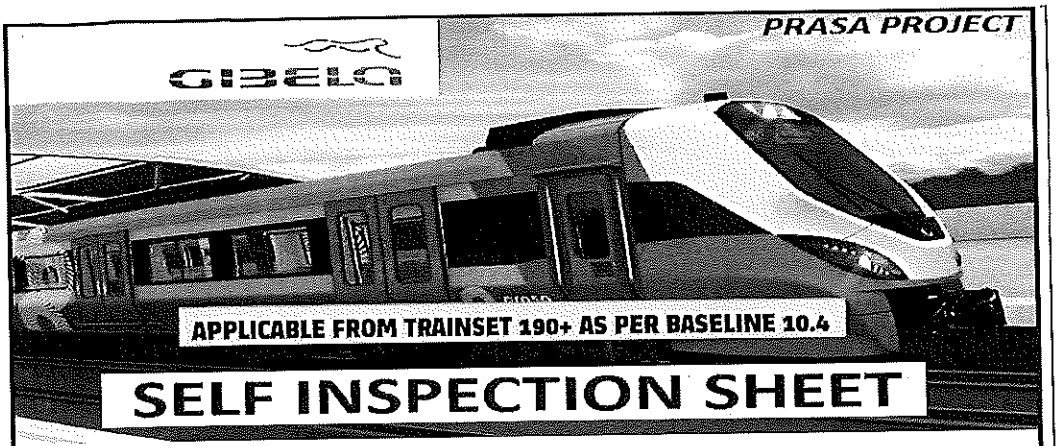
GIBELA

PRASA PROJECT



APPLICABLE FROM TRAINSET 190+ AS PER BASELINE 10.4

SELF INSPECTION SHEET

APPLICATION REFERENCE

	MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	M4	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY?
☐	OTR3000152644	AAD0001278566	CARBODYSHELL M3,M4 ASSEMBLY	CB2210		X			X		PRA.CB2210.DTR30225 487/3.V30	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	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	
28	07/11/2023	Added traceability for welding sections	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Mohlampe Amogelang	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
237	M04	Lawrence 48249	03/07/24	SI.CB2210.254.V30	17

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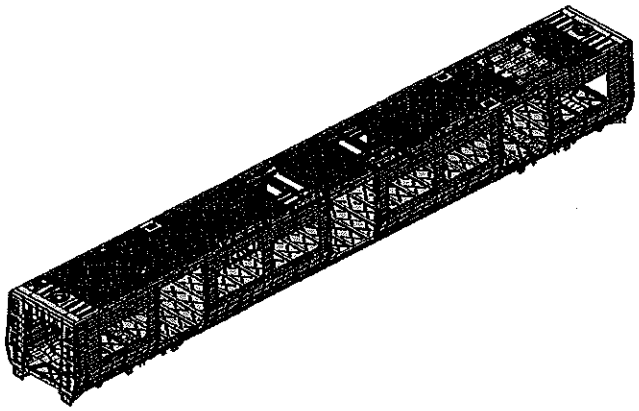
Car: M3 & M4	NCR:	Work station: CB2210

Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car: TC1	M1	M2	M3	M4	TC2	Revision	Observation	OK	N.A.	Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30225487/3					✓				✓			

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	N.A.	Signature/Date (Manufacturing)	Signature/Date (Quality)
LAZER TAPE	12547525921	01/03/2024	✓		03/07/24	
30M TAPE	GIBTP0069	24/11/2023	✓		03/07/24	
TUBULAR	22316	07/02/2024	✓		03/07/24	

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	N.A.	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	314018-74097	MIG	✓		03/07/24	
ER 308 L	2-99687-70322	TIG	✓		03/07/24	
ER 309 LSI	316283-73957	MIG	✓		03/07/24	

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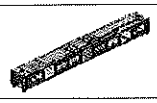
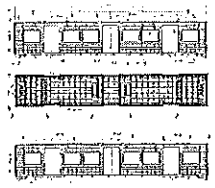
II - Self Inspection - Items to Check

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	N.A.	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			03/07/24	03/07/24
02	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	**IND-SAL-WMS-016 e DTD0000210676**	✓			03/07/24	03/07/24
03	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			03/07/24	03/07/24
04		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			03/07/24	03/07/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓			03/07/24	03/07/24
06	N/A	Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓			03/07/24	03/07/24

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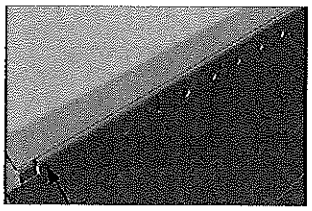
Welding Traceability

