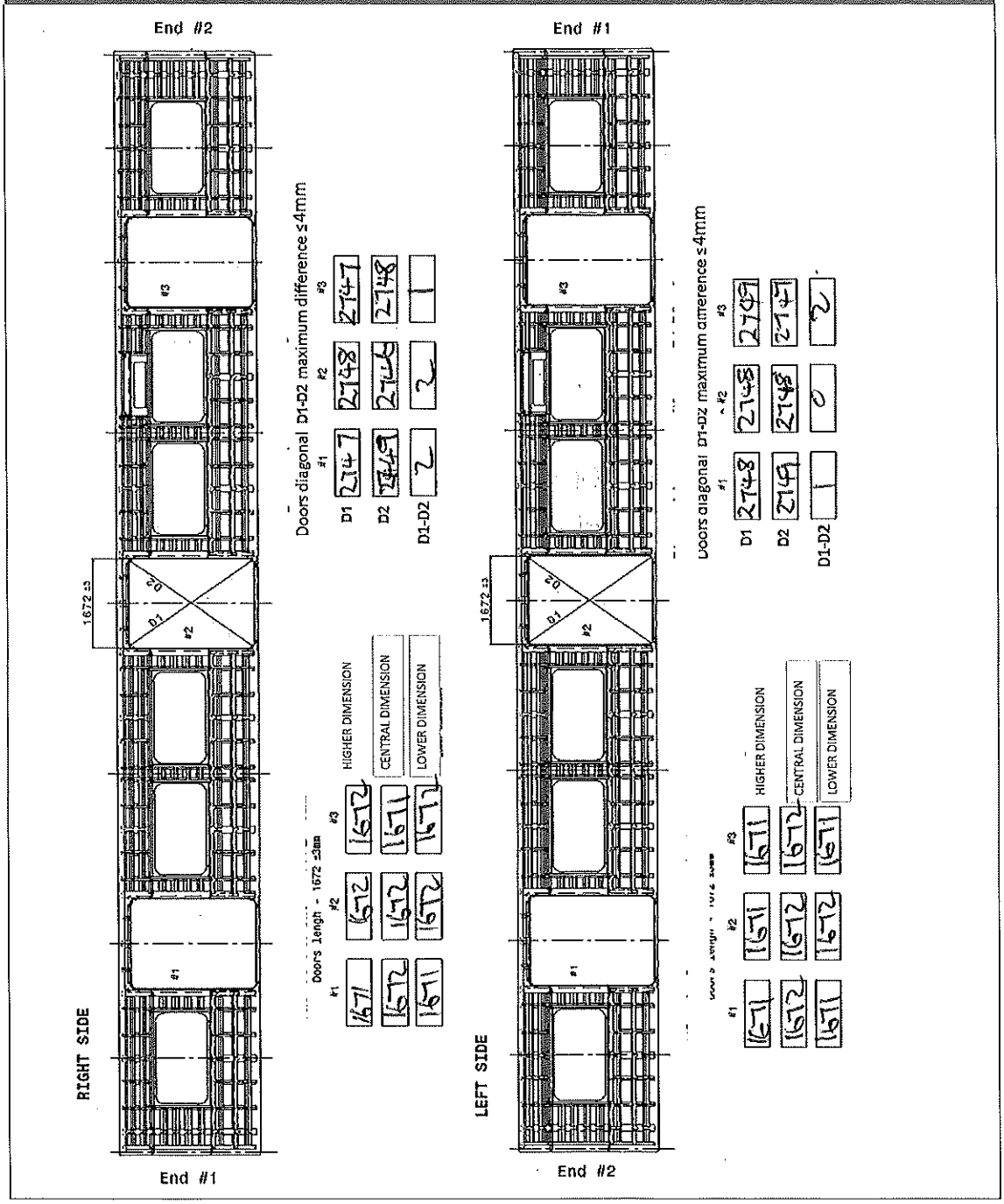
	VALUE	ACTUAL
A1	2230 to 2232	2230
A2	2230 to 2232	2230
A3	2230 to 2232	2230
A4	2230 to 2232	2230
B	234 to 236	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795

DOOR 3 - RHS

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

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

Specifications of Details for CBS measurement CB1220



GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

CBS measurement (Manufacturing)

Dye penetrant test

Dye-penetration test to be performed by quality personnel

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

II.2 - Check List REX

Check List Items

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

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: TCC	M4	M3	M2	M1	TCC	WORK INSTRUCTION	SAFETY?
☐ DT00000225497	AAD0001276565	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB2230		X	X		X		PRA.CB2230.DT000002 25497.V20	YES
☐											
☐											

