APPLICABLE FROM TRAINSET 100+ 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?
DTR30225487/3	AAD0001278566	CARBODYSHELL M1 ASSEMBLY	CB1210			(X)				PRA.CB1210.DTR30225 487/3.V25	YES

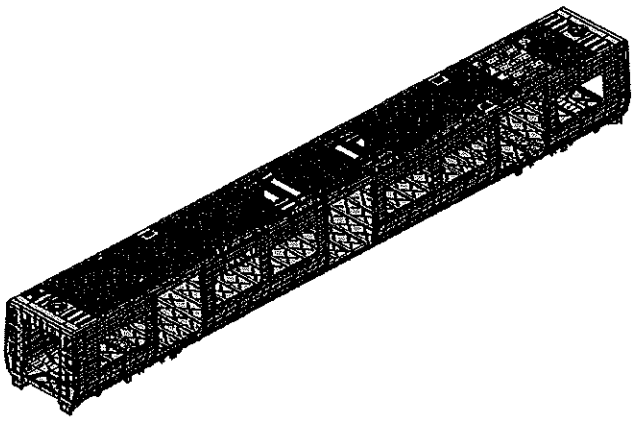
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	10/01/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	10/01/2018
			CHECKER	Nosizo Pindela	10/01/2018
			COMPILER	Thanyani Mathegu	10/01/2018
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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 CB1210	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	
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Zwane Ntokozo	
			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 NO	DATE	SELF INSPECTION NUMBER	PAGES
TS226	M1	Justice 41005	07/05/24	SI.CB1210.254.V28	17

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

Car: M1	NCR:	Work station: CB1210

Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car TC1	M1	M2	M3	M4	TC2	Revision	Observation	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30225487/3		X					28		X			07/05/24	07/05/24

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	32823-2	15/03/24	X			
LASER TAPE	1254259 24	08/01/25	X			
30M TAPE	CIBTP0102	18/11/24	X		07/05/24	07/05/24

1.3 Consumables

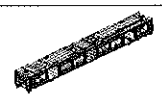
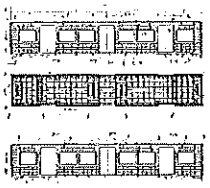
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSi	3140 18-74097	MIG	X			
ER 309 LSi	299687-70322	MIG	X			
ER 308 LS	299687-70323	TIG	X		07/05/24	07/05/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.254.V28

II - Self Inspection - Items to Check

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls,Endframes,Roof and Underframe)	DT00000311225	✓			07/05/24	07/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			07/05/24	07/05/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD0000210675	✓			07/05/24	07/05/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			07/05/24	07/05/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			07/05/24	07/05/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓			07/05/24	07/05/24
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. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓			07/05/24	07/05/24

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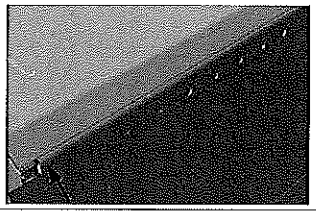
Welder Traceability

Roof ring welds



END 1

LHS

Boiler maker (Name & Sign): LUNGA Welder (Name & Sign): BOBBEKI

RHS

Boiler maker (Name & Sign): Tim Welder (Name & Sign): BOBBEKI

END 2

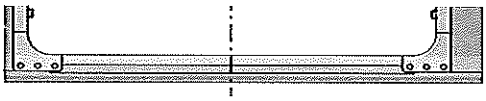
LHS

Boiler maker (Name & Sign): LUNGA Welder (Name & Sign): BOBBEKI

RHS

Boiler maker (Name & Sign): Tim Welder (Name & Sign): BOBBEKI

Door ring welds



LHS

Boiler maker (Name & Sign): JUSTICE

Welder (Name & Sign): Thabang

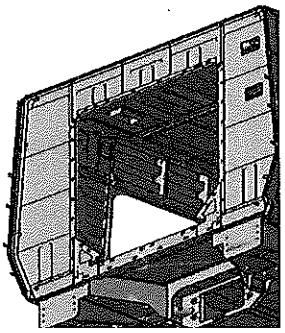
RHS

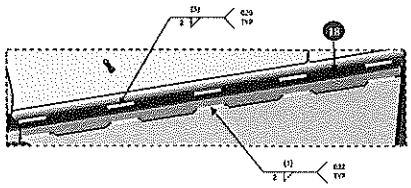
Boiler maker (Name & Sign): JUSTICE

Welder (Name & Sign): Thabang

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 26	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

EUF Reinforcement Plates



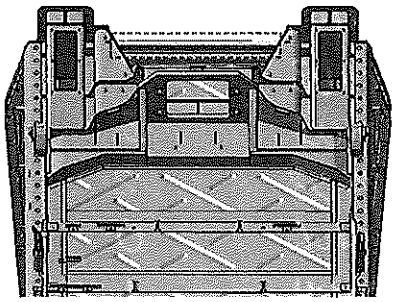


END 1

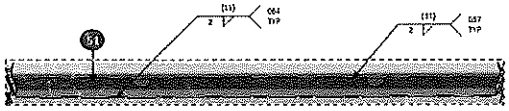
Boiler maker (Name & Sign): SEAN

Welder (Name & Sign): SIPHOKAZI

END 2



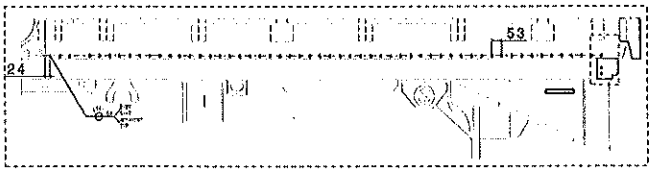
Underneath the CAR



END 2

Boiler maker (Name & Sign): LAWRENCE

Welder (Name & Sign): MTHOKOZISI

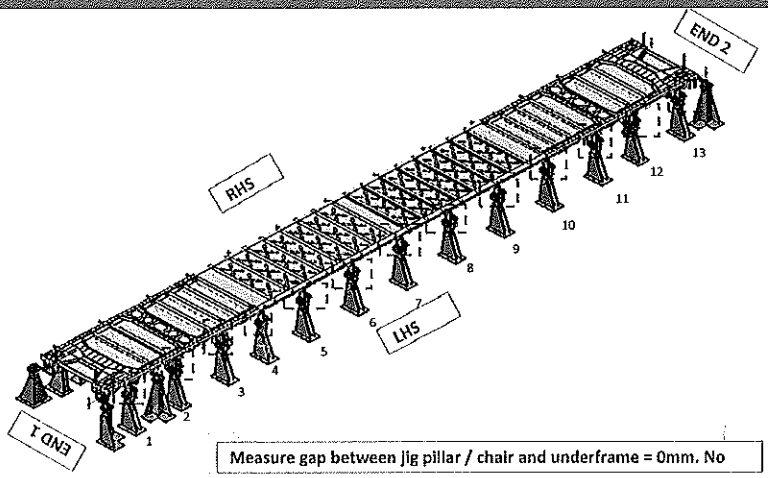


FEDOLI

OPERATOR: LAWRENCE

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

Specifications of Details for CBS measurement



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

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	2	0	0	0	0	0	0	0	1	0	0	2	1
Right Hand Side	0	1	1	0	0	0	0	0	0	0	0	0	0

Signature Operations: Date: 04/05/24

After Welding.

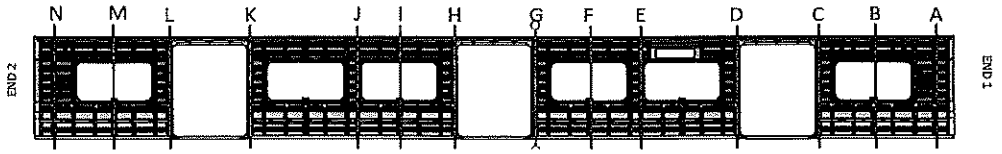
Fill in the gap found each jig pillars / chair and underframe should be 0mm.

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

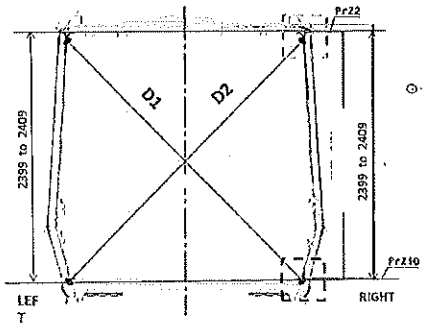
Signature Industrial Quality: Date: 07/05/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.254.V28

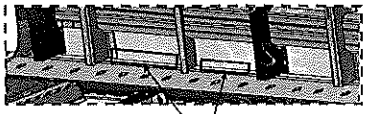
Specifications of Details for CBS measurement



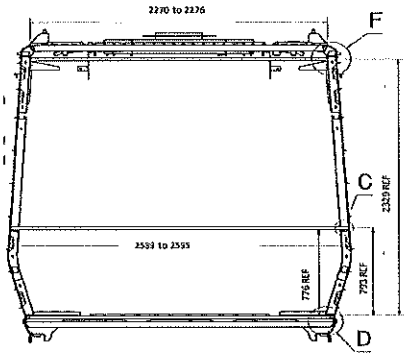
9

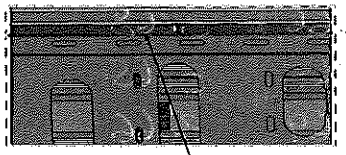


Measurement positions on roof rail and sidewall omega corner.