Roof ring welds



LHS

Boiler maker (Name & Sign): Justice

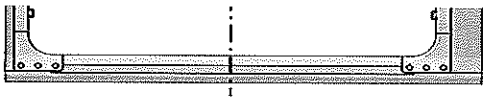
Welder (Name & Sign): Thabang

RHS

Boiler maker (Name & Sign): Lawrence

Welder (Name & Sign): Kenny

Door ring welds



LHS

Boiler maker (Name & Sign): Thabang

Welder (Name & Sign): Thabang

RHS

Boiler maker (Name & Sign): Tim

Welder (Name & Sign): Kenny

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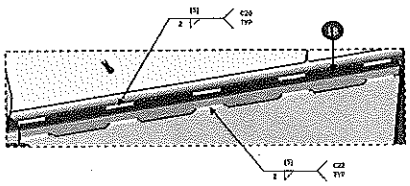
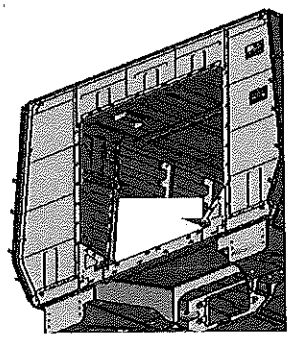
EUF Reinforcement Plates

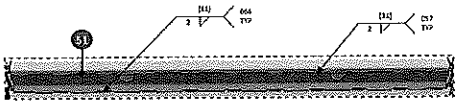




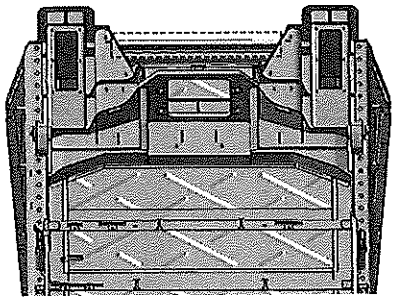
END 1

Boiler maker (Name & Sign):

Welder (Name & Sign):



END 2

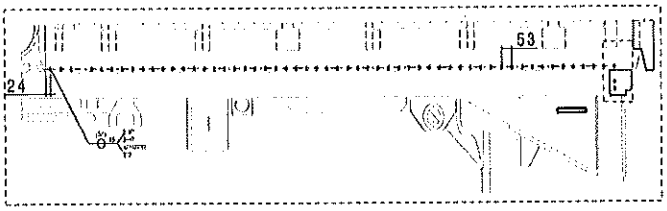


Underneath the CAR

END 2

Boiler maker (Name & Sign):

Welder (Name & Sign):

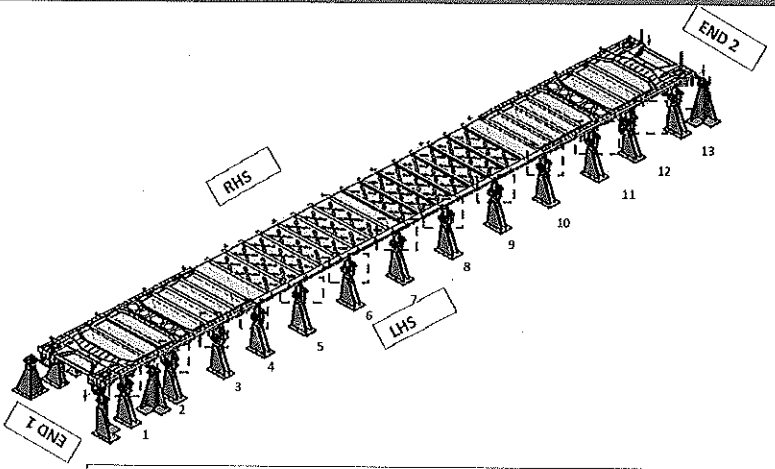


FEDOLI

Operator:

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

Specifications of Details for CBS measurement



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

After loading and clamping

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

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

Signature Operations: [signature] Date: 03/07/24

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					NA								
Right Hand Side													

Signature Industrial Quality: [signature] Date: 03/07/24

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30226487/3	Rev. 28	Project: PRASA SI.CB2210.254.V30
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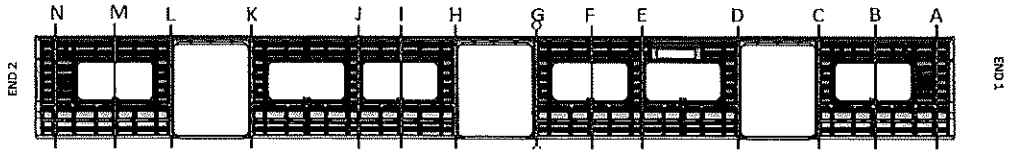
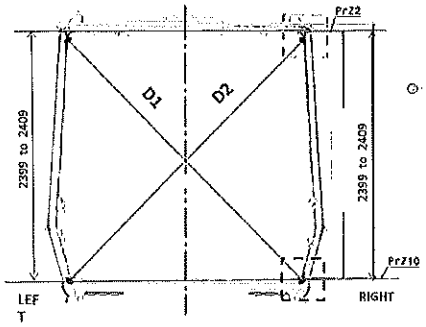
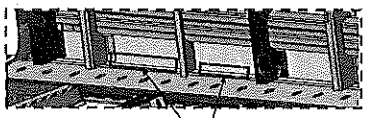
Specifications of Details for CBS measurement

