GIBELA

PRASA PROJECT

APPLICABLE FROM TRAINSET 100+ AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

APPLICATION REFERENCE

	MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY?
☐	DTR3000152640	AAD0001278565	CARBODYSHELL M1 ASSEMBLY	CB2210		X				PRA.CB2210.DTR30225 487/3.V25	YES
☐											

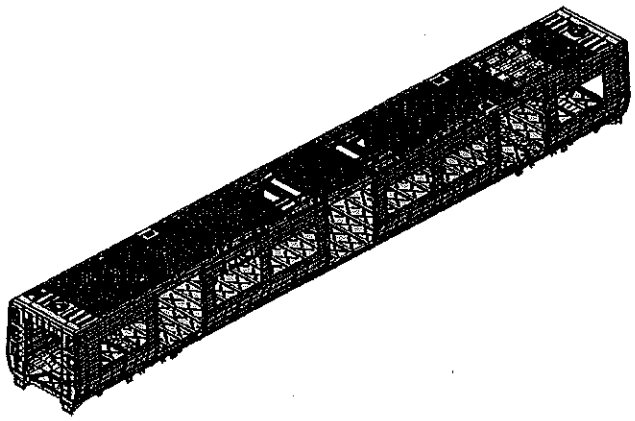
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	10/01/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	10/01/2018
			CHECKER	Nosizo Pindela	10/01/2018
			COMPILER	Thanyani Mathegu	10/01/2018
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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 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	
			CHECKER	Bongane Masina	06/08/2020
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	
			CHECKER	Bongane Masina	19/04/2021
			REVISED BY	Bongane Masina	
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi collins	
			CHECKER	Mpho Mulaudzi	17/08/2021
			REVISED BY	Mpho Mulaudzi	
25	19/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombi collins	
			CHECKER	Andani Muthelo	19/02/2022
			REVISED BY	Andani Muthelo	
26	14/04/2023	Addition of welding consumable traceability	APPROVER	Ntuli Vanessa	
			CHECKER	Mohlampe Amogelang	14/04/2023
			REVISED BY	Mohlampe Amogelang	
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	
			CHECKER	Zwane Ntokozo	27/07/2023
			REVISED BY	Mohlampe Amogelang	
28	07/11/2023	Addition of welding traceability	APPROVER	Ngobeni Tyson	
			CHECKER	Andani Muthelo	07/11/2023
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
234	M1	Tebogo 482833	19/06/24	SI.CB2210.254.V28	17

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 28	Project: PRASA SI.CB2210.254.V28
		Date 07/11/2023	

Car: M1	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	NC	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30225487/3		X											19/06/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NC	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular	32823-2	15/03/25	✓			
30m tape	C1113T70102	15/11/24	✓			19/06/24
Laser tape	123425924	08/01/25	✓			

1.3 Consumables

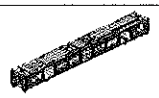
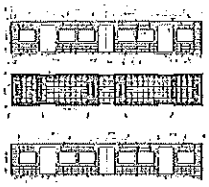
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NC	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308L Si	314018-740977	MIG	✓			
ER 308L	299687-703222	TIG	✓			19/06/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB2210.254.V28

II - Self Inspection - Items to Check

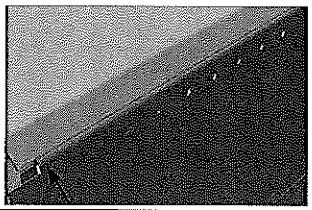
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	N/A	N/OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls,Endframes,Roof and Underframe)	DT00000311225	✓			19/06/24	19/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			19/06/24	19/06/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	**IND-SAL-WMS-016 e DTD0000210675**	✓			19/06/24	19/06/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			19/06/24	19/06/24
05		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			19/06/24	19/06/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓			19/06/24	19/06/24
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.	✓			19/06/24	19/06/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V28

Welder Traceability

Roof ring welds



LHS

Boiler maker (Name & Sign): Tim Lucas

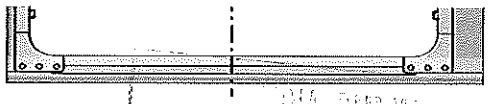
Welder (Name & Sign): Thabang

RHS

Boiler maker (Name & Sign): Tim Lucas

Welder (Name & Sign): Thabang

Door ring welds



LHS

Boiler maker (Name & Sign): Tim Lucas

Welder (Name & Sign): KEITI K. Mateu

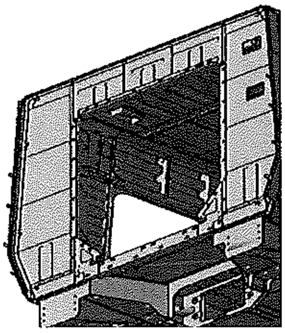
RHS

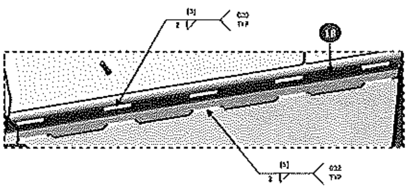
Boiler maker (Name & Sign): LUNGA

Welder (Name & Sign): BOBBERS

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V28

EUF Reinforcement Plates



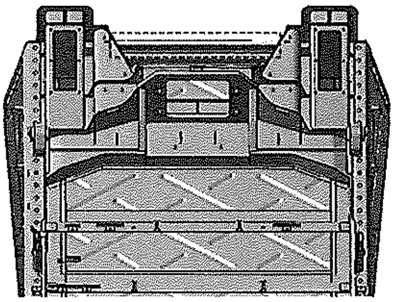


END 1

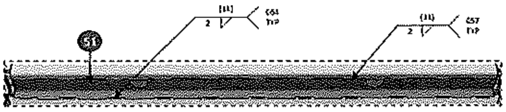
Boiler maker (Name & Sign): [illegible]

Welder (Name & Sign): [illegible]

END 2



Underneath the CAR



END 2

Boiler maker (Name & Sign): [illegible]

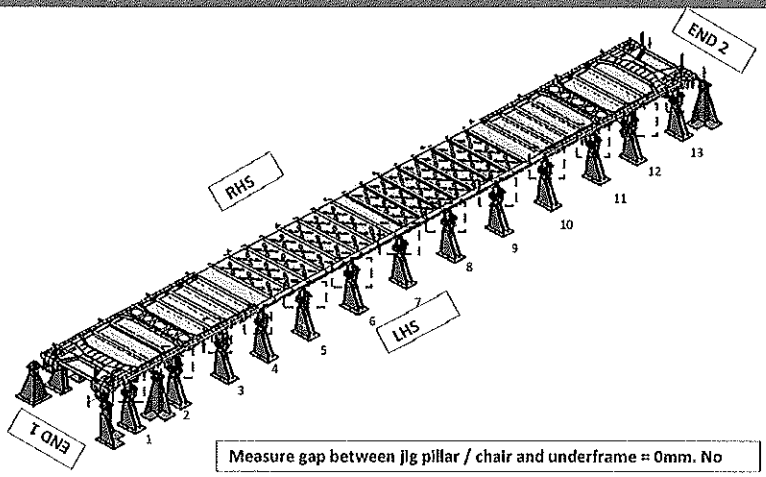
Welder (Name & Sign): [illegible]

FEDOLI

Operator: [illegible]

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V28

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						N/A							
Right Hand Side													

Signature Operations: Date: 19/06/24

After Welding.

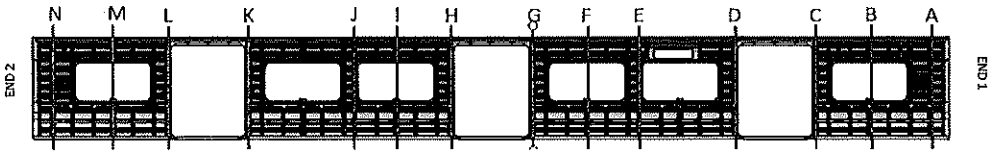
Fill in the gap found each jig pillars / chair and underframe should be 0mm.

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

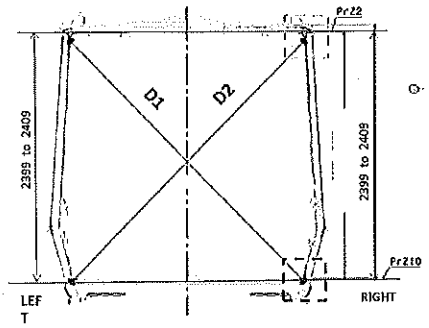
Signature Industrial Quality: Date: 19/06/24

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB2210.254.V28
		Date 07/11/2023	

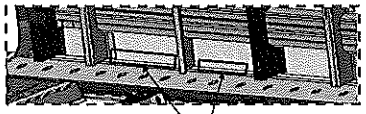
Specifications of Details for CBS measurement



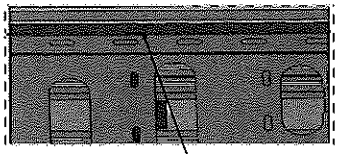
9



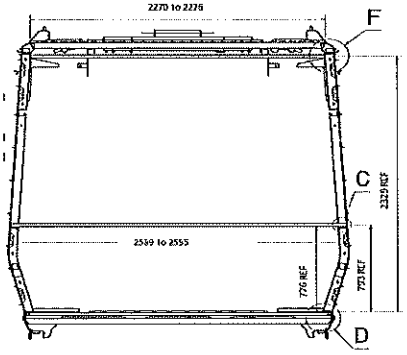
Measurement positions on roof rail and sidewall omega corner.

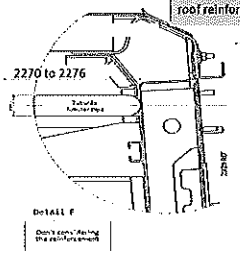


Measurement positions on sidewall and side sill corner.