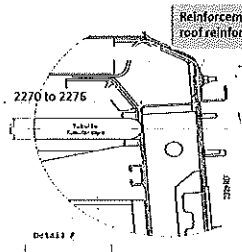


Measurement positions on sidewall and side sill corner.



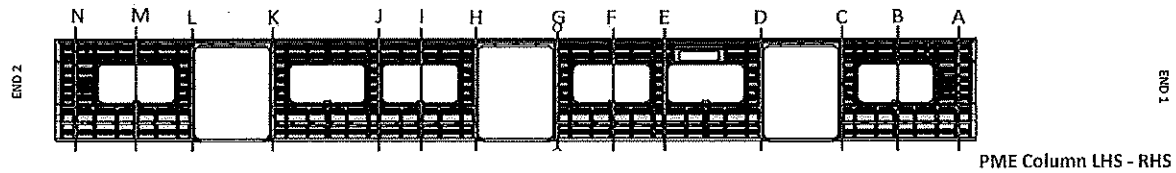


Reinforcement area measurement positions on roof reinforcement area.



GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

Specifications of Details for CBS measurement



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

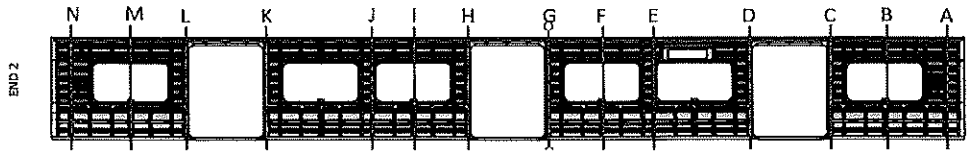
BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3269	3269	0	2406	2404	2
B	3267	3266	1	2405	2404	1
C	3271	3269	2	2405	2405	0
D	3268	3266	2	2406	2404	2
E	3266	3265	1	2405	2405	0
F	3268	3269	1	2405	2404	1
G	3266	3268	2	2406	2405	1
H	3265	3265	0	2405	2403	2
I	3269	3266	3	2406	2403	3
J	3269	3268	1	2405	2403	2
K	3267	3265	2	2406	2406	0
L	3268	3269	1	2405	2404	1
M	3270	3268	2	2404	2404	0
N	3269	3266	3	2405	2405	0

07/05/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.254.V28

Specifications of Details for CBS measurement



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

AFTER WELDING

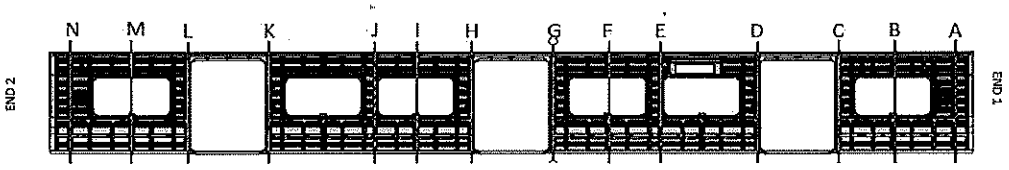
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3296	3295	1	2406	2406	0
B	3269	3266	3	2405	2404	1
C	3298	3296	2	2408	2408	~~2405~~ 0
D	3299	3297	2	2405	2405	0
E	3268	3265	3	2407	2405	2
F	3270	3268	2	2406	2405	2
G	3296	3296	0	2405	2406	1
H	3297	3295	2	2406	2404	2
I	3266	3265	1	2407	2405	2
J	3268	3265	3	2405	2405	0
K	3296	3296	0	2408	2406	2
L	3299	3298	1	2405	2405	0
M	3268	3266	2	2407	2405	2
N	3296	3295	1	2406	2405	1

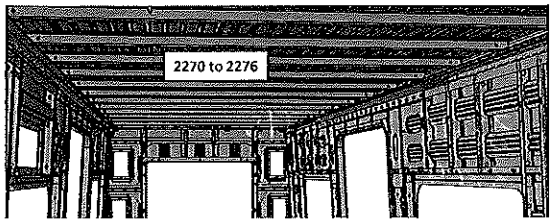
07/05/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR302256487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

CBS measurement

BEFORE WELDING

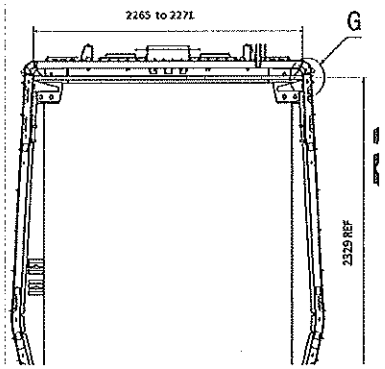


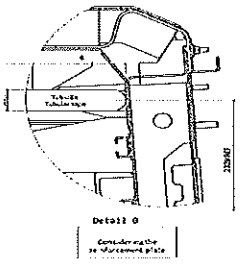


Do not consider reinforcement (Take measurements top area of zee profile

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

1990 to



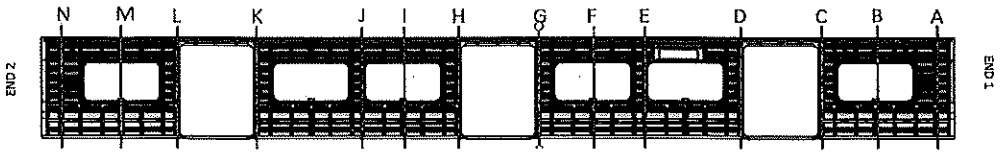


07/05/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.254.V28

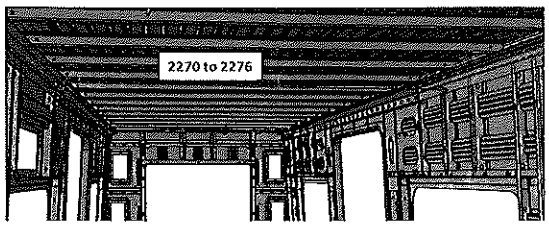
CBS measurement

AFTER WELDING

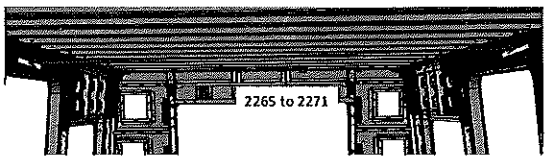


	2265 to 2271	2270 to 2276
A	2269	
B		2274
C	2270	
D	2269	
E		2275
F		2273
G	2265	
H	2268	
I		2276
J		2274
K	2266	
L	2268	
M		2275
N	2270	

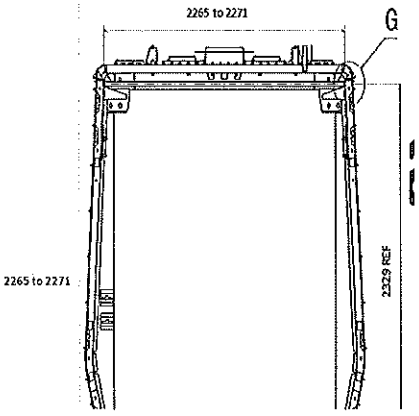
END 2

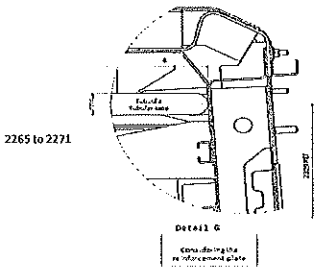


Do not consider reinforcement (Take measurements top area of zee profile



Take measurement close to radius (considering reinforcement)