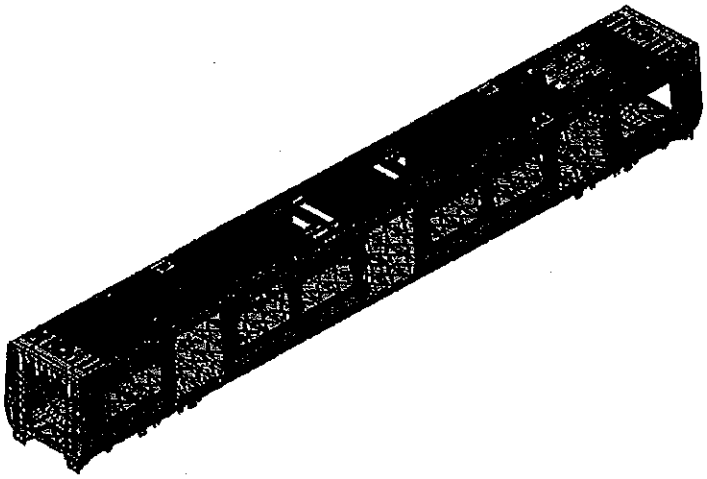
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	2018/08/02	GIBELA NEW CREATION	APPROVER	Philipe Marques	2018/08/02
			CHECKER	Nosizo Pindela	2018/08/02
			COMPILER	Nosizo Pindela	2018/08/02
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	30/5/2018
			CHECKER	Nosizo Pindela	30/5/2018
			REVISED BY	Nosizo Pindela	30/5/2018
2	2018/05/07	Certain dimensional checks moved to CB1220	APPROVER	Itumeleng Modiba	2018/05/07
			CHECKER	Nosizo Pindela	2018/05/07
			REVISED BY	Ramokone Motama	2018/05/07
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
			REVISED BY	Nosizo Pindela	13/03/2019
10	23/08/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	23/08/2019
			CHECKER	Nosizo Pindela	23/08/2019
			REVISED BY	Nosizo Pindela	23/08/2019
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
25	20/02/2022	New Baseline change 10.3.1	APPROVER	Collins Mbhombhi	20/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Collins Mbhombhi	14/06/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
27	26/07/2022	Threashold measurements addition	APPROVER	Collins Mbhombhi	26/07/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
28	17/10/2022	Added traceability of sealant application	APPROVER	Collins Mbhombhi	17/10/2022
			CHECKER	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	
30	06/11/2023	Added threashold traceability for boiler makers and welders	APPROVER	Ngoberi Tyson	06/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME AND ID	DATE	SHEET SECTION NUMBER	PAGE
209	M4	Emmanuel 410478	05/06/24	SI.CB2230.256.V29	12

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000226487	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.V29

Cart:	NCR:	Work station: CB2230

Safety Related



1 - Documentation and Instruments Control

1.1 - Documentation Control

Document	Type of ...					Revision	Observation				Signature/Date (Operations)	Signature/Date (Quality)
PRA.CB2230.DT00000226487				✓		30		✓		N/A	EMMANUEL 05/02/24	05/02/24

1.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date			Signature/Date (Operations)	Signature/Date (Quality)
TUBER	22713	26/06/24	✓		EMMANUEL	
Measuring tape	GIB0394	05/04/24	✓		05/02/24	
Combination square	GIB 0892	27/07/24	✓			05/02/24

1.3 Consumables

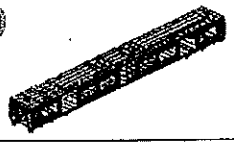
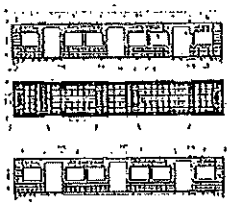
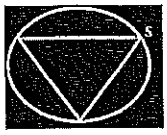
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process			Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308L 1.00mm	310180	MIG WELDING	✓		EMMANUEL 05/02/24	05/02/24

GIBELO	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000226487	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.V29