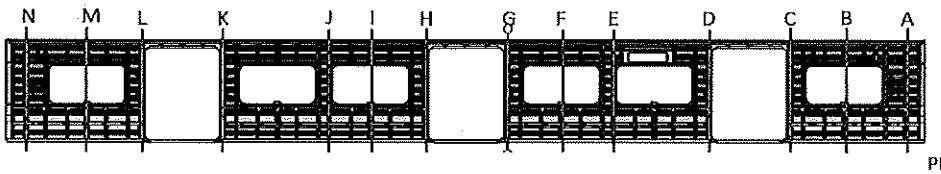
Reinforcement area measurement positions on roof reinforcement area





GIBELA	CARBODYSHELL M1 ASSEMBLY DTR302254873	Rev. 28	Project: PRASA SI.CB2210.254.V28
		Date 07/11/2023	

Specifications of Details for CBS measurement



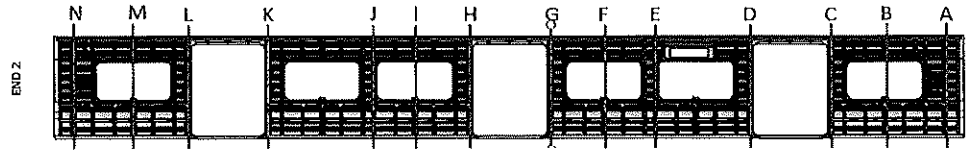
PME Column LHS - RHS should be ≤2MM on each point.

BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3266	3265	1	2405	2406	1
B	3265	3267	2	2406	2405	1
C	3265	3264	1	2406	2404	2
D	3266	3264	2	2403	2405	2
E	3267	3265	2	2404	2405	1
F	3265	3265	0	2404	2404	0
G	3264	3265	1	2406	2406	0
H	3263	3265	2	2406	2405	1
I	3265	3264	1	2407	2406	1
J	3266	3267	1	2405	2406	1
K	3265	3266	1	2405	2405	0
L	3265	3265	0	2406	2405	1
M	3264	3266	2	2404	2406	2
N	3267	3266	1	2407	2408	1

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR302254487/3	Rev. 28	Project: PRASA SI.CB2210.254.V28
		Date 07/11/2023	

Specifications of Details for CBS measurement



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

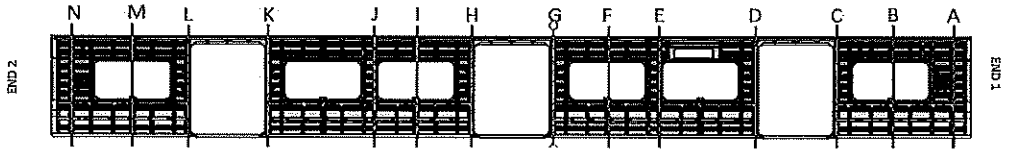
AFTER WELDING

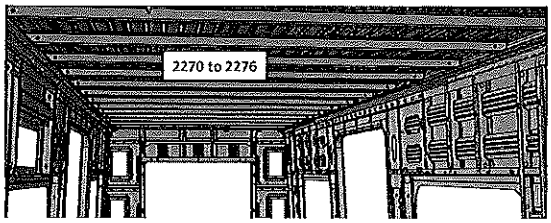
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3296	3295	1	2404	2405	1
B	3266	3265	1	2405	2405	0
C	3295	3296	1	2406	2405	1
D	3294	3296	2	2404	2403	1
E	3266	3266	0	2405	2404	1
F	3265	3265	0	2404	2403	1
G	3293	3295	2	2409	2404	0
H	3294	3295	1	2406	2404	2
I	3265	3264	1	2404	2405	1
J	3266	3265	1	2406	2405	1
K	3295	3297	2	2404	2404	0
L	3296	3297	1	2404	2406	2
M	3264	3266	2	2405	2407	2
N	3298	3297	1	2404	2407	3

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 28	Project: PRASA SI.CB2210.254.V28
		Date 07/11/2023	

CBS measurement

BEFORE WELDING

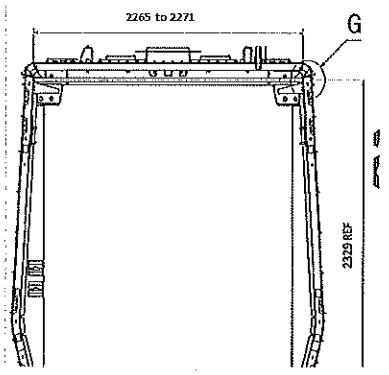


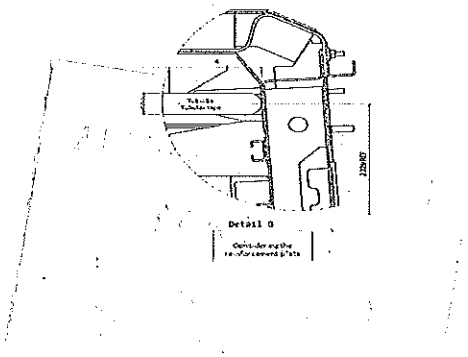


	2270 to 2276
A	2271
B	2274
C	2270
D	2271
E	2276
F	2275
G	2270
H	2273
I	2275
J	2276
K	2272
L	2270
M	2274
N	2271

1990 to

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

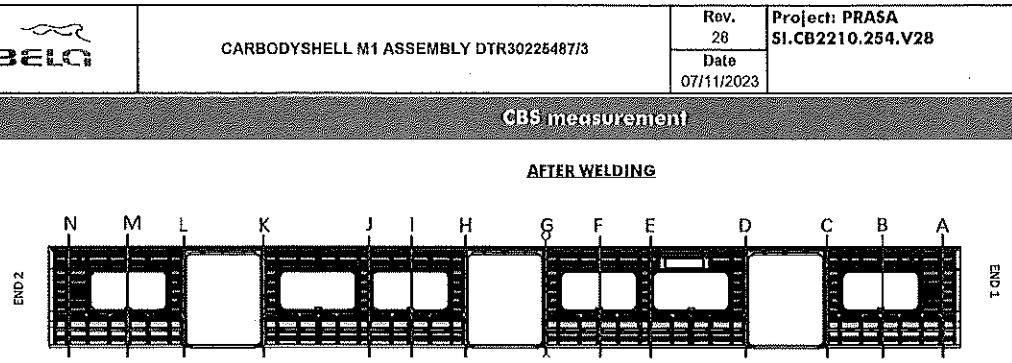




GIBELA	CARBODYSHELL M1 ASSEMBLY DTR302254487/3	Rev. 28	Project: PRASA SI.CB2210.254.V28
		Date 07/11/2023	

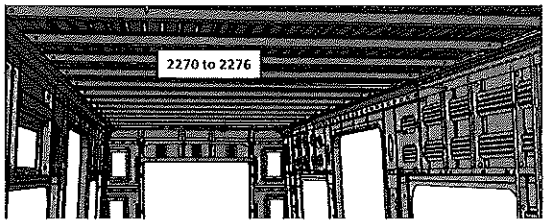
CBS measurement

AFTER WELDING

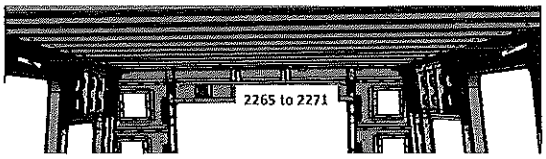


	2265 to 2271	2270 to 2276
A	2271	N/A
B	N/A	2274
C	2269	N/A
D	2270	N/A
E	N/A	2276
F	N/A	2275
G	2267	N/A
H	2268	N/A
I	N/A	2274
J	N/A	2276
K	2269	N/A
L	2271	N/A
M	N/A	2274
N	2268	N/A

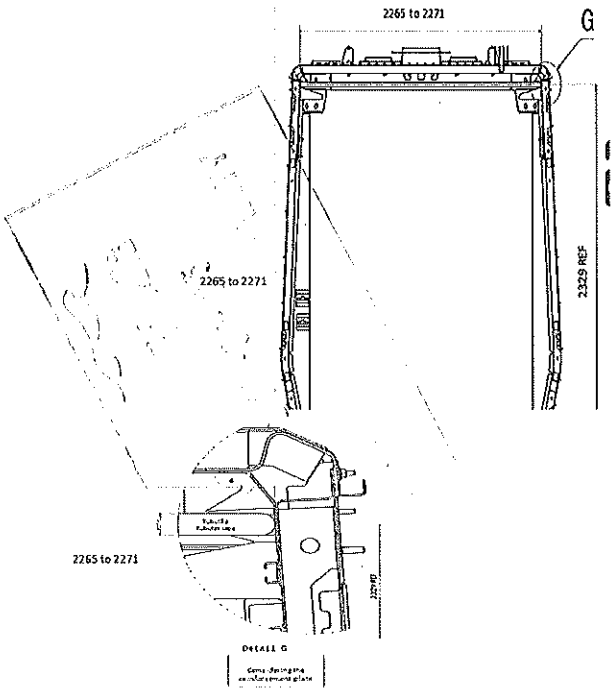
END 2



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

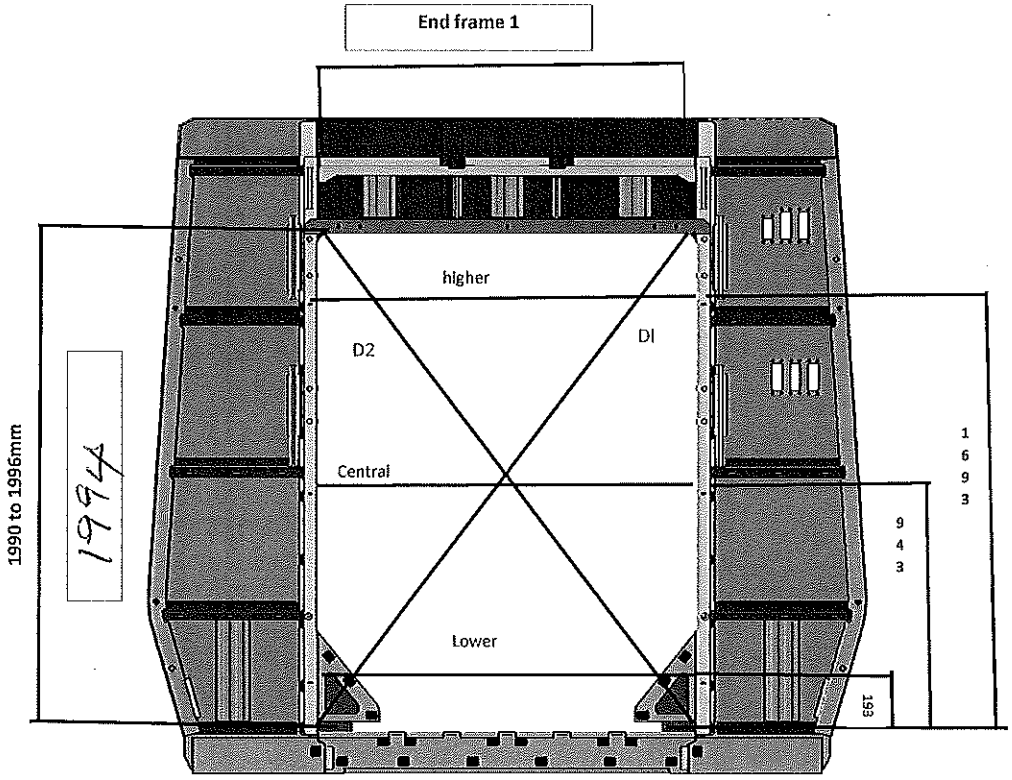


Take measurement close to radius (considering reinforcement)



GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB2210.254.V28
		Date 07/11/2023	

Specifications of Details for CBS measurement



1380 to 1382 mm

DIAGONAL DIFFERENCE **D1-D2** ≤ 3mm

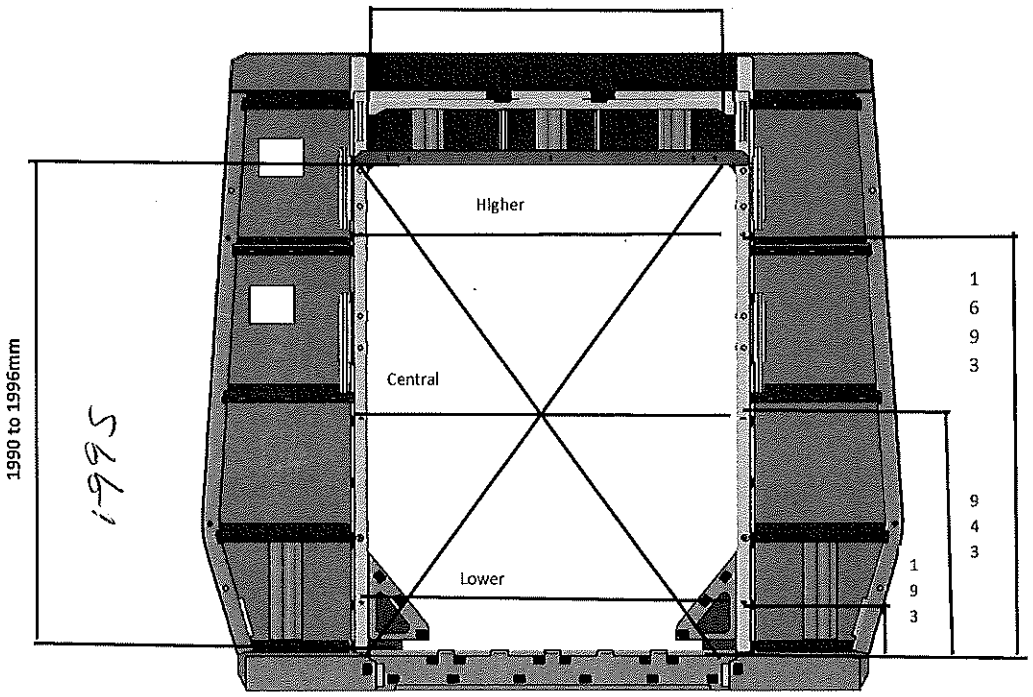
Higher Dimension	1381	D1	2414
Central Dimension	1381	D2	2413
Lower Dimension	1381	D1-D2	1

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB2210.254.V28
		Date 07/11/2023	

Specifications of Details for CBS measurement

Endframe 2

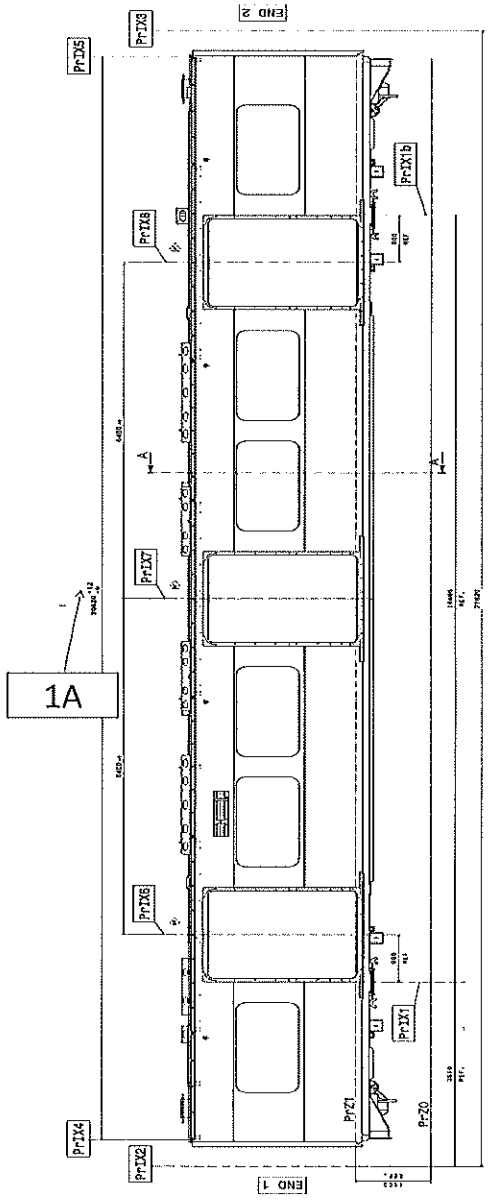
1380 to 1382 mm



	1380 to 1382 mm	DIAGONAL DIFFERENCE D1-D2 ≤ 3mm	
Higher Dimension	1381	D1	2416
Central Dimension	1381	D2	2414
Lower Dimension	1380	D1-D2	2

GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V28

Specifications of Details for CBS measurement



	LEFT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20629

	RIGHT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20629

Dye penetrant test

Dye-penetration test to be performed by quality personnel

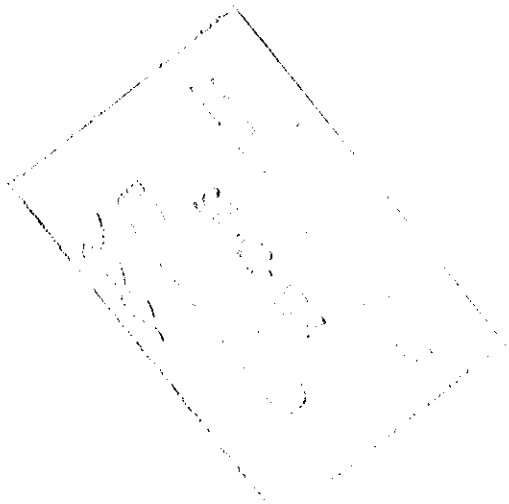
GIBELA	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V28

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	[illegible]	[illegible]	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 Date 07/11/2023	Project: PRASA SI.CB2210.254.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)	19/06/24	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	19/06/24	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	

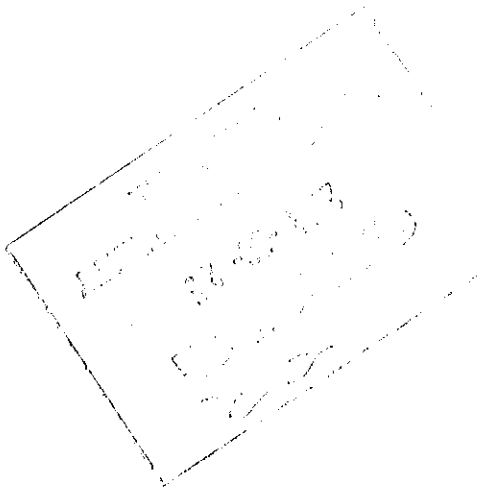
In case of "NO GO", describe blocking problems

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?
☐ DTR3600152648	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB2220			X				PRA.CB2220.DTR3022548 7/2.V21	YES
☐ DTR3600152649	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB2220		X	X		X		PRA.CB2220.DTR3022548 7/2.V21	YES
☐											
☐											
☐											
☐											
☐											

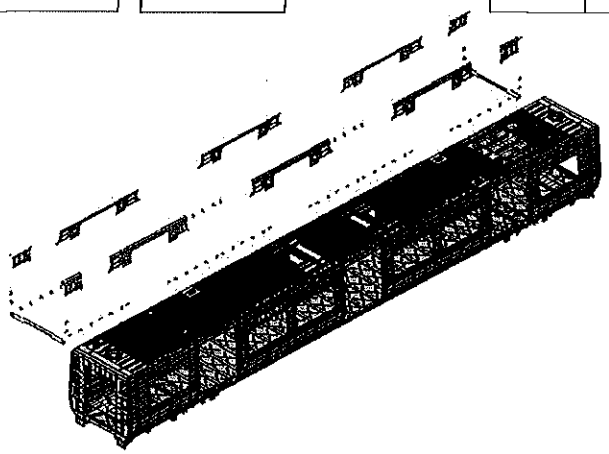
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	01/02/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	01/02/2018
			CHECKER	Nosizo Pindela	01/02/2018
			COMPILER	Thanyani Mathegu	01/02/2018
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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 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	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
234	M1	Levi 48308	20/06/24	SI.CB2220.250.V29	13

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

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

Safety Related



1 - Documentation and Instruments Control

1.1 - Documentation Control

Document	Type of Car TC1	M1	M2	M3	M4	TC2	Revision	Observation	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30225487/2							29	28/10/2023	X		N/A	20/06/24	20/06/24

1.2 - 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	32823-3	14/03/2024-14/03/2025	X		20/06/24	20/06/24
Measuring Tape	9.5B 7M43	17/04/2024-17/04/2025	X		20/06/24	20/06/24

1.3 Consumables

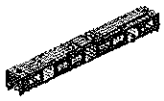
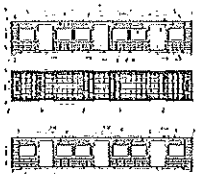
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Welding 308 LSI	E221880	Mig	X		20/06/24	20/06/24