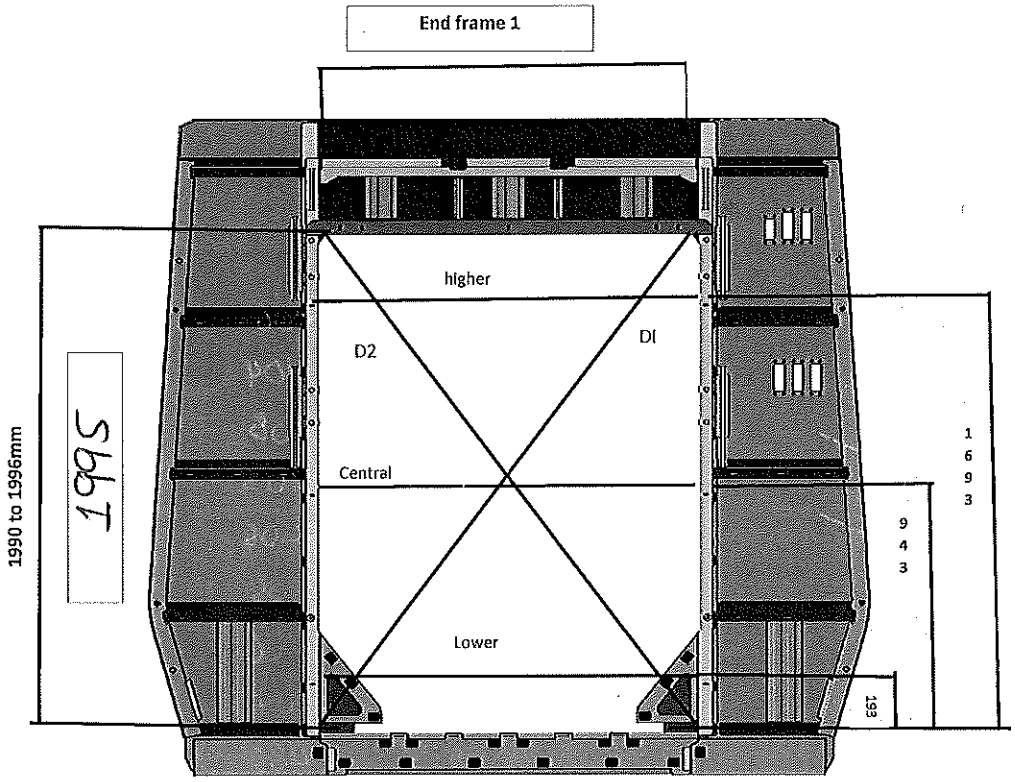




07/05/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.254.V28

Specifications of Details for CBS measurement



1380 to 1382 mm

DIAGONAL DIFFERENCE **D1-D2** ≤ 3mm

Higher Dimension	1380	D1	2415
Central Dimension	1381	D2	2416
Lower Dimension	1381	D1-D2	1

07/05/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 28	Project: PRASA
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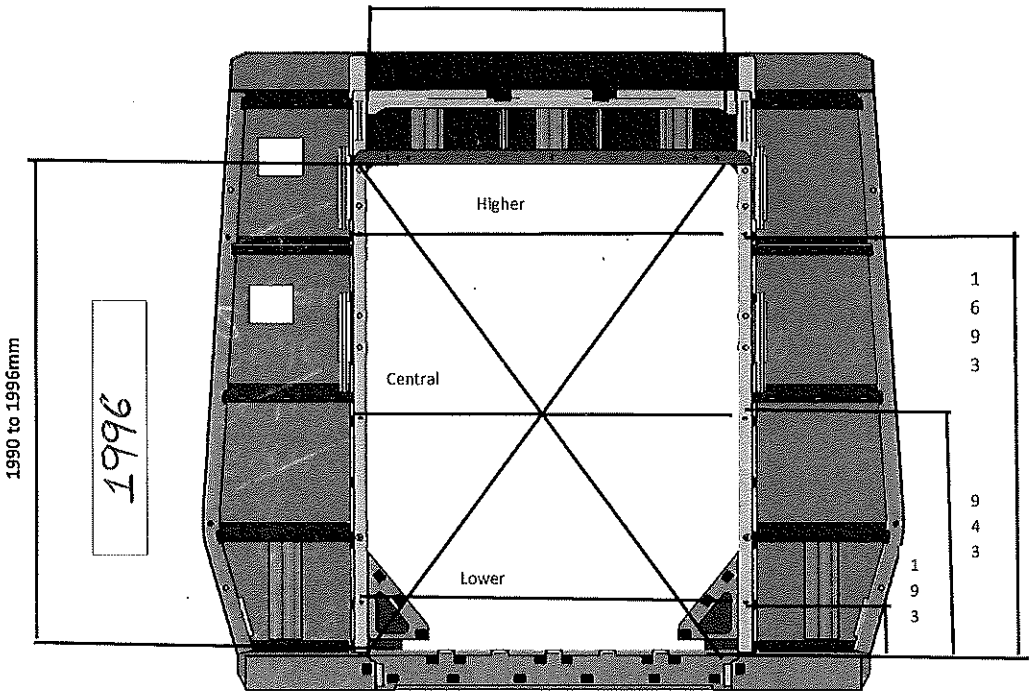
Specifications of Details for CBS measurement

Endframe 2

1380 to 1382 mm



1380 to 1382 mm

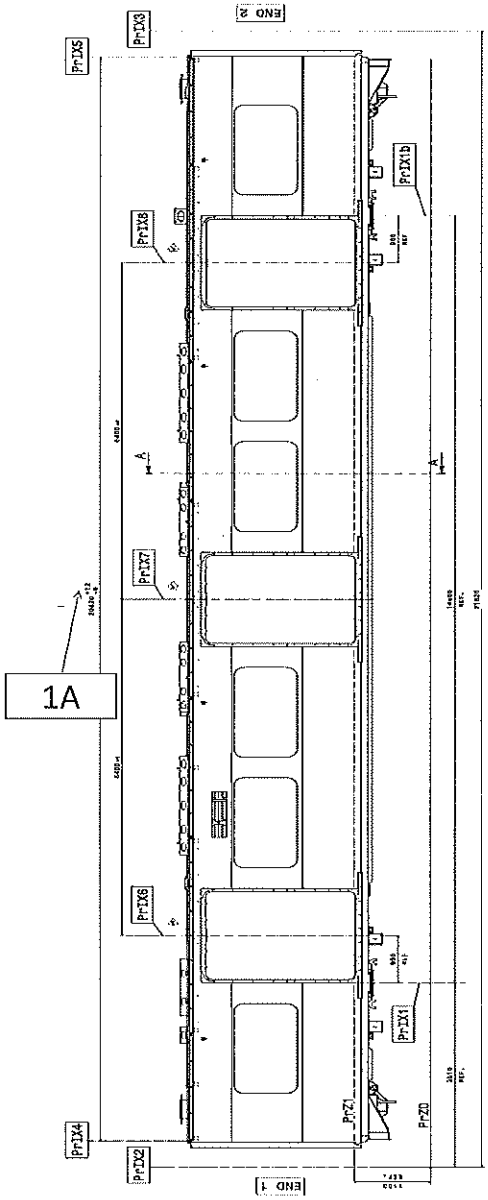
DIAGONAL DIFFERENCE **D1-D2** ≤ 3mm

Higher Dimension	1380	D1	2416
Central Dimension	1382	D2	2416
Lower Dimension	1381	D1-D2	0

04/05/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR302254487/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.254.V28

Specifications of Details for CBS measurement



	LEFT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20615

	RIGHT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20615

Dye penetrant test

Dye-penetration test to be performed by quality personnel

07/05/24

GIBELO	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.254.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	[redacted]	[redacted]	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 M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.254.V28

Self Inspection - Final Result

				DATE	NAME	SIGNATURE
HOLD POINT		GO	(if activities are not complete, the missing activities must not impact the next stage)	07/05/24	JUSTICE Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	07/05/24	NTOKOZO Industrial Quality	
		NO GO	There are activities pending that impact/stop the activities of the next process Obs: (To describe problems below)		Operations	
			There are non-conformities impact the quality of the product and there is no corrective action defined yet)		Industrial Quality	

In case of "NO GO", describe blocking problems

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

Item	Description		Responsible	Due date	Status

Operations

Quality

GIBELA

PRASA PROJECT

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

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

APPLICATION REFERENCE

	MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	M4	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY ?
☐	DTR30225487/2	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB1220		X	X		X		PRA.CB1220.DTR3022548 7/2.V21	YES
☐												
☐												
☐												
☐												
☐												
☐												