II - Self Inspection - Items to Check

II.1 - Items to check

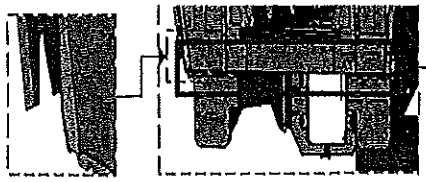
Item	Picture/Drawing	Description	Acceptance criteria/Record				Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.DT00000225487 Verification of fitment for oil brackets.	PRA.CB1230.DT00000225487	✓			C Botha E Mmamuel 05/02/24	05/02/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			E Mmamuel 05/02/24	05/02/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			M Mathapelo 05/02/24	05/02/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			M Mathapelo 05/02/24	05/02/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			E Mmamuel 05/02/24	05/02/24
06		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.	✓			M Mathapelo 05/02/24	05/02/24
07	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% - 60%	Sealant Batch No: ISH2023 Exp Date: ___/04/24 Actuals Temperature: 26°C Humidity: 32%	✓			T Sithole Khoza Keabetswe Bodiamelo 05/02/24	05/02/24
08	N/A	Verification of sealant application on the roof and sidewall finishers.	Sealant must be: -Applied straight and even -Free of gaps,cracks,damage and debris (flashes, dirt, dust) **Refer to Annexure B**	✓			T Sithole Khoza Keabetswe Bodiamelo 05/02/24	05/02/24
09	N/A	Verification of sealant application in certain regions in the drawing.	AAD0001278566	✓			E Mmamuel 05/02/24	05/02/24

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000226467	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.V29

II - Self Inspection - Items to Check

END 2 SEALANT

AREA 1

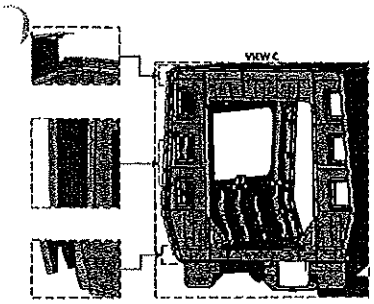


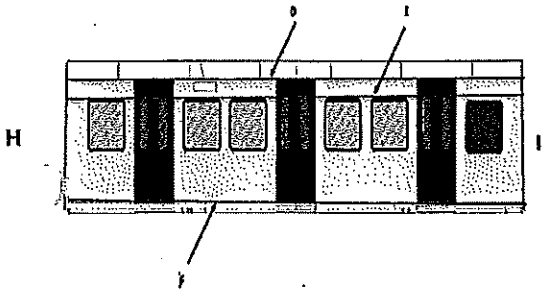
OPERATOR (Name & sign): ZANELE. Boitumelo

OPERATOR (Name & sign): ZANELE UNLEDGED. Boitumelo

OPERATOR (Name & sign): ZANELE Boitumelo.

AREA 2 (VIEW C)