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

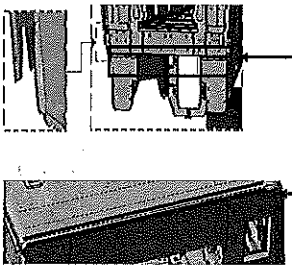
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK			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	✓			20/06/2024	20/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			20/06/2024	20/06/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			20/06/2024	20/06/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			20/06/2024	20/06/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			20/06/2024	20/06/24
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-016. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-016 and DTD0000210658.	✓			20/06/2024	20/06/2024
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 (I) Min-Max 10°C - 35°C Relative humidity Min - Max (I) Min-Max 25% - 80%	Sealant Batch No: B1321 Exp Date: 09/10/24 Actuals Temperature: 10 Humidity: 38	✓			20/06/24	20/06/24
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001278566	✓			20/06/24	20/06/24
09		Verfication of safety welds	Approved according to DTD000210658 reference and Self inspection	✓			20/06/24	20/06/24

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

SEALANT APPLICATION



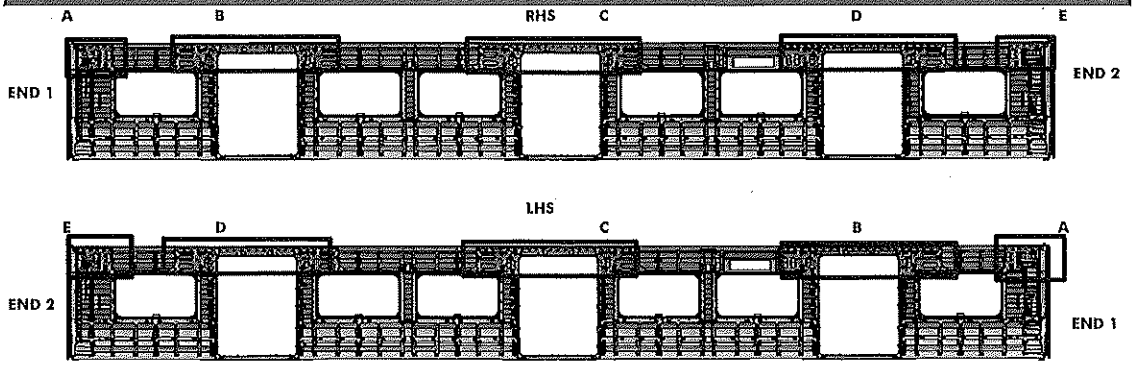
AREA 1 & 2 END 1

Operator (Name & sign): Mthokozisi

Operator (Name & sign): Mthokozisi

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

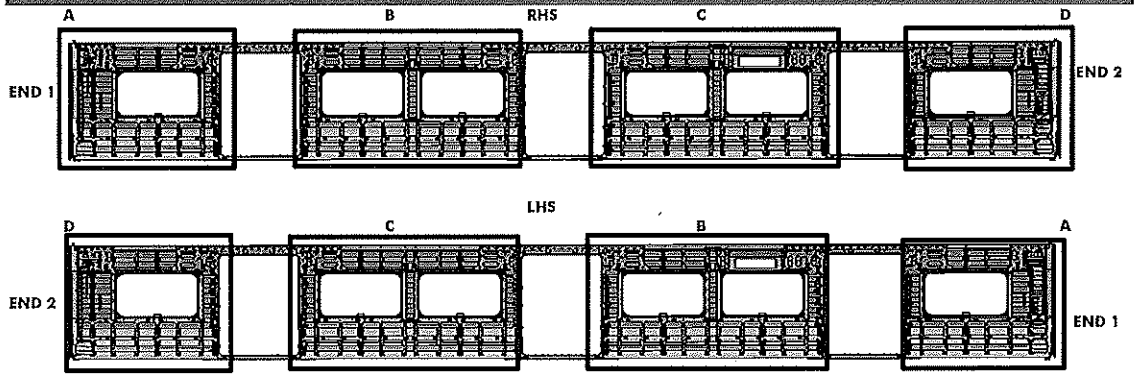


REINFORCEMENT WELDING

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

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR3022548712	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

II - Self Inspection - Items to Check



BRACKETING

INSTALLATION

C-RAILS: Operator: Asanda

Operator:

DOOR MECHANISMS: Operator: Asanda

Operator:

TAPPING PADS Operator: Asanda

Operator:

INSTALLATION & VERIFICATION

SEAT & LUGGAGE BRACKETS: Operator: Mthokozisi

Operator:

SEAT BRACKETS VERIFICATION: Operator: Mthokozisi

Operator:

WELDING

AREA		LHS	RHS
A	(Seat brackets) : Operator (Name&sign):	Lindo	Lindo
	(C-ralls, Luggage and earth bushes) : Operator (Name&sign):	Lindo	Lindo
B	(Seat brackets) : Operator (Name&sign):	Lindo / Mmakwena	Lindo / Mmakwena
	(C-ralls, Luggage and earth bushes) : Operator (Name&sign):	Lindo	Lindo
C	(Seat brackets) : Operator (Name&sign):	/ Mmakwena Mosa	/ Mmakwena Mosa
	(C-ralls, Luggage and earth bushes) : Operator (Name&sign):	Mmakwena Mosa	Mmakwena Mosa
D	(Seat brackets) Operator (Name&sign):		
	(C-ralls, Luggage and earth bushes) : Operator (Name&sign):		

ENDS

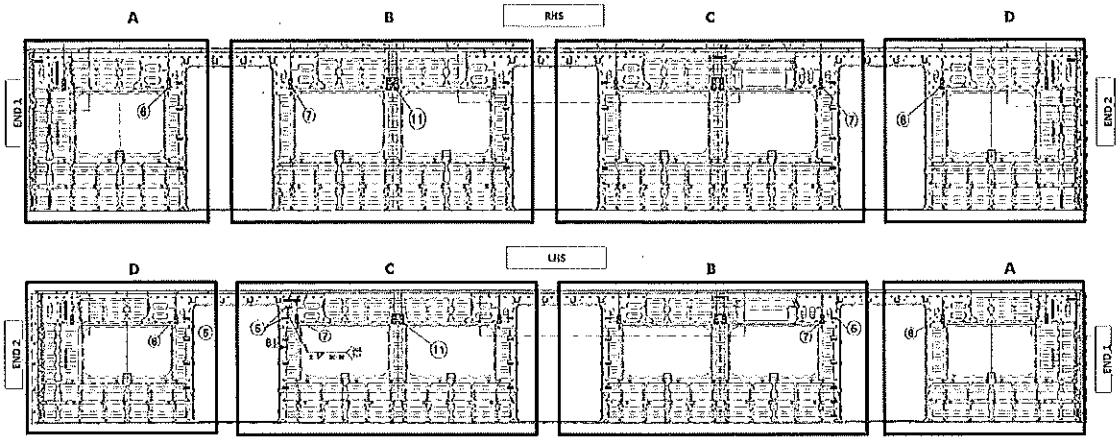
END 1 TAPPING PADS WELDING: Operator (Name&sign): Lindo

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

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	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: LJB

LHS

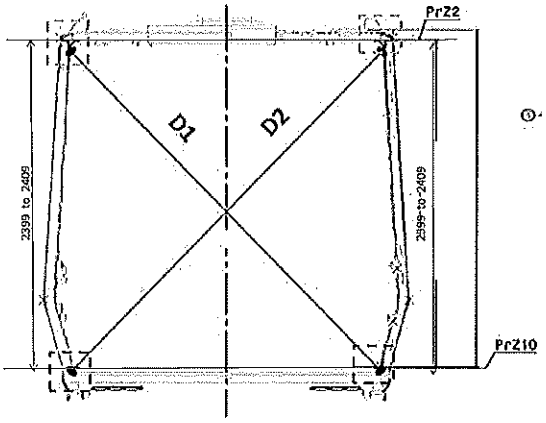
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	2	✓	
	B	10	✓	
	C	11	✓	
	D	6	✓	
SEAT BRACKETS	A	13	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	3	✓	
	B	7	✓	
	C	6	✓	
	D	2	✓	

ROOF ENDS:

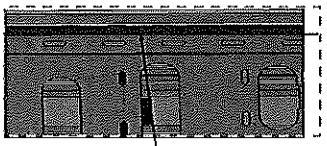
CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: LJB

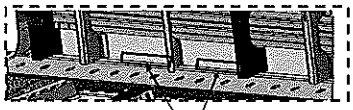
Specifications of Details for CBS measurement



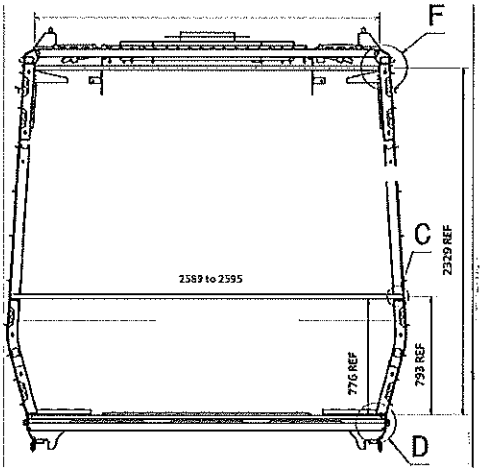
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.

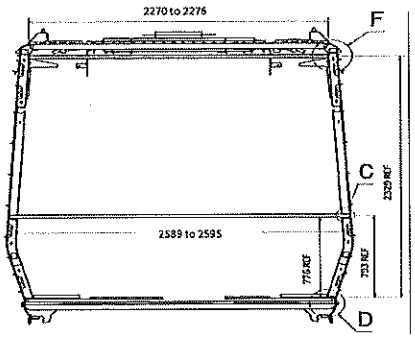


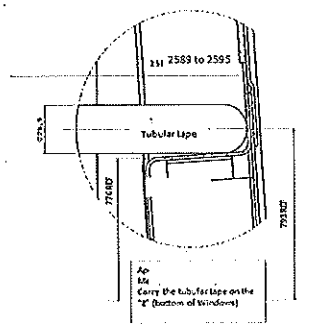
Measurement positions on sidewall and side sill corner.