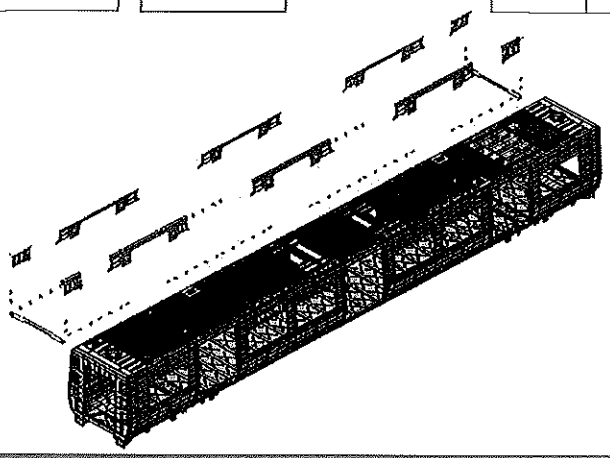
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	01/02/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	01/02/2018
			CHECKER	Nosizo Pindela	01/02/2018
			COMPILER	Thanyani Mathegu	01/02/2018
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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 DT0000336600	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	Mbhombhi collins	19/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Mbhombhi Collins	14/06/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
27	17/10/2022	Addition of traceability for sealant application and welding	APPROVER	Mbhombhi Collins	17/10/2022
			CHECKER	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	
28	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	
29	28/10/2023	Addition of bracket quantity	APPROVER	Ngobeni Tyson	28/10/2023
			CHECKER	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
226	M1	[illegible]	02/05/24	SI.CB1220.250.V29	14

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

Car: M1,M3&M4	NCR:	Work station:	CB1220

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	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30225487/2		✓					06/05/23	29	✓		N/A	[redacted] 06/05/24	06/05/24

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)
Tubular Measuring tape	528232 GIBTAC1428	15/03/2025 2025/04/17	✓ ✓		[redacted] 06/05/24 [redacted] 06/05/24	06/05/24

I.3 Consumables

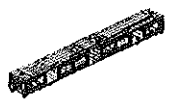
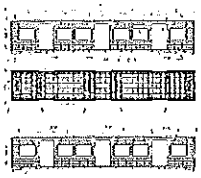
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 1.0mm	37737	MIG	✓		[redacted] 06/05/24	06/05/24

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

II - Self Inspection - Items to Check

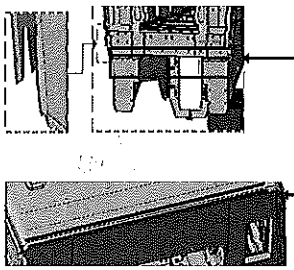
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA CB1220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	PRA CB1220.DTR30225487/2	✓			08/05/24	
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			08/05/24	
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			08/05/24	
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			08/05/24	
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			08/05/24	
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.	✓			08/05/24	
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% - 60%	Sealant Batch No: 20014 3SP Exp Date: ___ / 06 / 24 Actuals Temperature: 22 Humidity: 33	✓			08/05/24	
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001278566	✓			08/05/24	
09		Verfication of safety welds	Approved according to DTD000210658 reference and Self inspection				08/05/24	

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR302254B7/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

II - Self Inspection - Items to Check

SEALANT APPLICATION



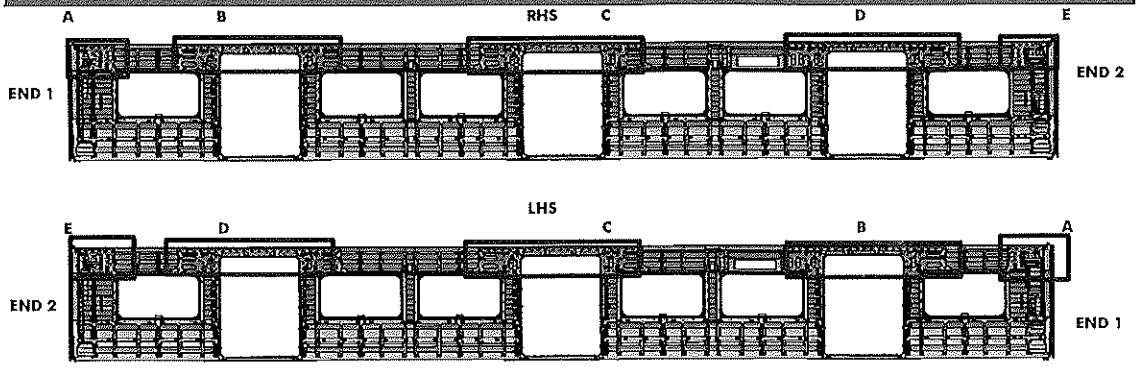
AREA 1 & 2 END 1

Operator (Name & sign):

Operator (Name & sign):

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

II - Self Inspection - Items to Check

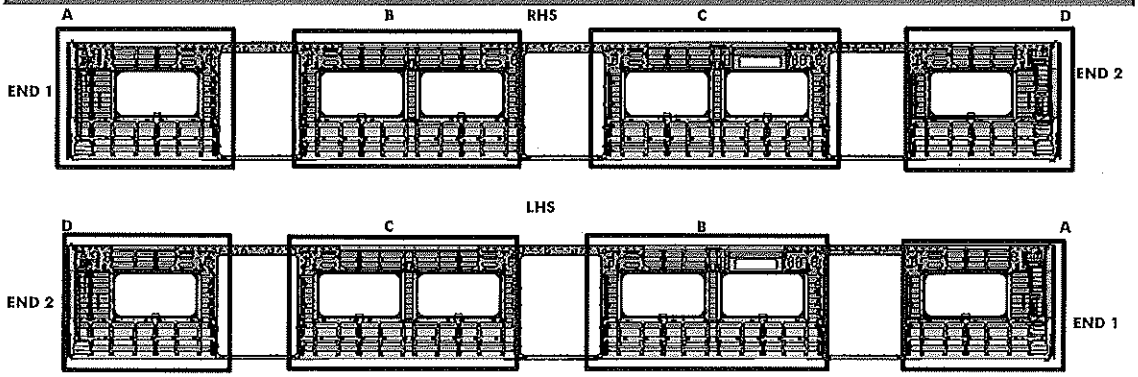


REINFORCEMENT WELDING

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

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

II - Self Inspection - Items to Check



BRACKETING

INSTALLATION

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

INSTALLATION & VERIFICATION

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

WELDING

AREA		LHS	RHS
A	(Seat brackets) : Operator (Name&sign):	S. Matlou	S. Matlou
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	Jolly Rao	Jolly Rao
B	(Seat brackets) : Operator (Name&sign):	[redacted]	[redacted]
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	Jolly Rao	Jolly Rao
C	(Seat brackets) : Operator (Name&sign):	[illegible]	[illegible]
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	[illegible]	[illegible]
D	(Seat brackets) Operator (Name&sign):	THULANI	THULANI
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	M MATSUELLO Mark	M MATSUELLO Mark

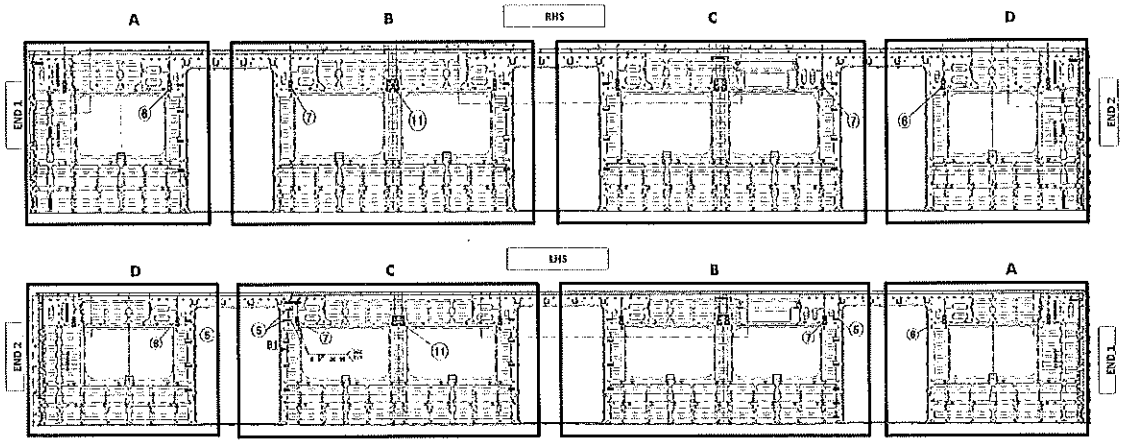
ENDS

END 1 TAPPING PADS WELDING:	Operator (Name&sign):	Jolly Rao
END 2 TAPPING PADS WELDING:	Operator (Name&sign):	M MATSUELLO Mark

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR302226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.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	8		
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: _____

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: _____

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: _____

LHS

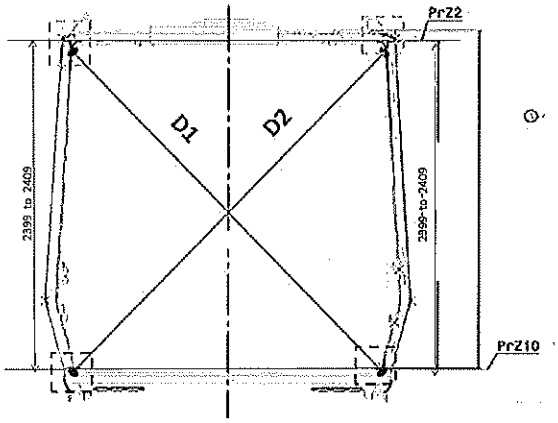
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	2		
	B	10		
	C	11		
	D	8		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	7		
	C	6		
	D	2		