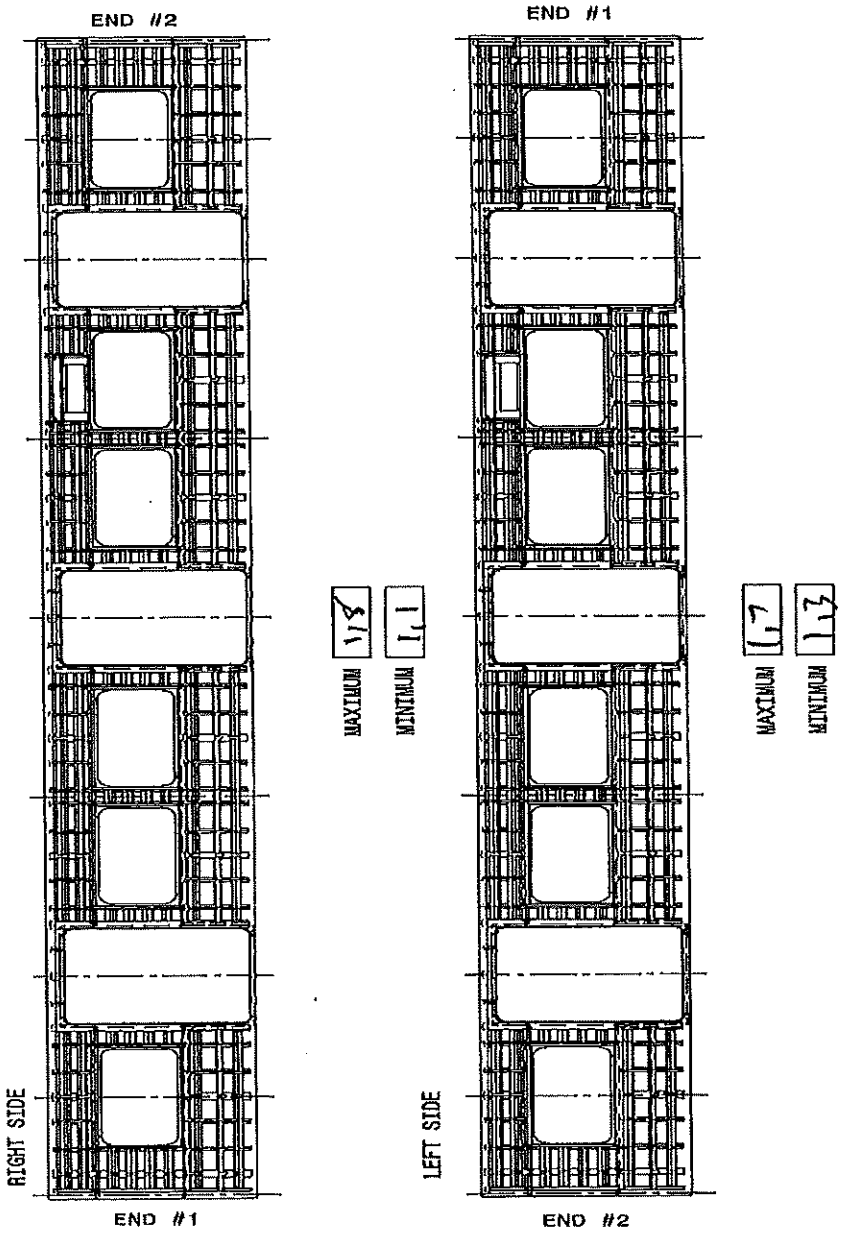




Area D,E,F,G,H,I	LHS	RHS
Operator (Name & sign) :	D,E,F,G,H,I	Top(H,I) D,E
Operator (Name & sign) :	LERATO	KHOSY
Operator (Name & sign) :		TSHEPO (H1 BOTTOM)
Operator (Name & sign) :		Boitumelo
Operator (Name & sign) :		(F) Boitumelo
Operator (Name & sign) :		LERATO

Specifications of Details for CBS measurement CB1230

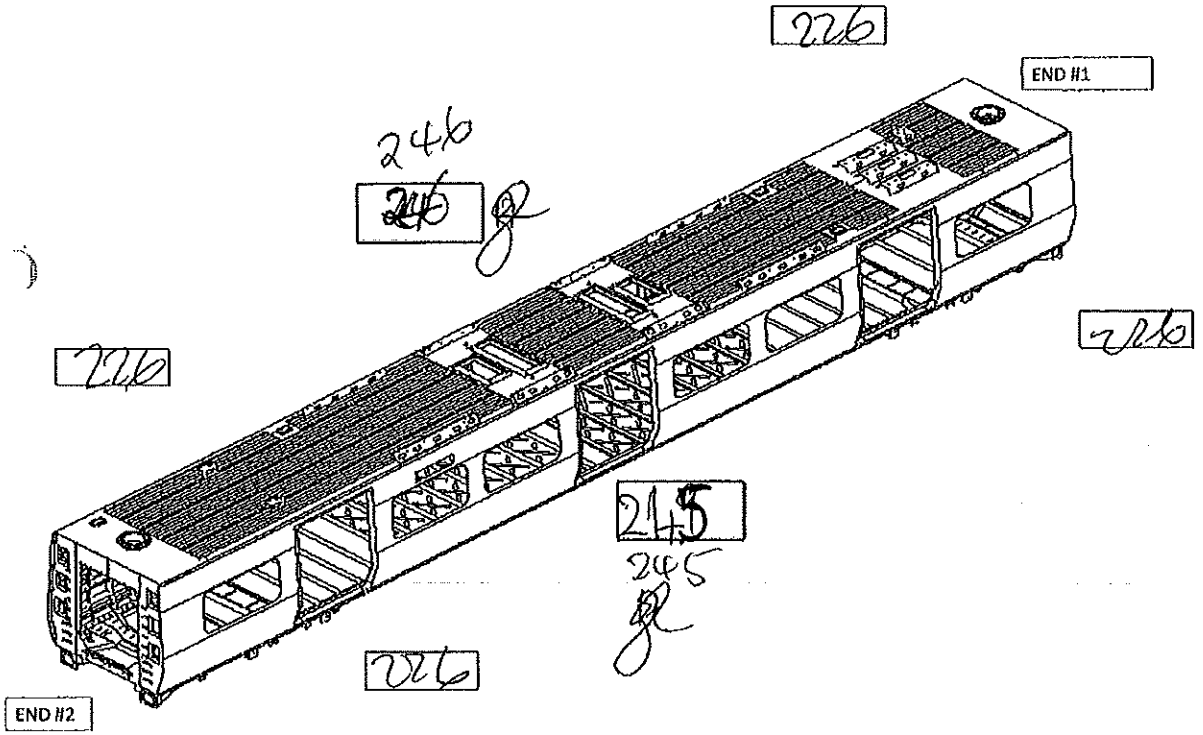
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230