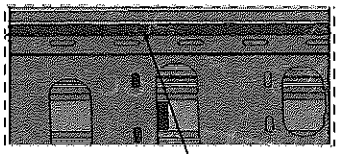




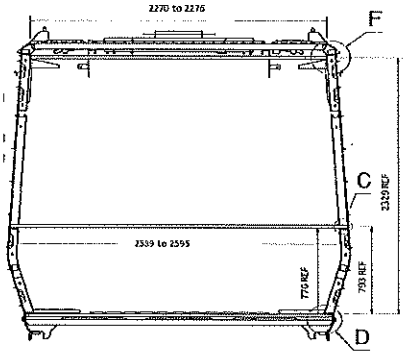
Measurement positions on roof rail and sidewall omega corner.

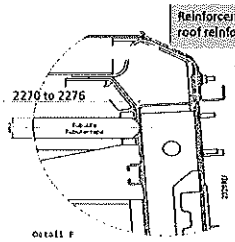


Measurement positions on sidewall and side sill corner.



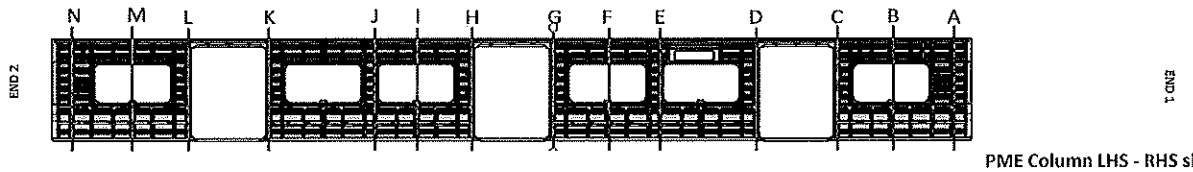
Reinforcement area measurement positions on roof reinforcement area.





GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

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	3267	1	2405	2404	1
B	3267	3267	0	2406	2406	0
C	3267	3267	0	2404	2405	1
D	3266	3267	1	2404	2404	0
E	3267	3267	0	2405	2405	0
F	3266	3267	1	2404	2405	1
G	3267	3267	0	2405	2405	0
H	3265	3266	1	2405	2404	1
I	3266	3267	1	2405	2405	0
J	3267	3267	0	2404	2404	0
K	3268	3267	1	2405	2404	1
L	3267	3267	0	2404	2404	0
M	3266	3267	1	2405	2405	0
N	3266	3266	0	2404	2404	0

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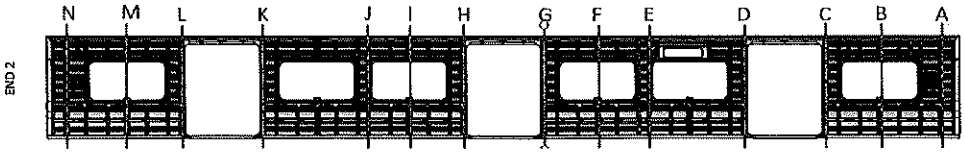
Specifications of Details for CBS measurement



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

AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3294	3292	2	2405	2404	1
B	3267	3267	0	2406	2406	0
C	3292	3292	0	2404	2405	1
D	3294	3293	1	2404	2404	0
E	3267	3267	0	2405	2405	0
F	3266	3267	1	2404	2405	1
G	3294	3294	0	2405	2405	0
H	3293	3293	0	2405	2404	1
I	3266	3267	1	2405	2405	0
J	3267	3267	0	2404	2404	0
K	3292	3292	0	2405	2404	1
L	3294	3294	0	2404	2404	0
M	3266	3267	1	2405	2405	0
N	3294	3294	0	2404	2404	0