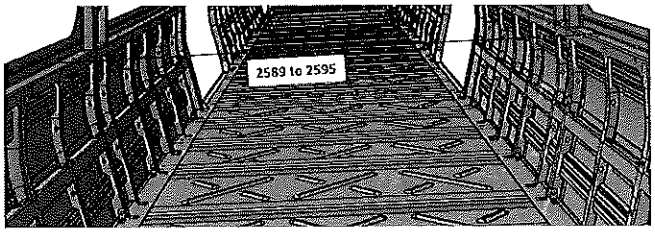
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

CBS measurement

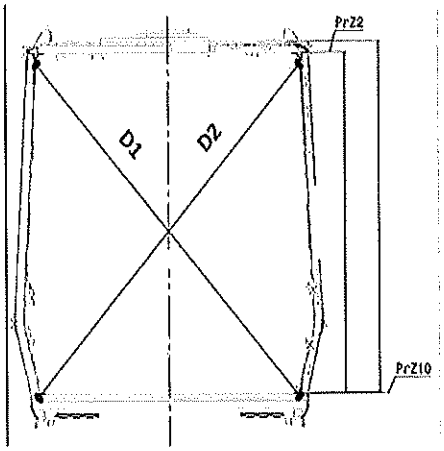


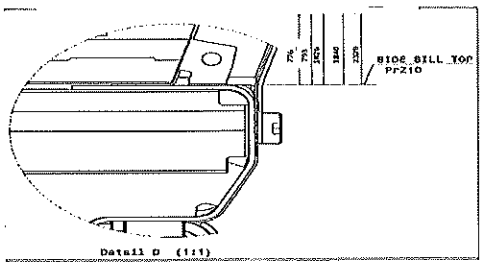


Detail C



Take measurement close to radius

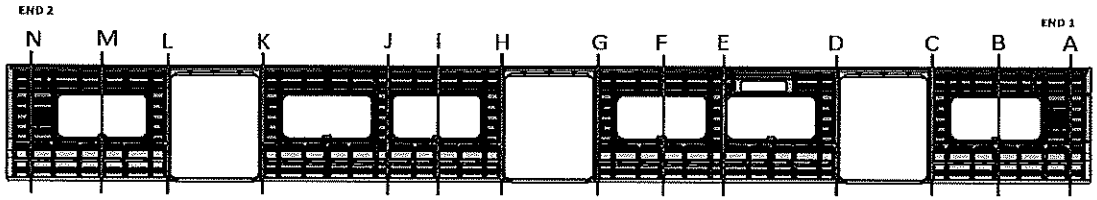




Detail D (1:1)

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

CB5 measurement



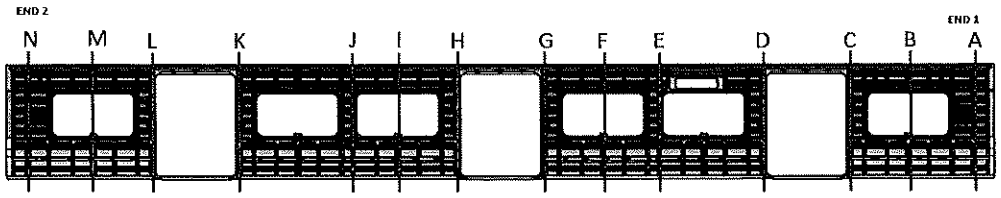
BEFORE WELDING

N/A

	ecord D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3297	3296	1	
B	3268	3264	4	
C	3294	3296	2	
D	3295	3294	1	
E	3262	3265	3	
F	3265	3266	1	
G	3296	3294	2	
H	3296	3296	1	
I	3265	3265	0	
J	3264	3265	1	
K	3294	3294	0	
L	3265	3266	1	
M	3297	3296	1	
N	3298	3297	1	2595

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

CBS measurement

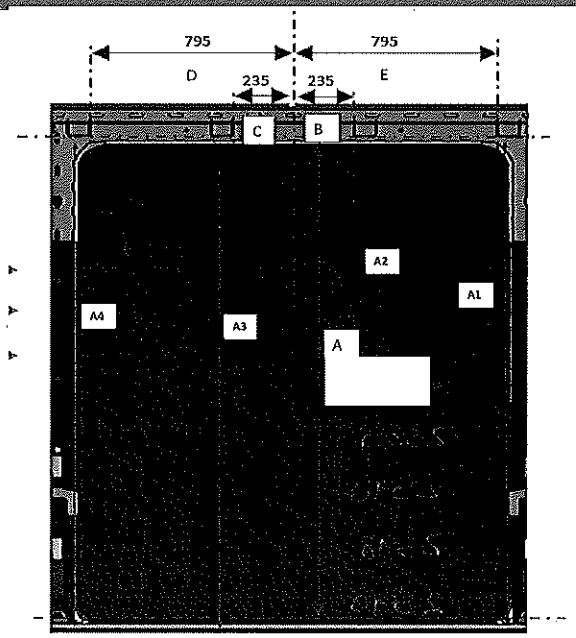


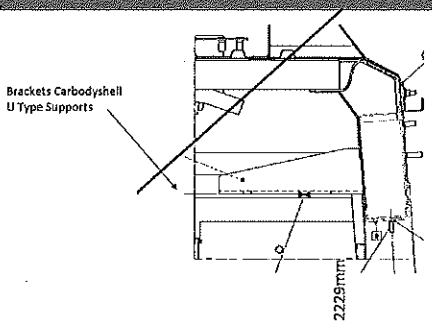
AFTER WELDING

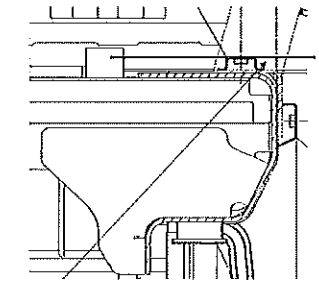
	Iecord D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3298	3297	1	2592
B	3268	3264	4	2589
C	3295	3293	2	2590
D	3294	3293	1	2598
E	3266	3265	1	2590
F	3266	3265	1	2591
G	3298	3298	0	2590
H	3295	3294	1	2590
I	3264	3261	3	2590
J	3264	3268	4	2590
K	3298	3297	1	2590
L	3294	3293	1	2589
M	3264	3264	0	2593
N	3291	3298	7	2595 *

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	2230
A2	2230 to 2232	2231
A3	2230 to 2232	2230
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 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	2230
A2	2230 to 2232	2231
A3	2230 to 2232	2230
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 - 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 1 - RHS

	VALUE	ACTUAL
A1	2230 to 2232	2230
A2	2230 to 2232	2231
A3	2230 to 2232	2230
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

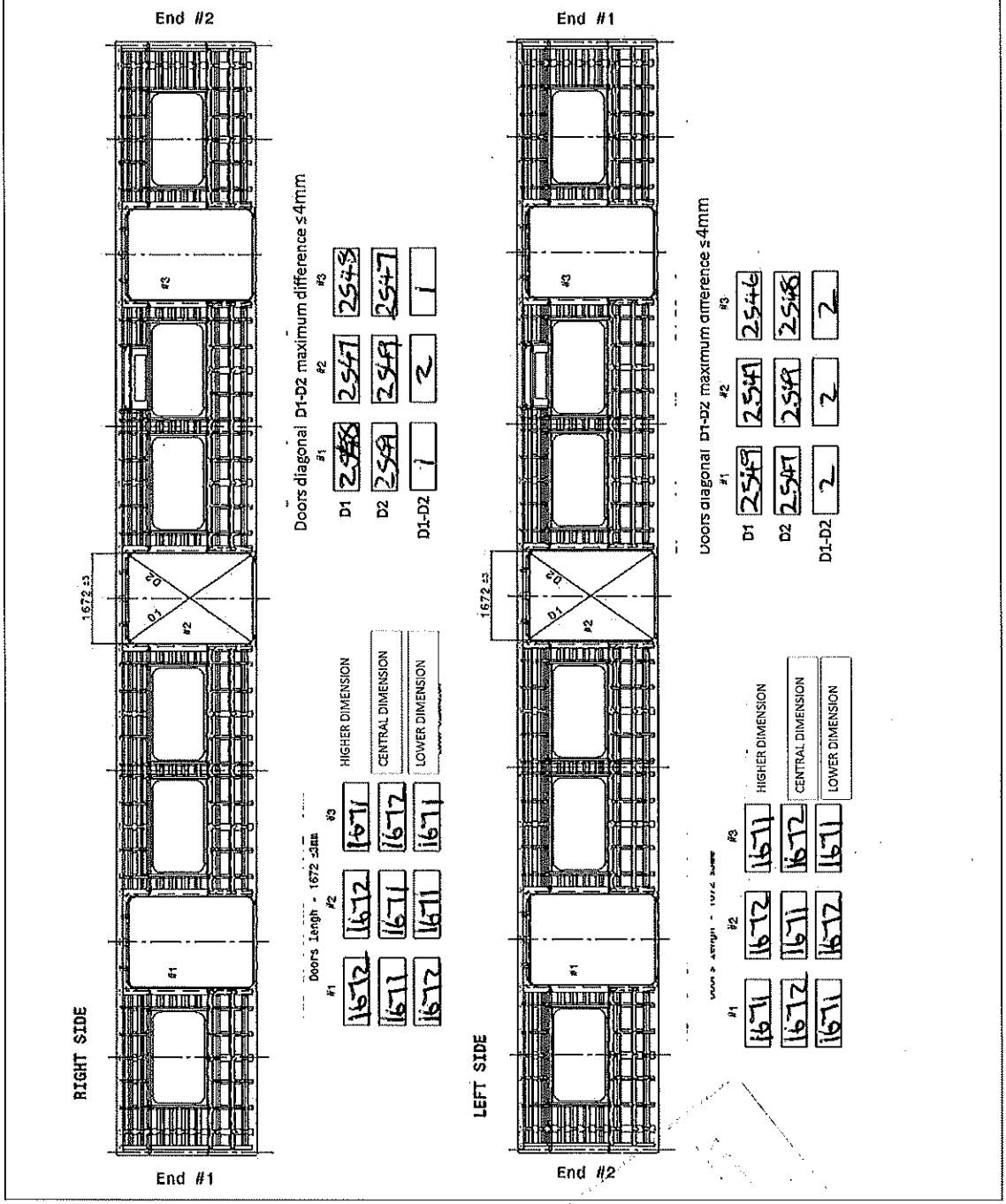
	VALUE	ACTUAL
A1	2230 to 2232	2231
A2	2230 to 2232	2230
A3	2230 to 2232	2231
A4	2230 to 2232	2230
B	234 to 236	236
C	234 to 236	234
D	794 to 796	795
E	794 to 796	795