Specified Camber for car out of jig is 18mm(-0mm + 2mm)

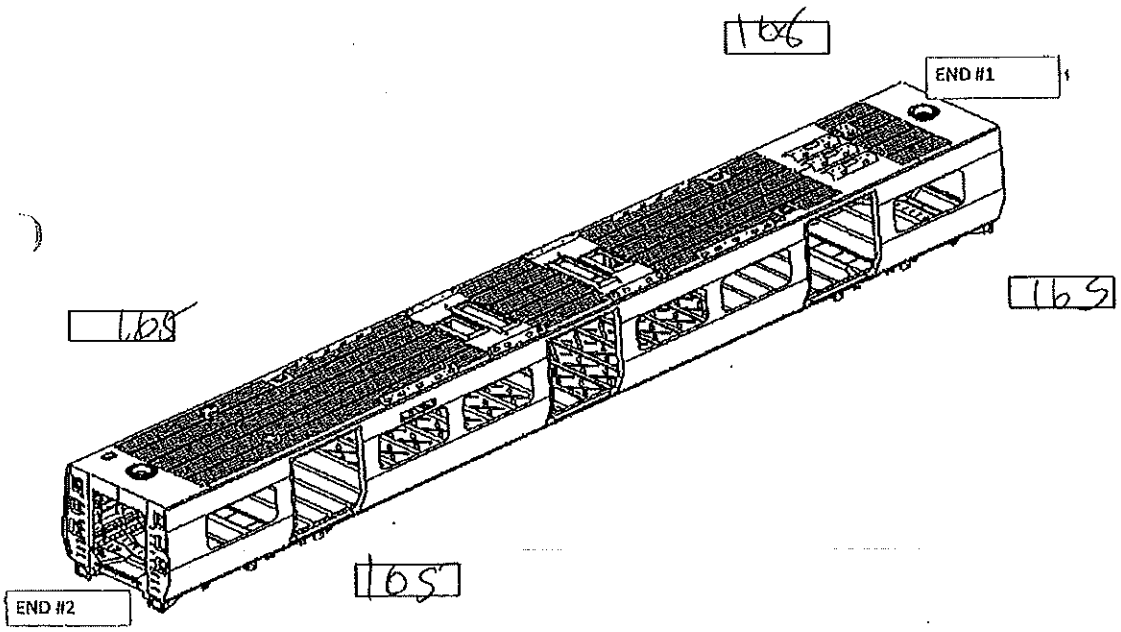


MEASURED CAMBER VALUES		
RIGHT	19	
LEFT	246	20

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230

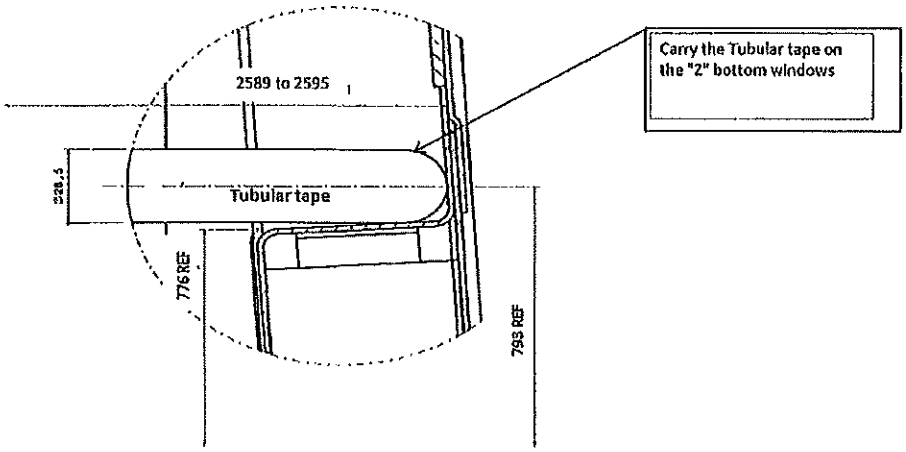
Twist measured in transversal and longitudinal = Maximum 3mm. Measure twist on air spring plates (LHS and RHS), both End 1 and End 2 following twist measurement document.