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA
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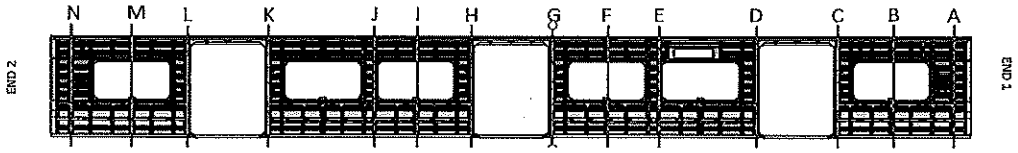
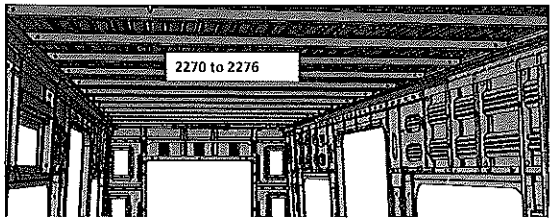
CBS measurement

BEFORE WELDING

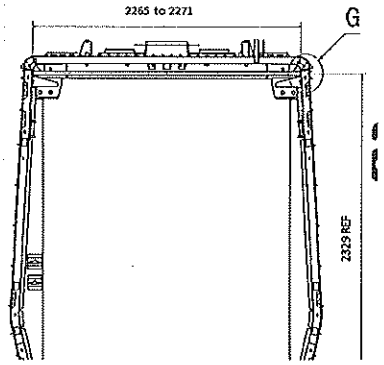




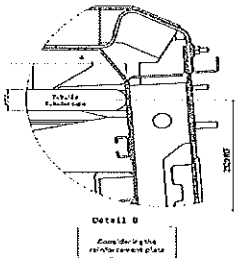
2270 to 2276

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

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



2265 to 2271



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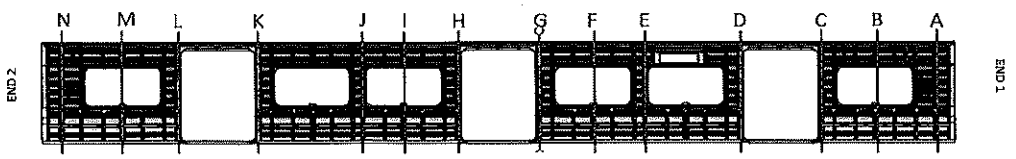
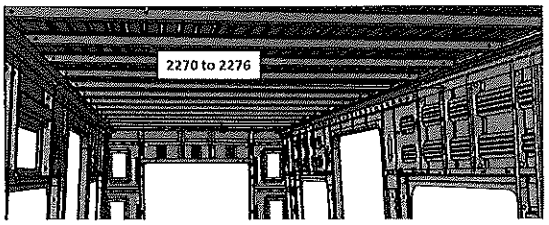
CBS measurement

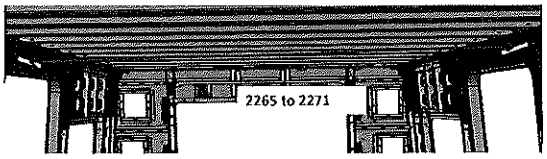
AFTER WELDING



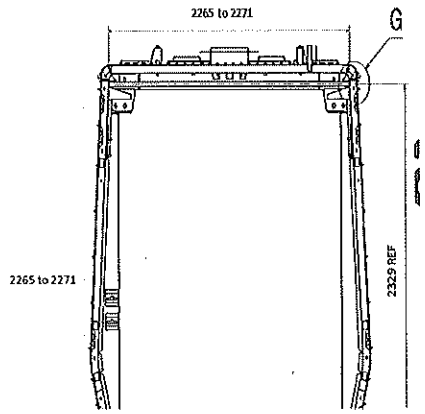
	2265 to 2271	2270 to 2276
A	2270	
B		2273
C	2270	
D	2268	
E		2270
F		2274
G	2271	
H	2269	
I		2273
J		2272
K	2269	
L	2266	
M		2273
N	2269	

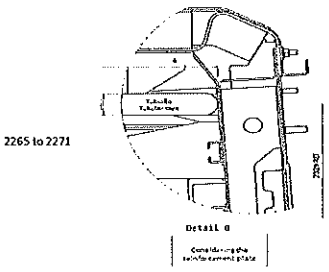


Do not consider reinforcement (Take measurements top area of zee profile



Take measurement close to radius (considering reinforcement)