ROOF ENDS:

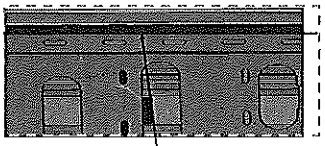
CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: _____

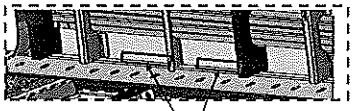
Specifications of Details for CBS measurement



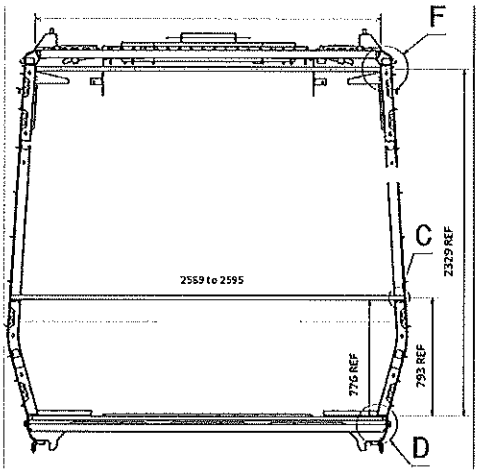
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.

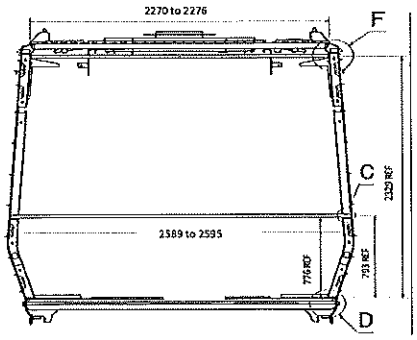


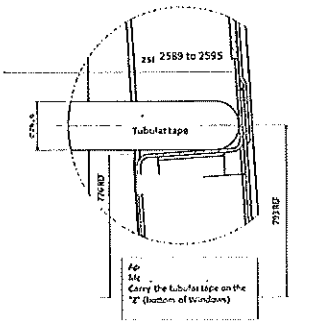
Measurement positions on sidewall and side sill corner.



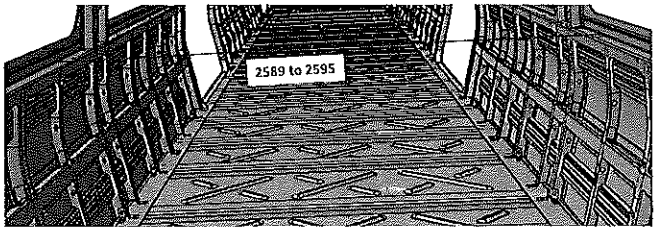
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

CBS measurement

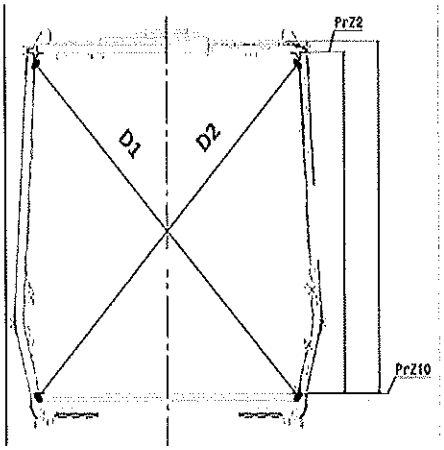


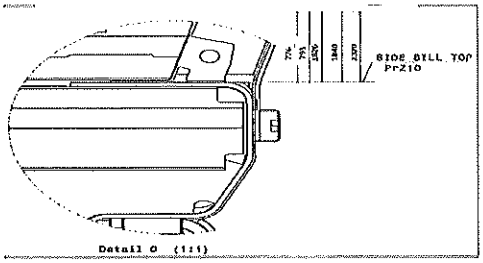


Detail C



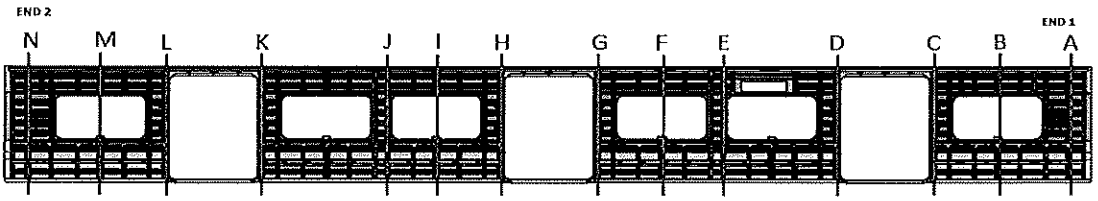
Take measurement close to radius





GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

CBS measurement

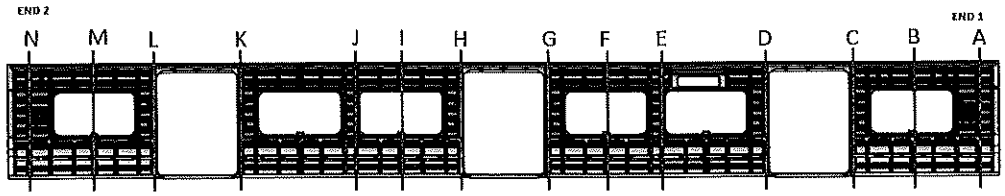


BEFORE WELDING

	.ecord D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3298	3299	1	—
B	3268	3264	4	—
C	3298	3299	1	—
D	3298	3296	2	—
E	3265	3268	3	—
F	3263	3265	2	—
G	3300	3300	0	—
H	3299	3296	3	—
I	3263	3262	1	—
J	3266	3264	2	—
K	3300	3296	4	—
L	3300	3295	5	—
M	3262	3265	3	—
N	3293	3295	2	—

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR302256487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

CBS measurement

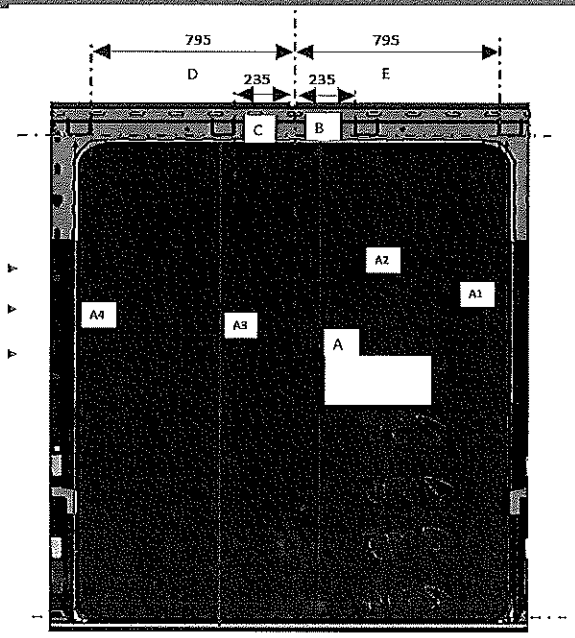


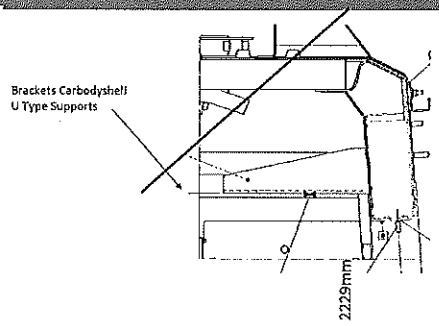
AFTER WELDING

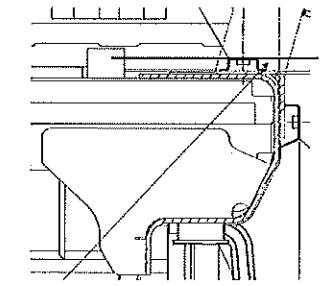
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3295	3297	2	2595
B	3262	3266	2	2592
C	3297	3295	2	2595
D	3300	3295	5	2595
E	3264	3262	2	2594
F	3264	3262	2	2593
G	3298	3295	3	2595
H	3295	3298	3	2595
I	3261	3263	2	2598
J	3264	3266	2	2596
K	3295	3302	3	2595
L	3295	3298	3	2596
M	3260	3268	8	2589
N	3290	3293	3	2595