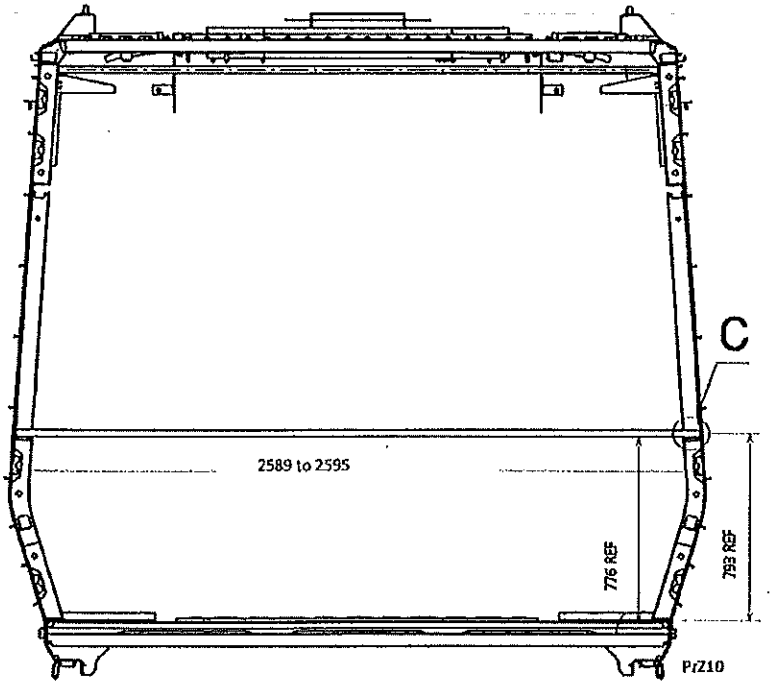
TWIST FOUND ON END 1	
TRANVERSE	0
LONGITUDINAL	3

TWIST FOUND ON END 2	
TRANVERSE	3
LONGITUDINAL	0

Specifications of Details for CBS measurement CB1230

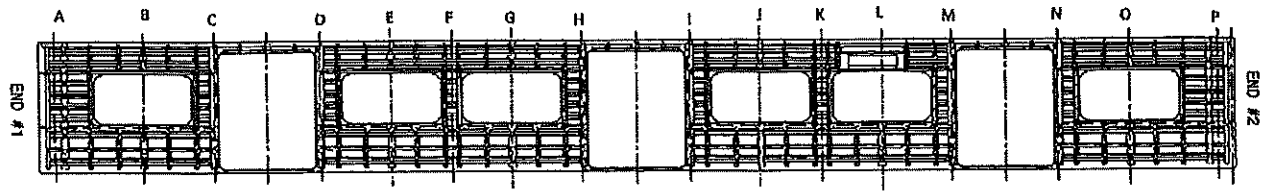


Detail C



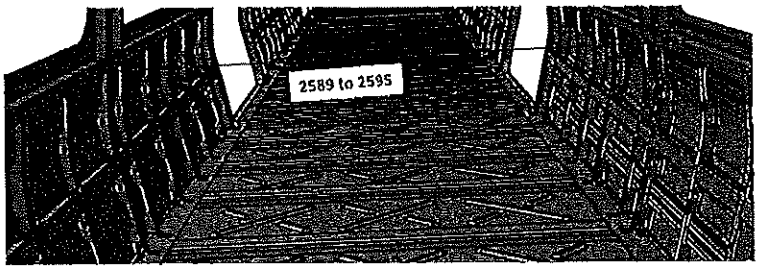
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 30 Date 08/11/2023	Project: PRASA SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



ok Verified with FT1010 part

Threashold verification

Nominal value :38

Door 1		Door 2		Door 3	
L	R	L	R	L	R
38	40	38	39	38	38

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

BOILER MAKER: Buhle Mbobo.

WELDER: Mmthapelo Mbobo.

Dye penetrant test

Dye-penetration test to be performed by quality personnel

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000226487	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.V29

Specifications of Details for CBS measurement

Item	Description of the item		Signature/Date (Operations)	Signature/Date (Quality)

II.2 - Check List REX

Check List Items

Item	P&ID's/Drawing	Description	Criteria of check				Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX					

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000226487	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.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		(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	Industrial Quality	
		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		Responsible	Due date	Status

Operations

Quality