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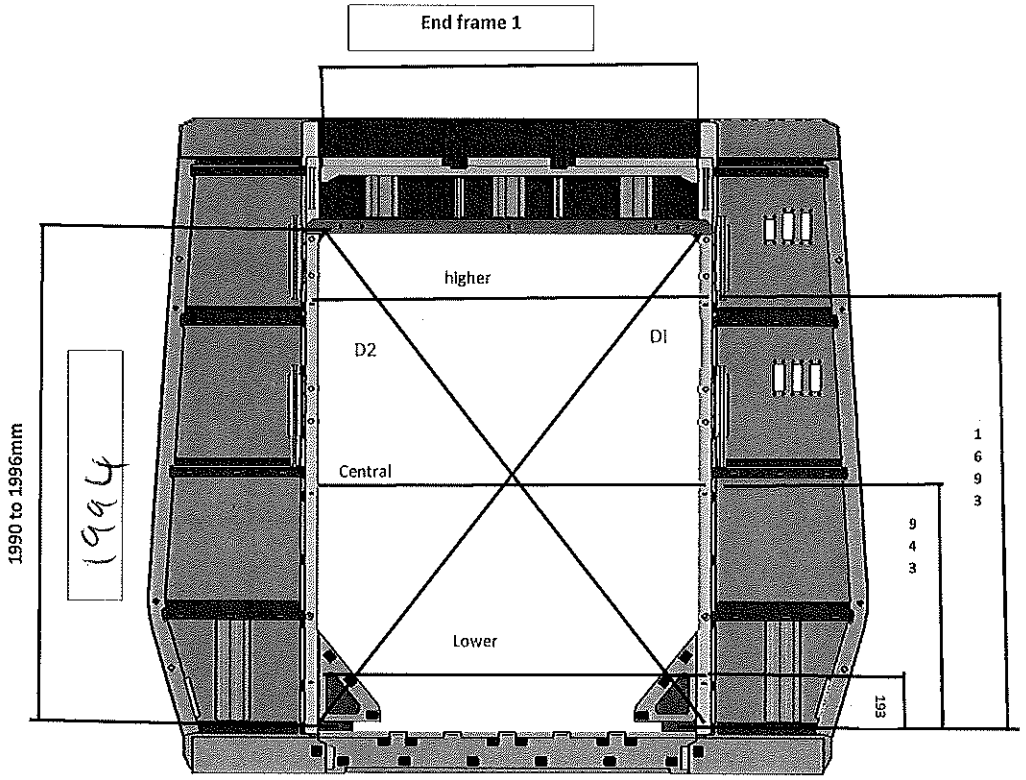
		Date 07/11/2023	

Specifications of Details for CBS measurement



1380 to 1382 mm

DIAGONAL DIFFERENCE **D1-D2** ≤ 3mm

Higher Dimension	1380	D1	2445
Central Dimension	1381	D2	2445
Lower Dimension	1380	D1-D2	0

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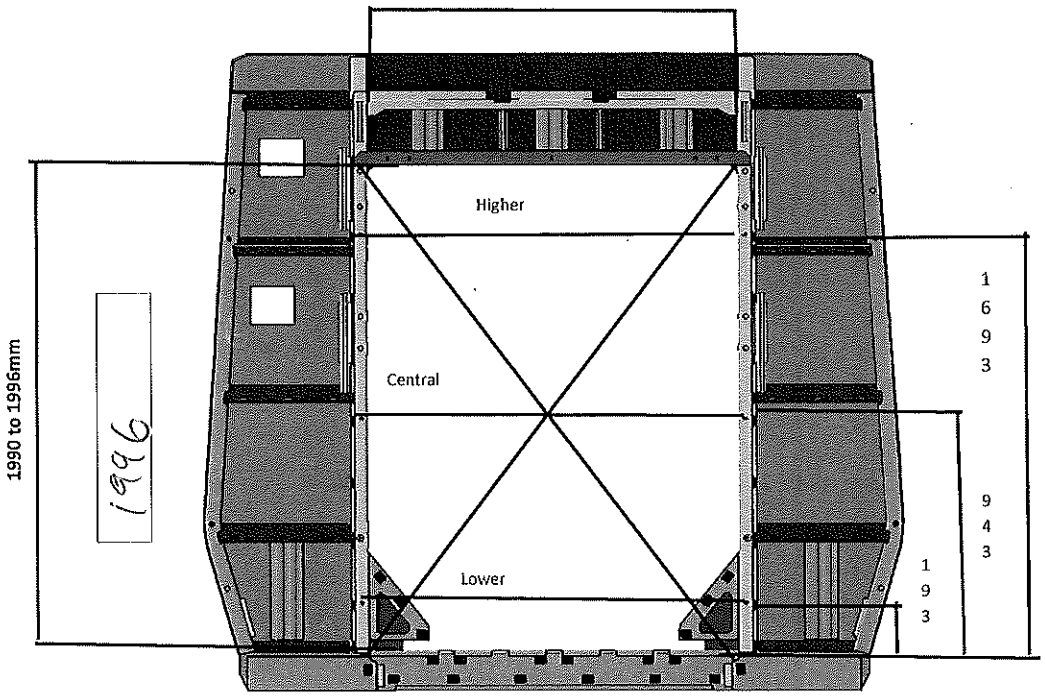
Specifications of Details for CBS measurement