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

Specifications of Details for CBS measurement CB1220







DOOR 1 - 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 2 - LHS

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

DOOR 2 - LHS

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

DOOR 1 - 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	234
C	234 to 236	235
D	794 to 796	795
E	794 to 796	794

DOOR 2 - RHS

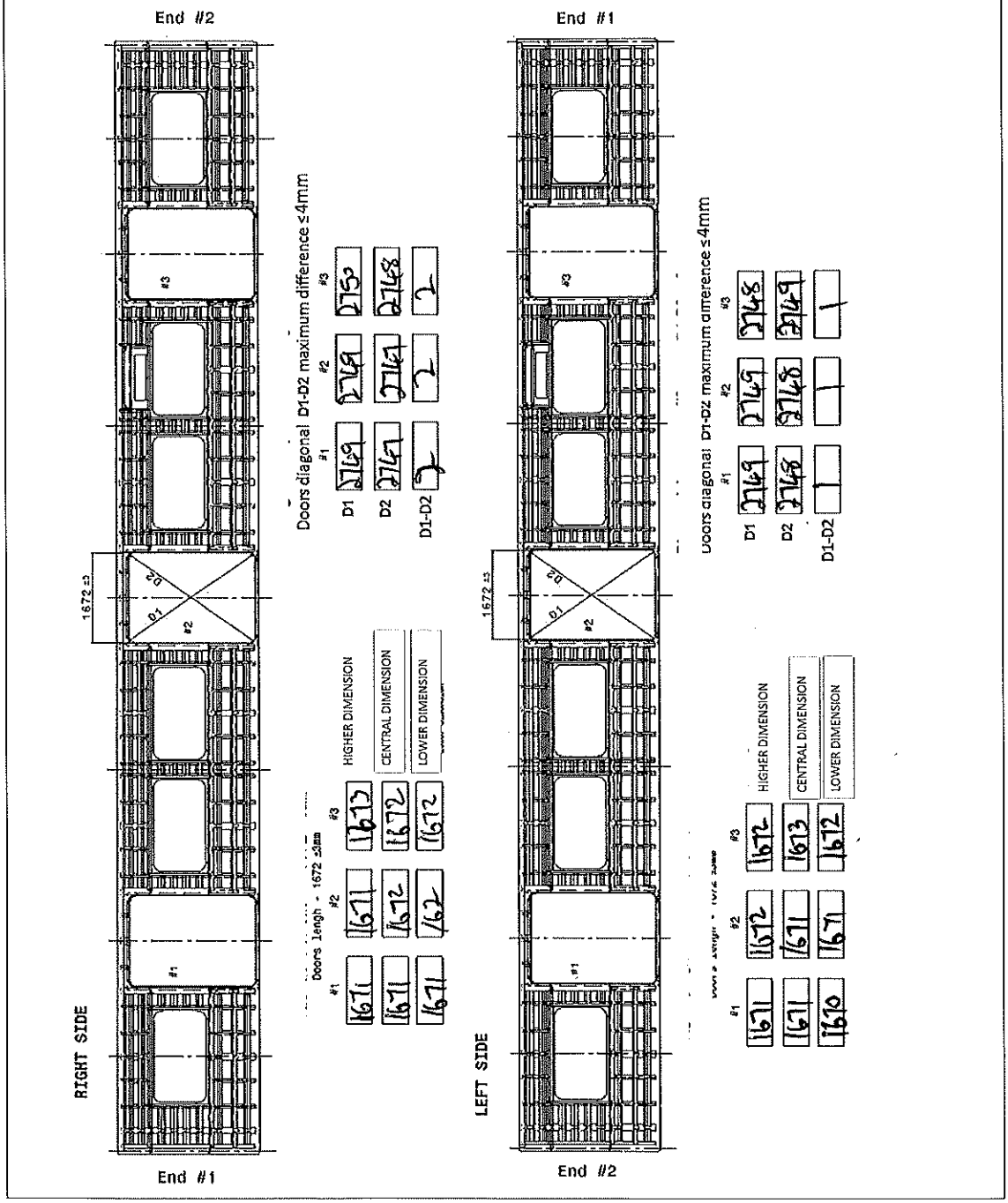
	VALUE	ACTUAL
A1	2230 to 2232	2233
A2	2230 to 2232	2232
A3	2230 to 2232	2232
A4	2230 to 2232	2232
B	234 to 236	234
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795

DOOR 3 - RHS

	VALUE	ACTUAL
A1	2230 to 2232	2234
A2	2230 to 2232	2232
A3	2230 to 2232	2232
A4	2230 to 2232	2234
B	234 to 236	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	794

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

Specifications of Details for CBS measurement CB1220



GIBELO	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.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	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	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.250.V29

Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations Manager and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT		GO	(If activities are not complete, the missing activities must not impact the next stage)	08/05/24	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	08/05/24	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

PRASA PROJECT

GIBELA

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 ?
DT00000225487	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB2230		X	X		X		PRA.CB2230.DT000002 25487.V20	YES

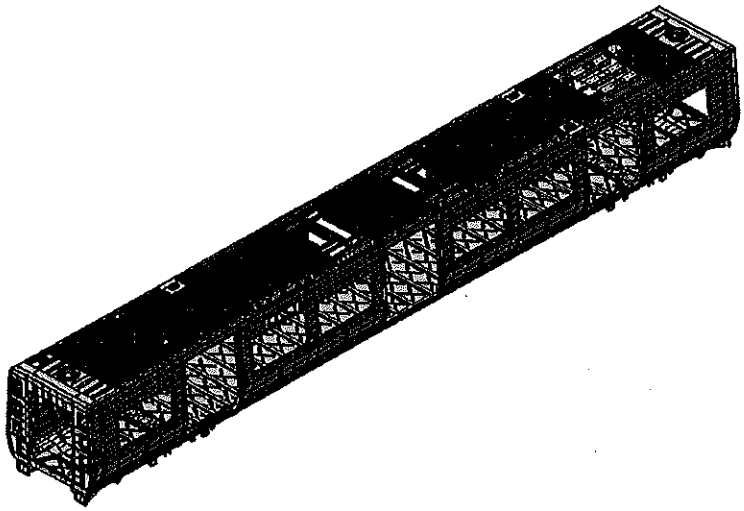
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	2018/08/02	GIBELA NEW CREATION	APPROVER	Philipe Marques	2018/08/02
			CHECKER	Nosizo Pindela	2018/08/02
			COMPILER	Nosizo Pindela	2018/08/02
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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	Ngobeni Tyson	06/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
226	M1	Zanele 482774	09/05/24	SI.CB2230.256.V29	12

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

Car:	NCR:	Work station: CB2230

Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car M1	M2	M3	M4	TC2	Revision	Observation	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
PRA.CB2230.DT00000225487	X					30		X		N/A	09/05/24	09/05/24

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 (Operations)	Signature/Date (Quality)
Tubular	2713	26/06/24	X		09/05/24	09/05/24
Combination square	9/B0724	25/04/24	X		09/05/24	
Tape measurement	9/B0072	27/07/24	X		09/05/24	

I.3 Consumables

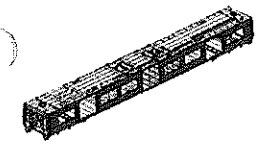
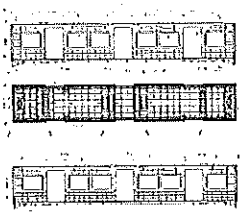
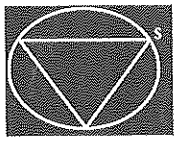
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308LSi	313179	Mig	X		09/05/24	09/05/24

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

II - Self Inspection - Items to Check

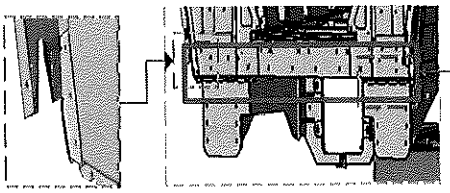
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.DT00000225487 Verification of fitment for all brackets.	PRA.CB1230.DT00000225487	X			09/05/24	09/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	X			09/05/24	09/05/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	X			09/05/24	
04		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	X			09/05/24	09/05/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	X			09/05/24	09/05/24
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.	X			09/05/24	
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 (1) Min-Max 10°C - 35°C Relative humidity Min – Max (1) Min-Max 25% - 80%	Sealant Batch No: B-3497-003/24 Exp Date: 06/24 Actuals Temparature: 15°C Humidity: 34%	X			09/05/24	09/05/24
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**	X			09/05/24	09/05/24
09	N/A	Verification of sealant application in certain regions in the drawing.	AAD0001278566	X			09/05/24	09/05/24