DOOR 3 - RHS

	VALUE	ACTUAL
A1	2230 to 2232	2231
A2	2230 to 2232	2231
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

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 26/10/2023	Project: PRASA SI.CB2220.250.V29

Specifications of Details for CBS measurement CB1220



GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR302254872	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	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

Self Inspection - Final Result

Is 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 f activities are not complete, the missing activities must not impact the next stage!	20/06/2024	Leni Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	20/06/2024	Ano 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

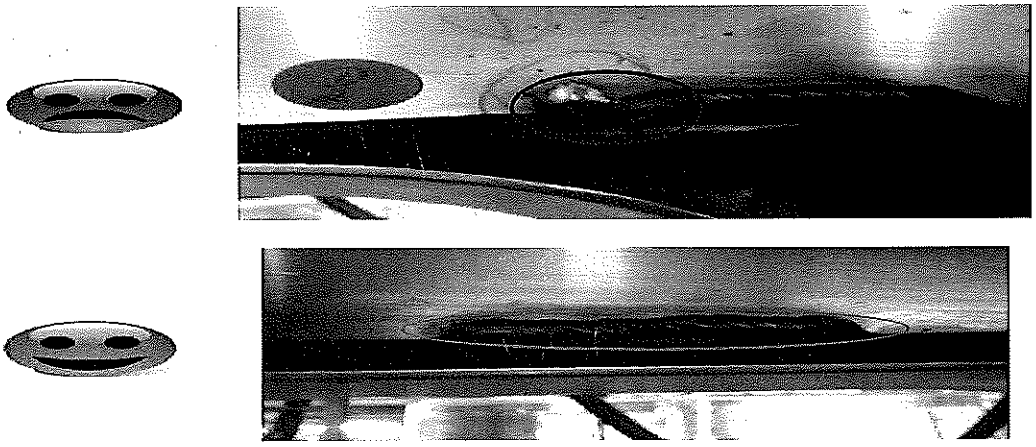
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

Item	Description		Responsible	Due date	Status

Operations

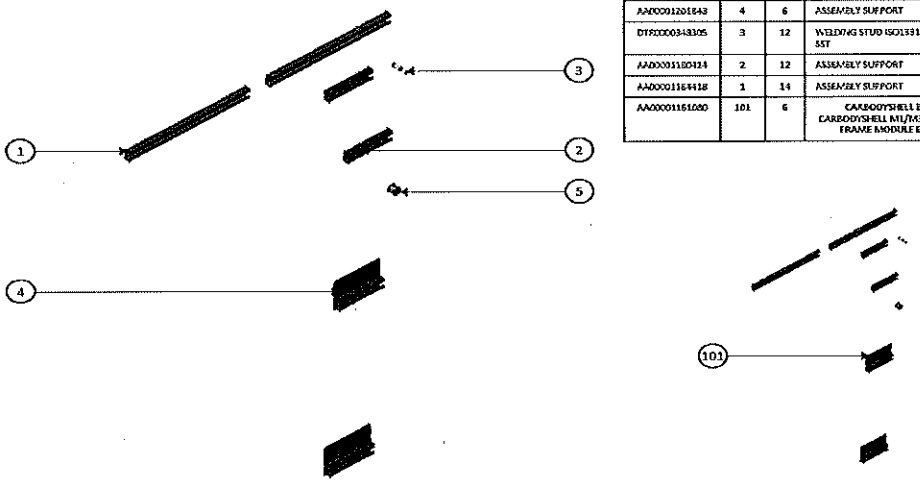
Quality

ANNEXURE A: Arc Welding Quality Acceptance Standard



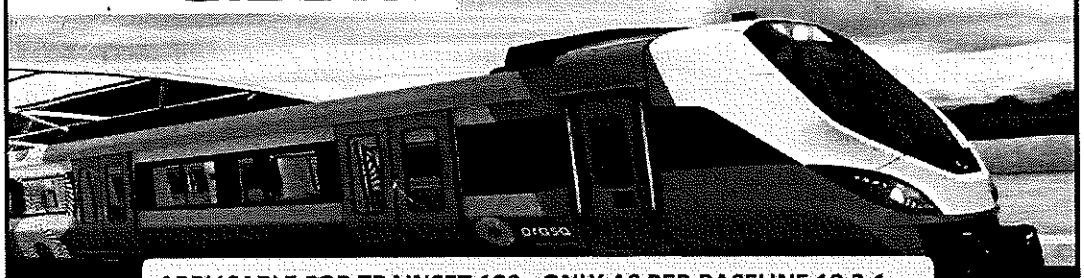
Station: CB1220-004- U108 & U107

PART NO.	ITEM NO.	QTY	DESCRIPTION	MASS [KG]
DTC020074X03	5	6	EARTH STUD 6	0.035
AA00001201843	4	6	ASSEMBLY SUPPORT	0.271
DTF0000343305	3	12	WELDING STUD ISO13918 PT – M5X20 - SST	0.007
AA00001180124	2	12	ASSEMBLY SUPPORT	0.193
AA00001164118	1	14	ASSEMBLY SUPPORT	0.522
AA00001161080	101	6	CARBODYSHELL BRACKETS CARBODYSHELL M1/M3/M4 CAR[SIDE FRAME MODULE END – OPP]	12.132



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 ?
☐ DTR3000152669	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB1230			X				PRA.CB1230.DT000002 25487.V20	YES
☐ DTR3000152673	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB1230		X			X		PRA.CB1230.DT000002 25487.V20	YES
☐											

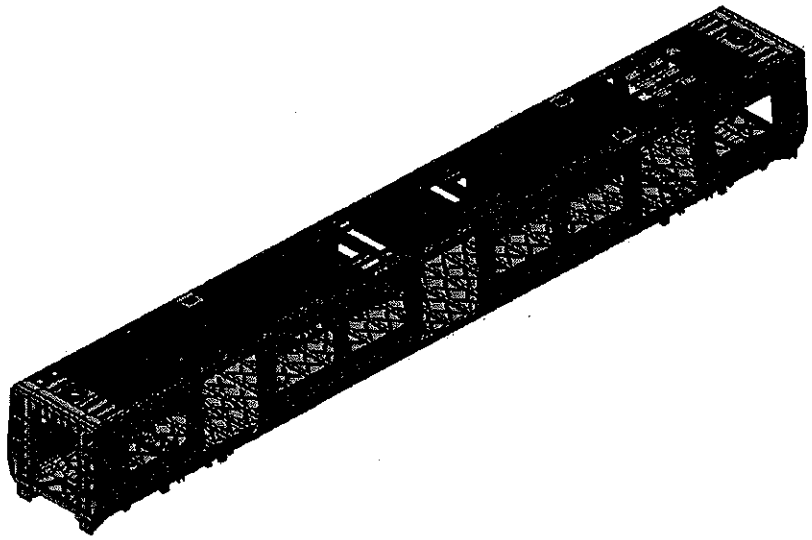
	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	2018/08/02	GIBELA NEW CREATION	APPROVER	Philipe Marques	2018/08/02
			CHECKER	Nosizo Pindela	2018/08/02
			COMPILER	Nosizo Pindela	2018/08/02
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	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	19/10/2022	Addition of traceability for sealant application	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	06/11/2023	Added thresholds traceability for boiler makers and welders	APPROVER	Tyson Ngobeni	06/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
23	M1	Mmuthapelo 4830824	21/06/22	SI.CB1230.256.V28	11

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

Car:	NCR:	Work station: CB1230

Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car M1	M2	M3	M4	TCR	Revision	Observation	OK			Signature/Date (Operations)	Signature/Date (Quality)
PRA.CB1230.DT00000225487	✓							✓		N/A	21/06/24	21/06/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Operations)	Signature/Date (Quality)
AAD0001278568			✓		21/06/24	
Tubular	~~27128~~ 12713	20/06/24	✓		21/06/24	21/06/24
measuring Tape	CUBO X14	25/04/24	✓		21/06/24	
combination square	CUB0012	27/07/24				

1.3 Consumables

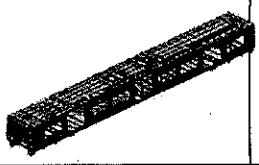
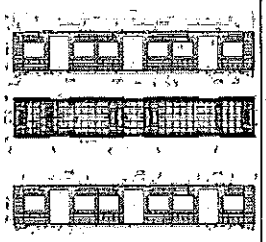
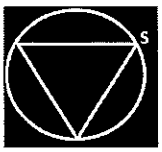
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
308 L Si	313779	MIG	✓		21/06/24	21/06/24

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

II - Self Inspection - Items to Check

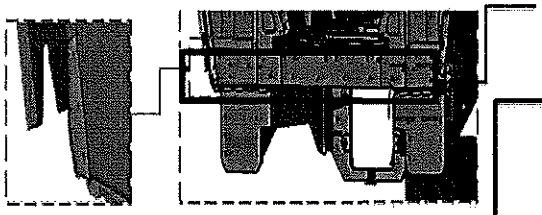
II.1 - Items to check

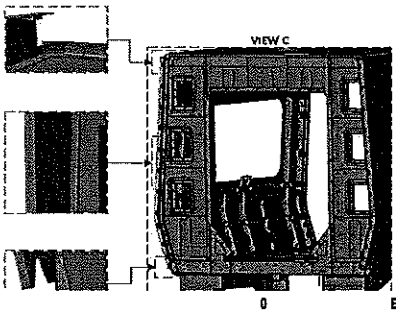
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK			Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.DT00000225487 Verification of fitment for all brackets.	PRA.CB1230.DT00000225487	✓			21/06/24	21/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			21/06/24	21/06/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			21/06/24	21/06/24
04		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			21/06/24	21/06/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			21/06/24	21/06/24
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.	✓			21/06/24	21/06/24
07	N/A	Before appplication of sealant record the expiry date and make sure that the room temperature and humidity are withion specified values as per Works Instructions Specified: Temperature Min - Max (1) Min-Max 10°C - 35°C Relative humidity Min – Max (1) Min-Max 25% - 80%	Sealant Batch No: 122240 Exp Date: 11 / Aug / 24 Actuals Temparature: 28°C Humidity: 55-4%	✓			21/06/24	21/06/24
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	✓			21/06/24	21/06/24