Endframe 2

1380 to 1382 mm



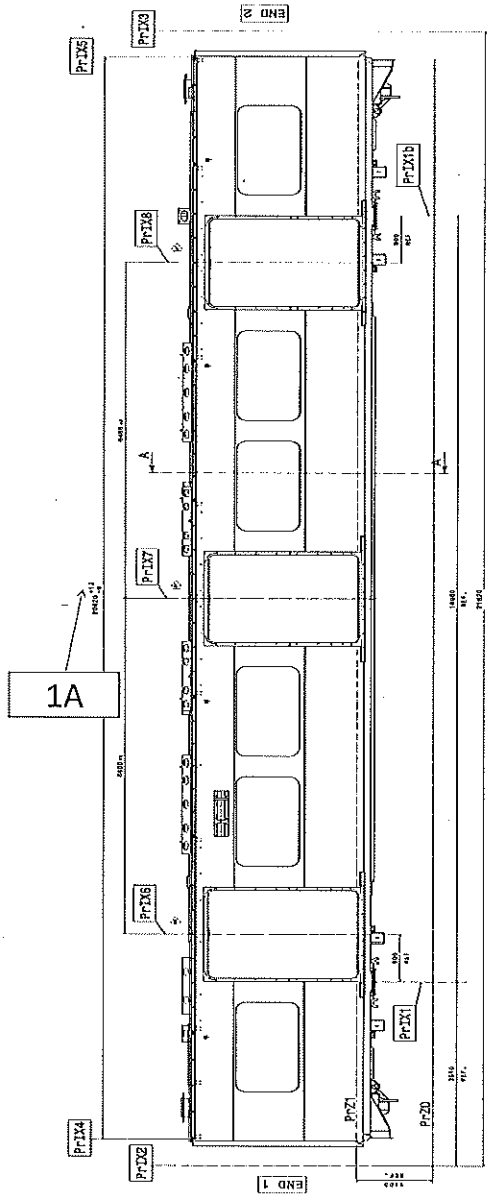
1380 to 1382 mm

DIAGONAL DIFFERENCE **D1-D2** ≤ 3mm

Higher Dimension	1380	D1	2414
Central Dimension	1380	D2	2415
Lower Dimension	1380	D1-D2	1

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

Specifications of Details for CBS measurement



	LEFT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20627

	RIGHT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20627

Dye penetrant test

Dye-penetration test to be performed by quality personnel

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR302256487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

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

II.2 - Check List REX

Check List Items

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

GIBELA	CARBODYSHELL M3,M4 ASSEMBLY DTR30226487/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30

Self Inspection - Final Result

				DATE	NAME	SIGNATURE
HOLD POINT		GO	(If activities are not complete, the missing activities must not impact the next stage)	03/07/24	Lawrence Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	03/07/24	Richmond Industrial Quality	
		NO GO	There are activities pendings that impact/stop the activities of the next process Obs: (To describe problems below)		Operations	
			There are non-conformities impact the quality of the product and there is no corrective action defined yet)		Industrial Quality	

In case of "NO GO", describe blocking problems

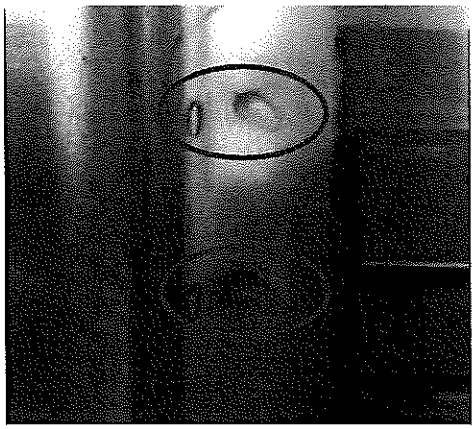
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

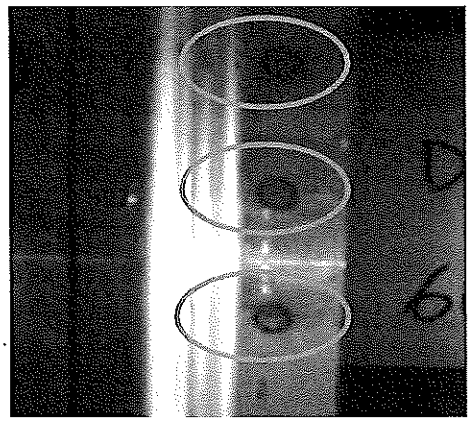
Item	Description		Responsible	Due date	Status