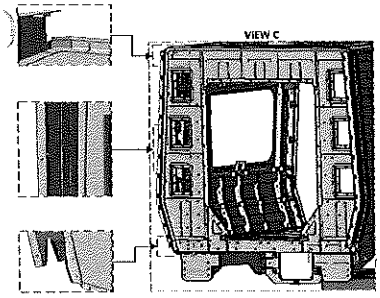
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.V29

II - Self Inspection - Items to Check

AREA 1

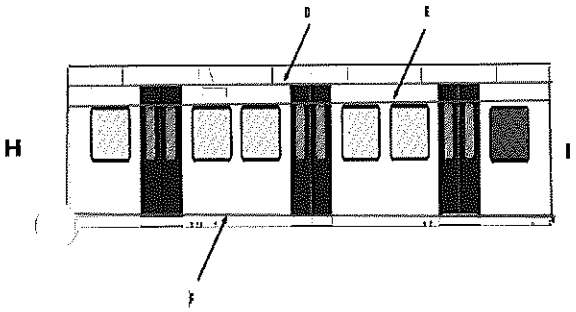


AREA 2 (VIEW C)



END 2 SEALANT

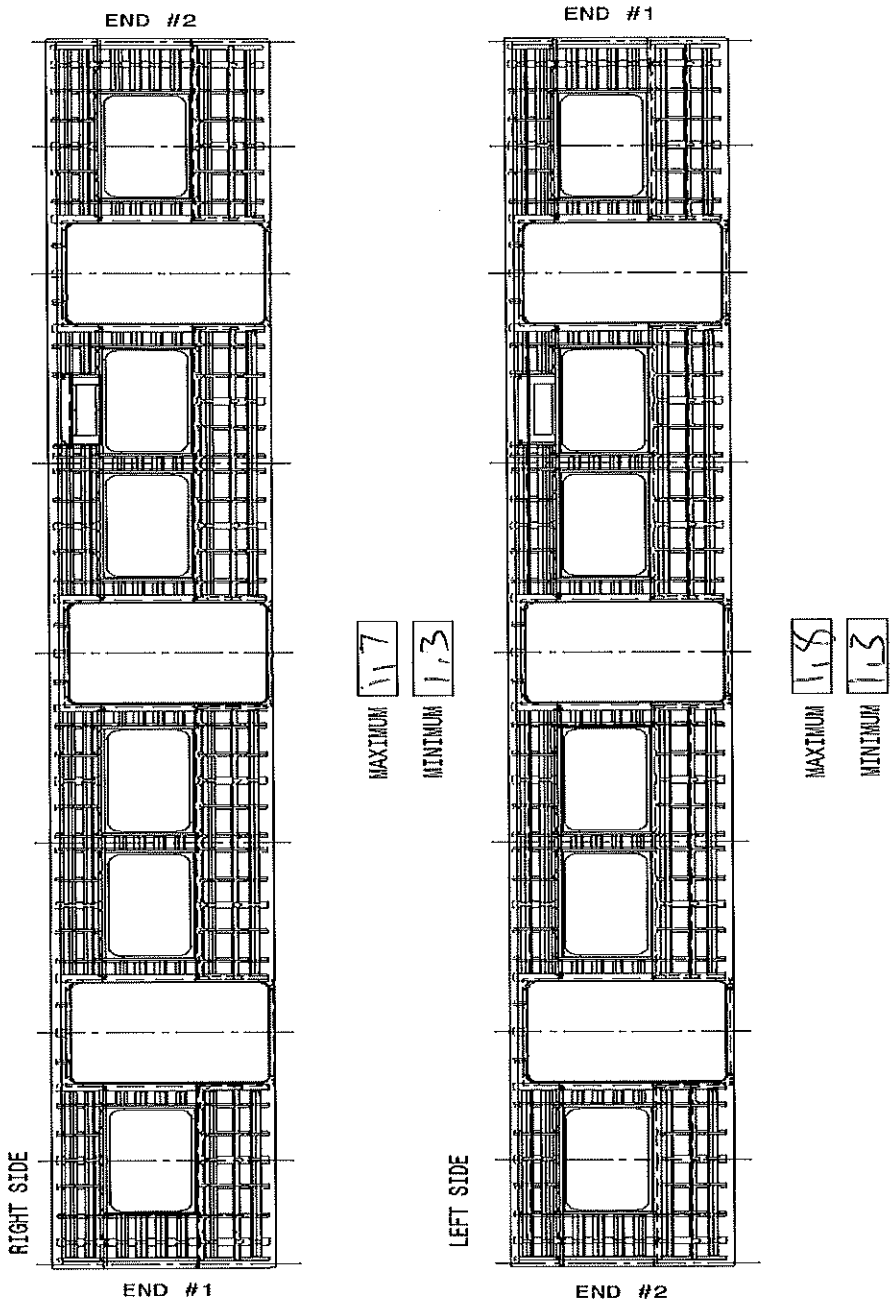
OPERATOR (Name & sign):	Baitumelo
OPERATOR (Name & sign):	Baitumelo
OPERATOR (Name & sign):	Baitumelo



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) :	Buhle	Buhle
Operator (Name & sign) :	Leato	Leato
Operator (Name & sign) :		
Operator (Name & sign) :		
Operator (Name & sign) :		

Specifications of Details for CBS measurement CB1230

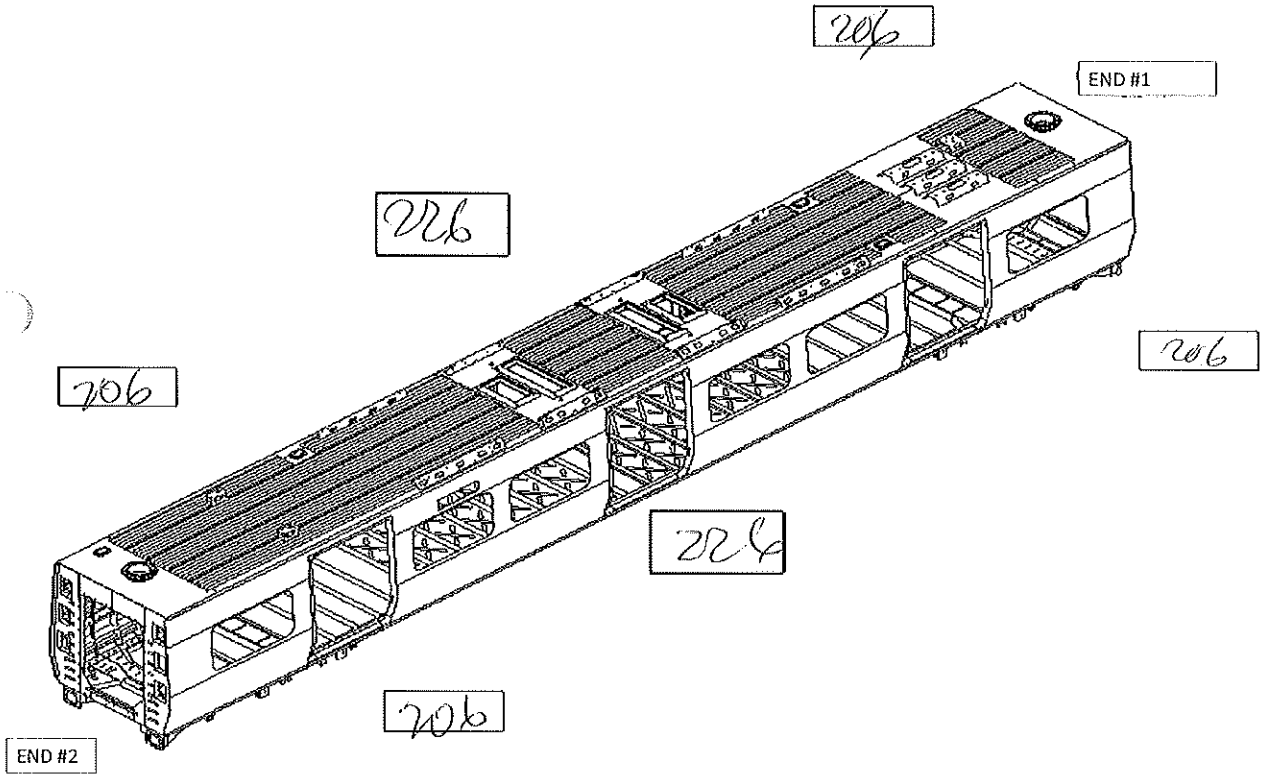
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



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)