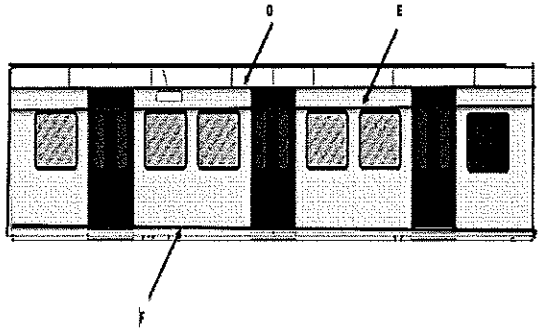
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

END 2 SEALANT

AREA 1





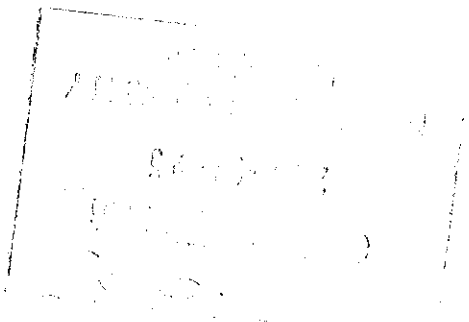


OPERATOR (Name & sign): Leroy

OPERATOR (Name & sign): Leroy

OPERATOR (Name & sign): Leroy

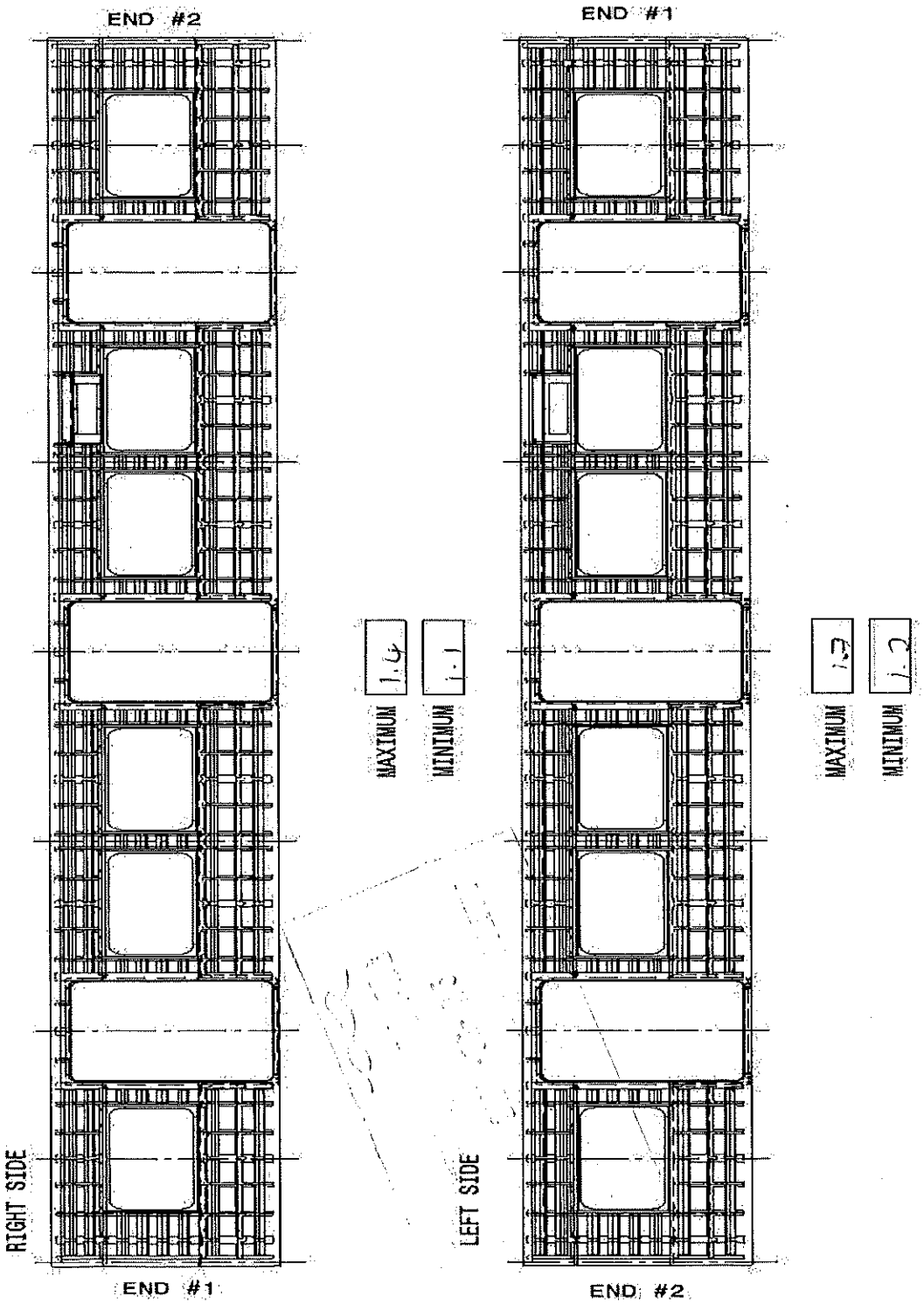
Area D,E,F,G,H,I	LHS	RHS
Operator (Name & sign) :		
Operator (Name & sign) :	Buhle (F) H,I	Buhle (F) H,I
Operator (Name & sign) :		
Operator (Name & sign) :	Sihle (D,E) H,I	Tshenolo (D,E) H,I
Operator (Name & sign) :		
Operator (Name & sign) :	Tshenolo	Sihle



GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230

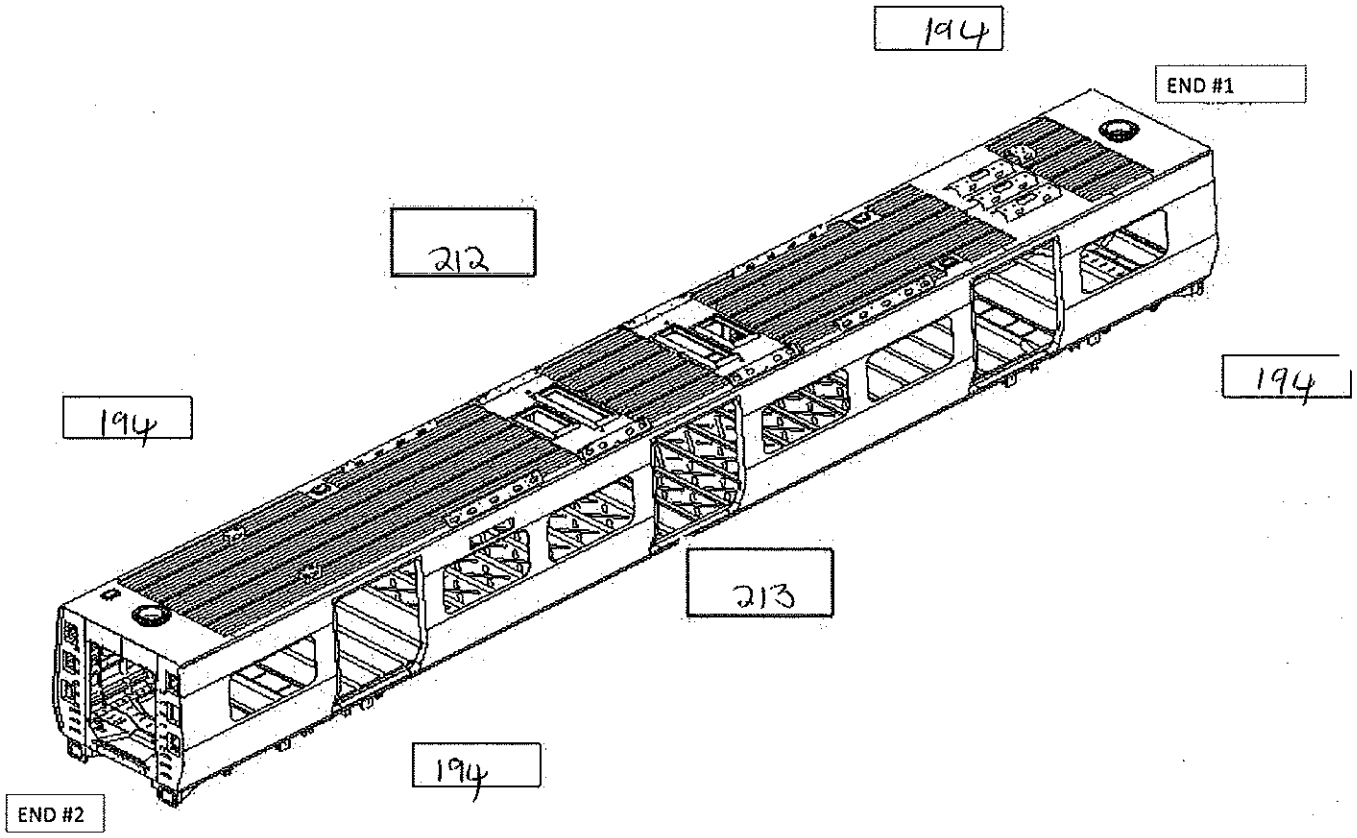
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230