Operations

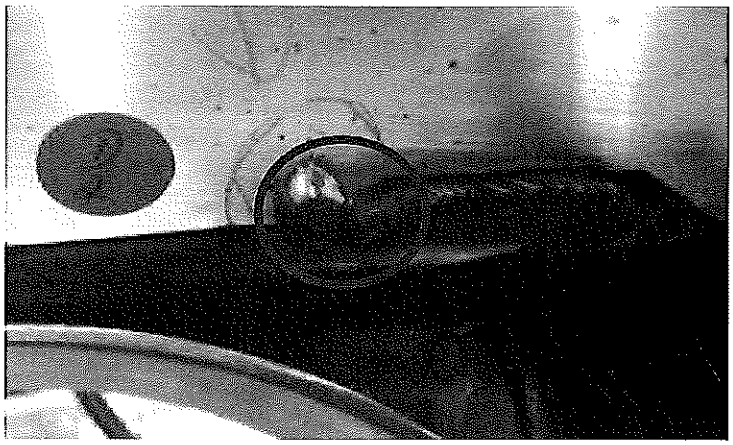
Quality

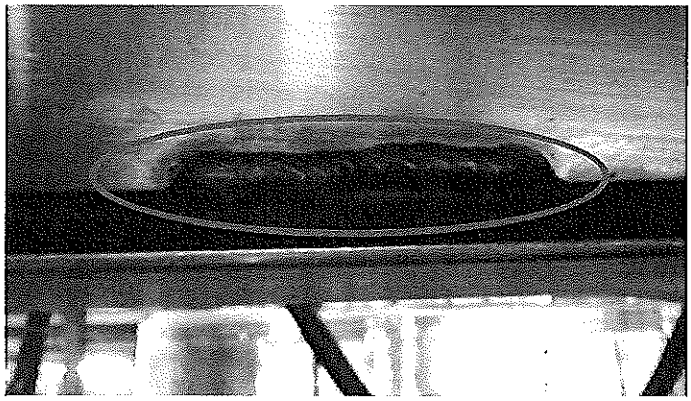
ANNEXURE A: Spot Welding Quality Acceptance Standard





ANNEXURE B: Arc Welding Quality Acceptance Standard





GIBELA

PRASA PROJECT

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

APPLICATION REFERENCE

	MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	M4	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY?
☐	DTR3000152648	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB2220			X				PRA.CB2220.DTR3022548 7/2.V21	YES
☐	DTR3000152649	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB2220		X	X		X		PRA.CB2220.DTR3022548 7/2.V21	YES
☐												
☐												
☐												
☐												
☐												

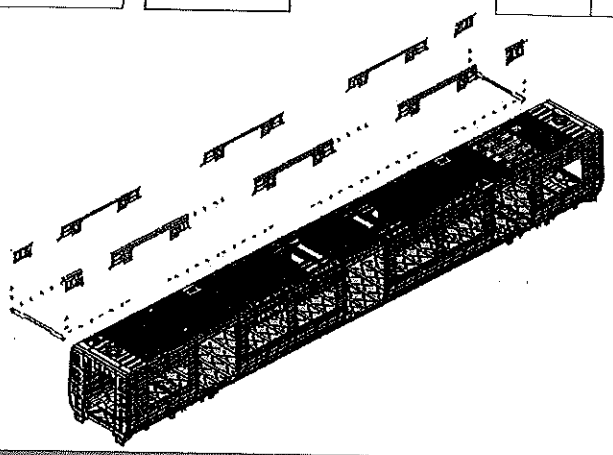
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	01/02/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	01/02/2018
			CHECKER	Nosizo Pindela	01/02/2018
			COMPILER	Thanyani Mathegu	01/02/2018
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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
237	M04	Mashua 410041	04/07/24	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



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
	TC1	M1	M2	M3	M4	TC2							
DTR30225487/2					✓				✓		N/A	[redacted] 04/01/24	

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)
Tinbuter	32823-3	15/03/2025			[redacted]	
Measuring tape	GIBTA0399	16/04/2025			[redacted]	04/01/24

1.3 Consumables

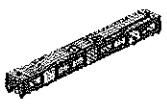
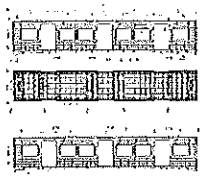
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
308 1.0mm	373179	M16	✓		[redacted]	04/01/24