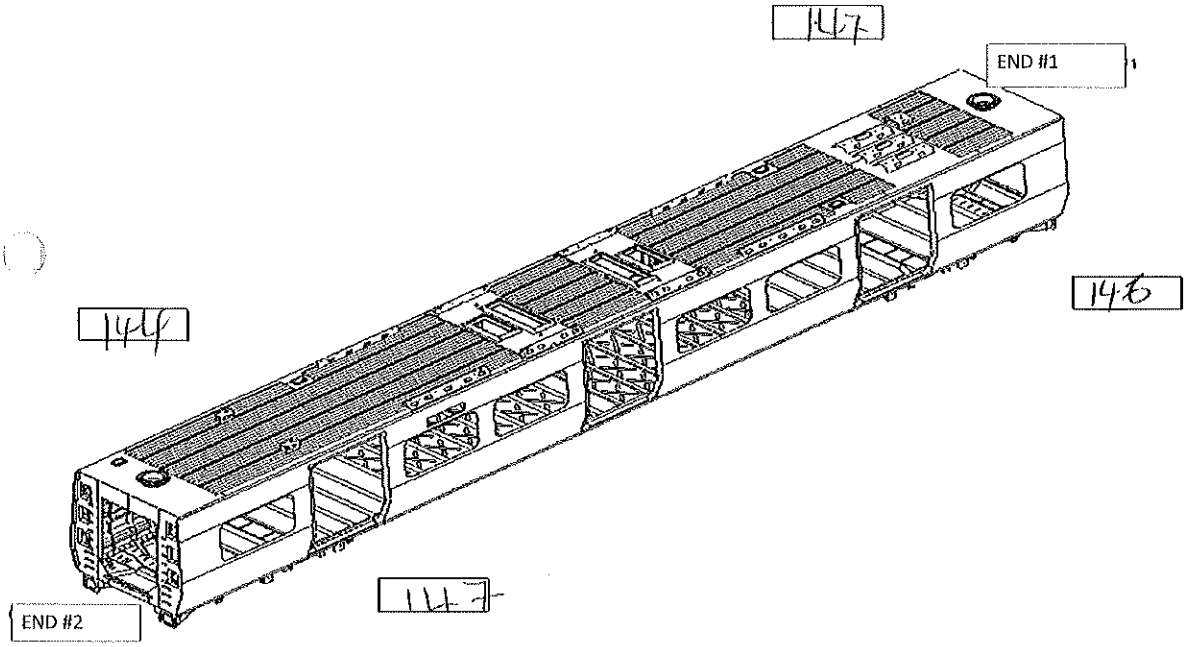


MEASURED CAMBER VALUES	
RIGHT	20
LEFT	20

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

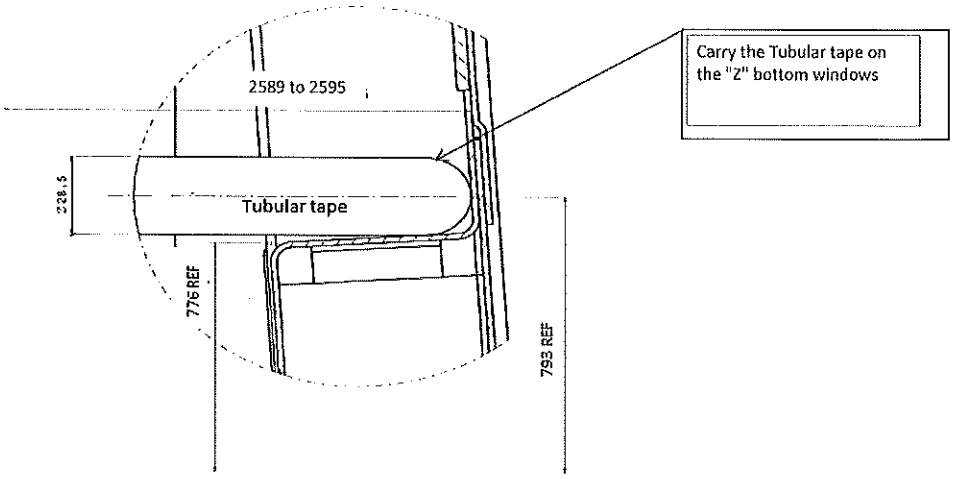
Specifications of Details for CBS measurement CB1230

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

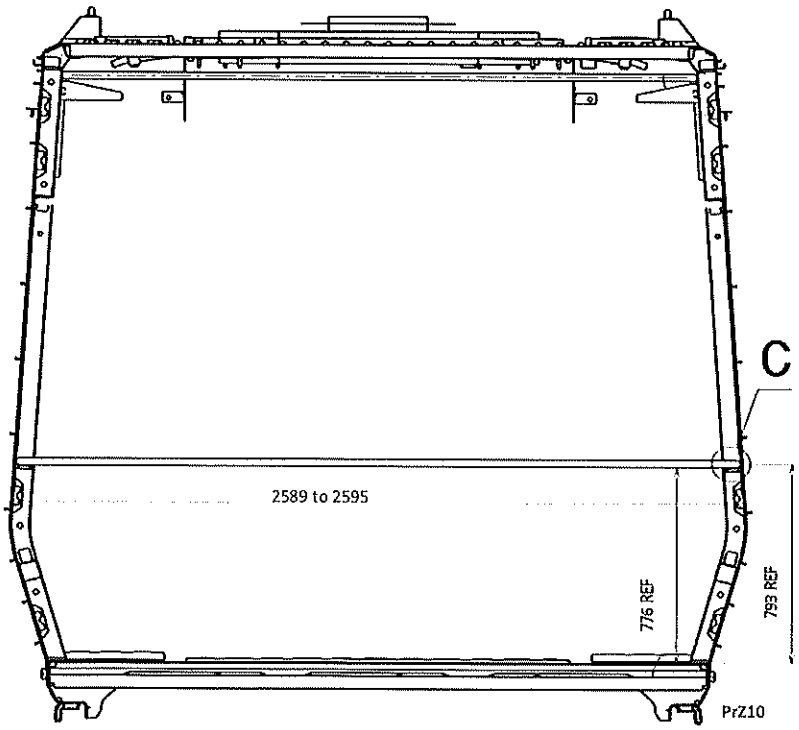


TWIST FOUND ON END 1	
TRANVERSE	3
LONGITUDINAL	3

TWIST FOUND ON END 2	
TRANVERSE	\
LONGITUDINAL	\

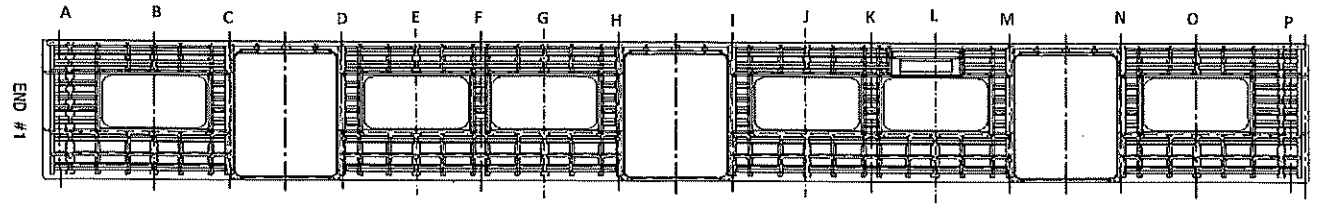

2589 to 2595
Carry the Tubular tape on the "Z" bottom windows
228.5
Tubular tape
776 REF
793 REF

Detail C


C
2589 to 2595
776 REF
793 REF
PrZ10

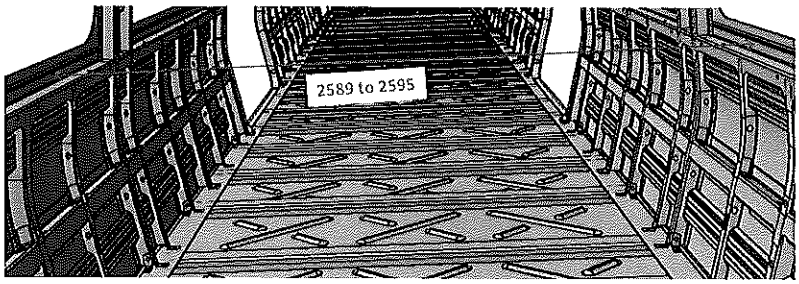
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



Threashold verification

Nominal value :38

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

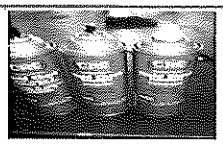
Door 4		Door 5		Door 6	
L	R	L	R	L	R
39	38	38	38	39	39

BOILER MAKER: Mafunisa

WELDER: Mathapelo

Dye penetrant test

Dye-penetration test to be performed by quality personnel



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

Specifications of Details for CBS measurement

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

II.2 - Check List REX

Check List Items

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

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	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		GO	(If f activities are not complete, the missing activities must not impact the next stage)	09/05/24	Zonde Operations	
			Every auto inspection performed conforms to specification or In case of discrepancy the same is approved by the competent party.)	09/05/24	Nhlekelo 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 ca f "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