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

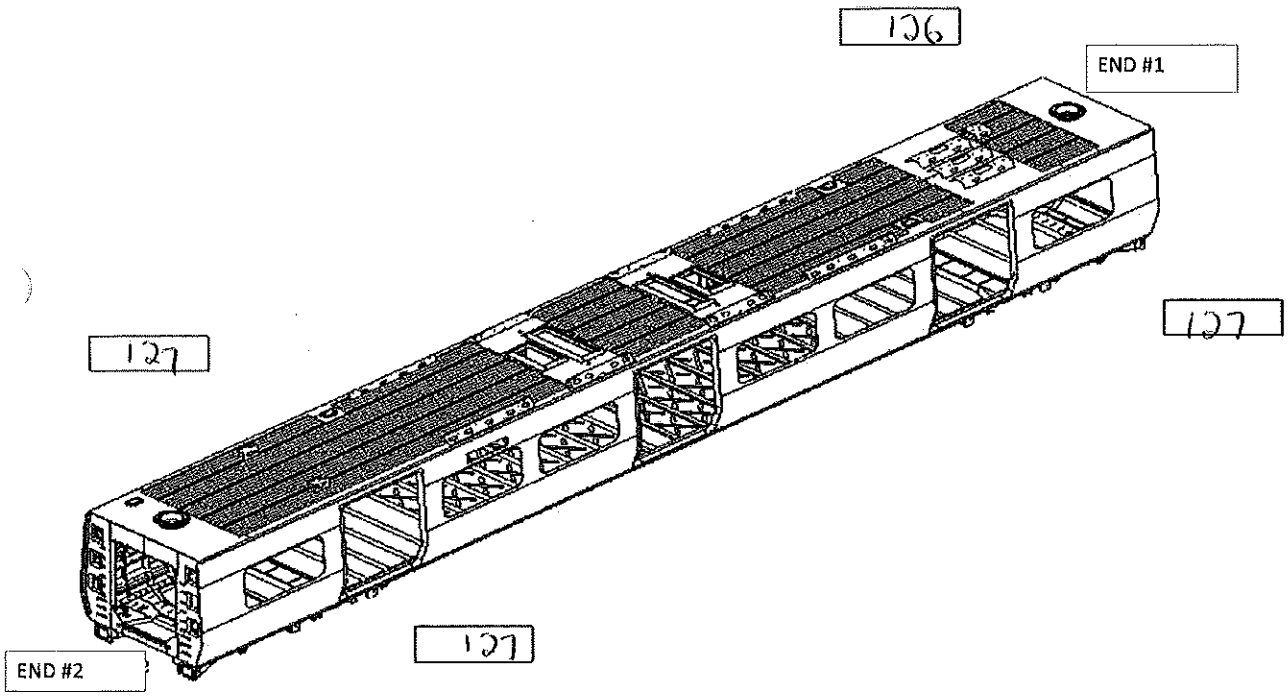


MEASURED CAMBER VALUES	
RIGHT	19
LEFT	18

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

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.

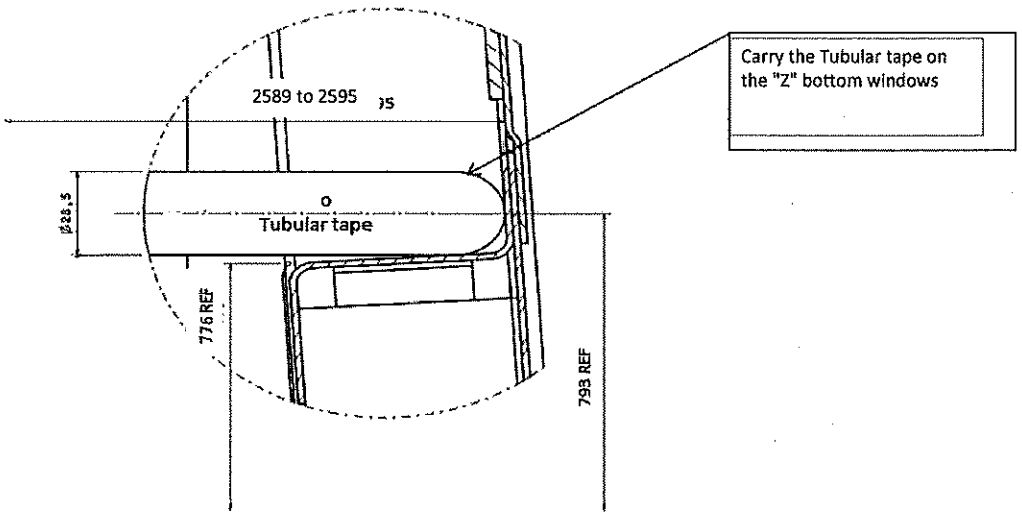


TWIST FOUND ON END 1	
TRANVERS	1
LONGITUDIN	0

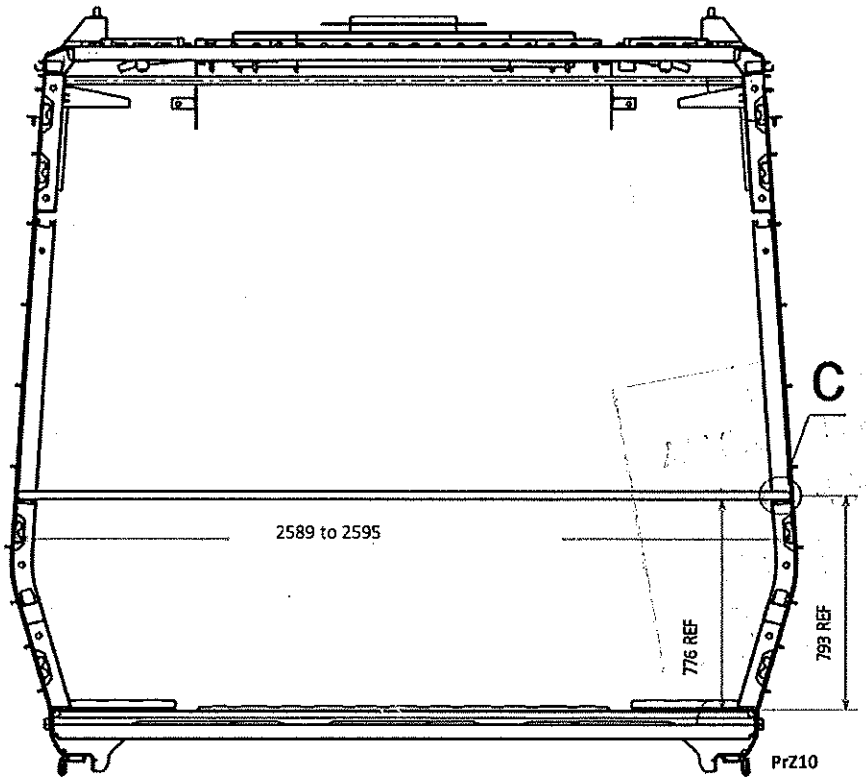
TWIST FOUND ON END 2	
TRANVERSE	0
LONGITUDINAL	1

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230

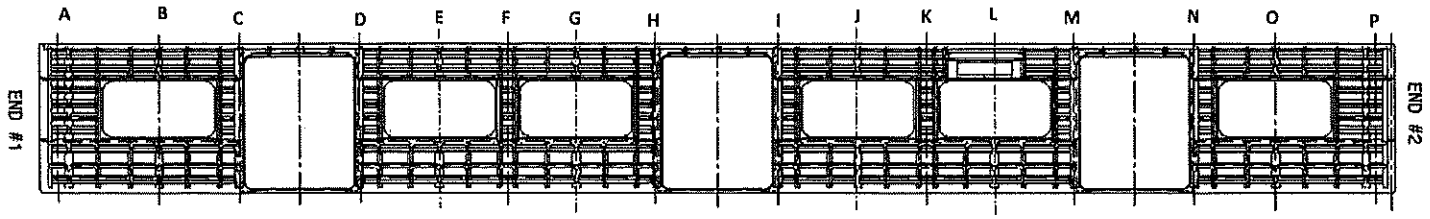


Detail C



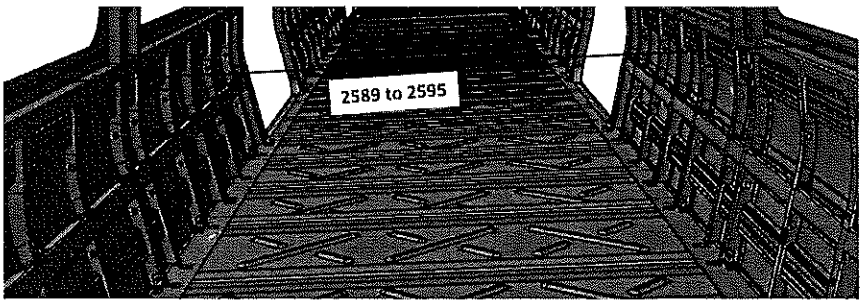
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

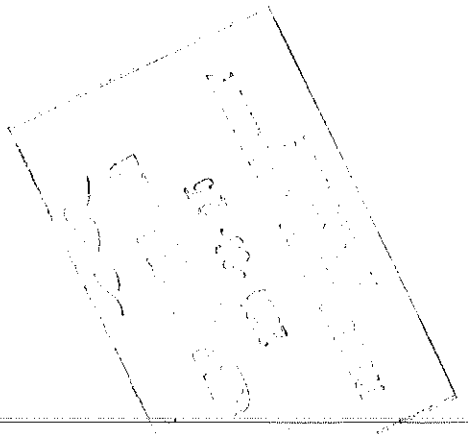
Specifications of Details for CBS measurement CB1230



2589 to 2595mm

A	2595
B	2592
C	2589
D	2587
	2590
F	2590
G	2591
H	2589
I	2587
J	2594
K	2593
L	2591
M	2587
	2590
O	2593
P	2596





Threashold verification

Nominal value :38

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

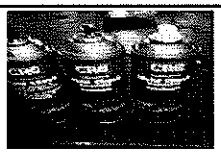
BOILER MAKER: Nonhlanhla

Welder : Emmanuel Emmanuel

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

Dye penetrant test

Dye-penetration test to be performed by quality personnel



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	√		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. 29 Date 06/11/2023	Project: PRASA SI.CB1230.256.V28

Self Inspection - Final Result

	Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)		DATE	NAME	SIGNATURE
HOLD POINT	GO	(If f activities are not complete, the missing activities must not impact the next stage!	21/06/24	L183004 Mmathapelo Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	21/06/24	Amogelang 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	

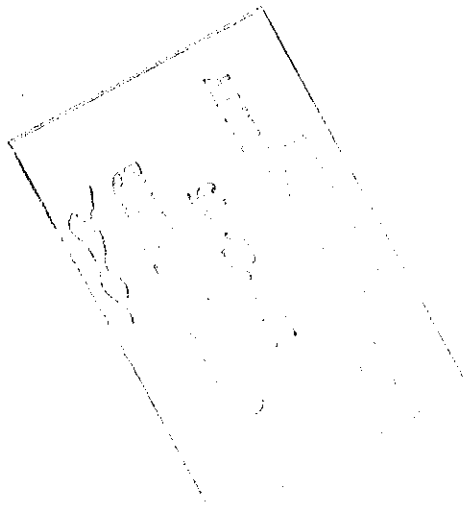
In ( ) of "NO GO", describe blocking problems

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

Item	Description		Responsible	Due date	Status

Operations

Quality



ANNEXURE A: Arc Welding Quality Acceptance Standard