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

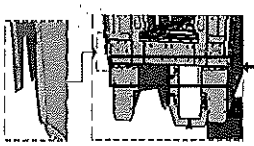
II.1 - Items to check

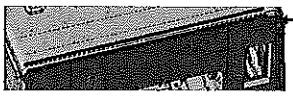
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	N/A	Comment	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB2220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	PRA.CB2220.DTR30225487/2	✓			[redacted] 04/07/24	04/07/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			[redacted] 04/07/24	04/07/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			[redacted] 04/07/24	04/07/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			[redacted] 04/07/24	04/07/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			[redacted] 04/07/24	04/07/24
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.	✓			[redacted] 04/07/24	04/07/24
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 (t) Min-Max 10°C - 35°C Relative humidity Min - Max (t) Min-Max 25% - 80%	Sealant Batch No: 641321 Exp Date: ___ / 02 / 25 Actuals Temparature: 18 Humidity: 26	✓			[redacted] 04/07/24	04/07/24
08	NA	Verification of sealant application in certain regions in the drawing.	AA00001278566	✓			[redacted] 04/07/24	04/07/24
09		Verfication of safety welds	Approved according to DTD000210658 reference and Self inspection	✓			[redacted] 04/07/24	04/07/24

GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR302254872	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):

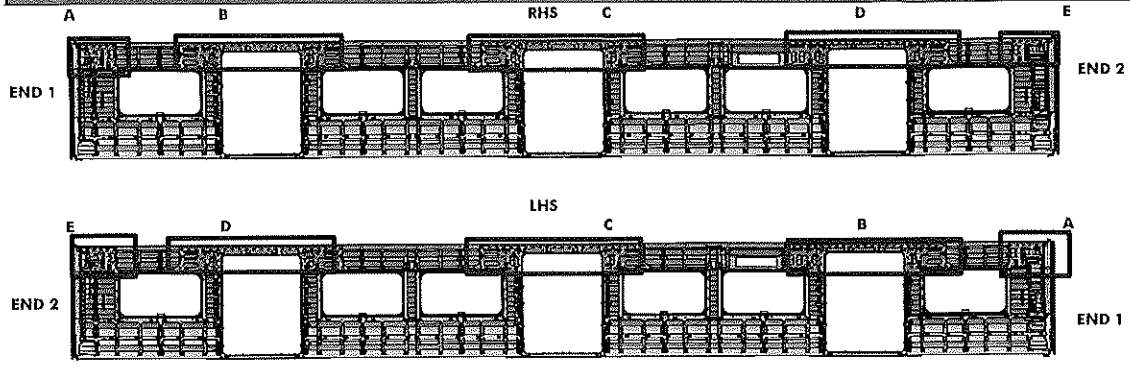
Mthokozisi

Operator (Name & sign):

Mthokozisi

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

II - Self Inspection - Items to Check

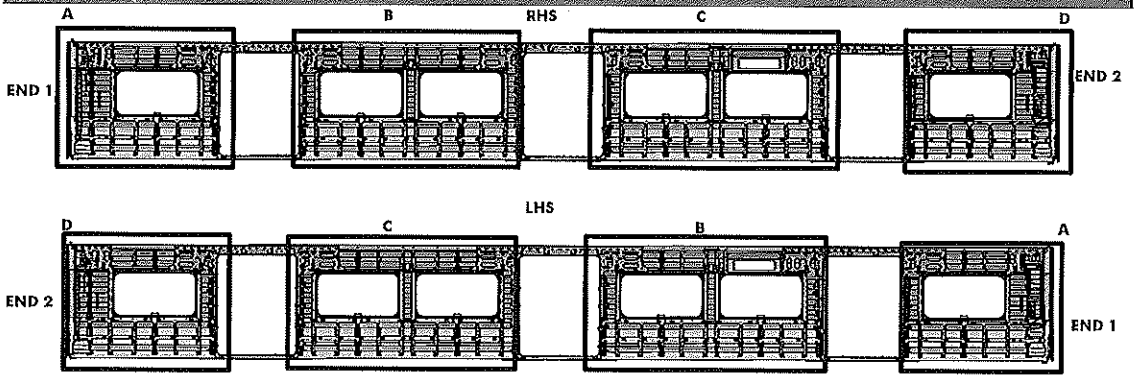


REINFORCEMENT WELDING

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

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

II - Self Inspection - Items to Check



BRACKETING

INSTALLATION

C-RAILS: Operator: Priscilla

Operator:

DOOR MECHANISMS: Operator: Mthohoza

Operator:

TAPPING PADS Operator: Tebello

Operator:

INSTALLATION & VERIFICATION

SEAT & LUGGAGE BRACKETS: Operator: Asanda

Operator:

SEAT BRACKETS VERIFICATION: Operator:

Operator:

WELDING

AREA		LHS	RHS
A	(Seat brackets) : Operator (Name&sign):		Lindo
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	[redacted]	Lindo
B	(Seat brackets) : Operator (Name&sign):	Jolly	Lindo
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	[redacted]	Lindo
C	(Seat brackets) : Operator (Name&sign):		Mmatshuku Mkwa
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):		Jolly
D	(Seat brackets) Operator (Name&sign):		Mmatshuku Mkwa
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):		Mmatshuku Mkwa

ENDS

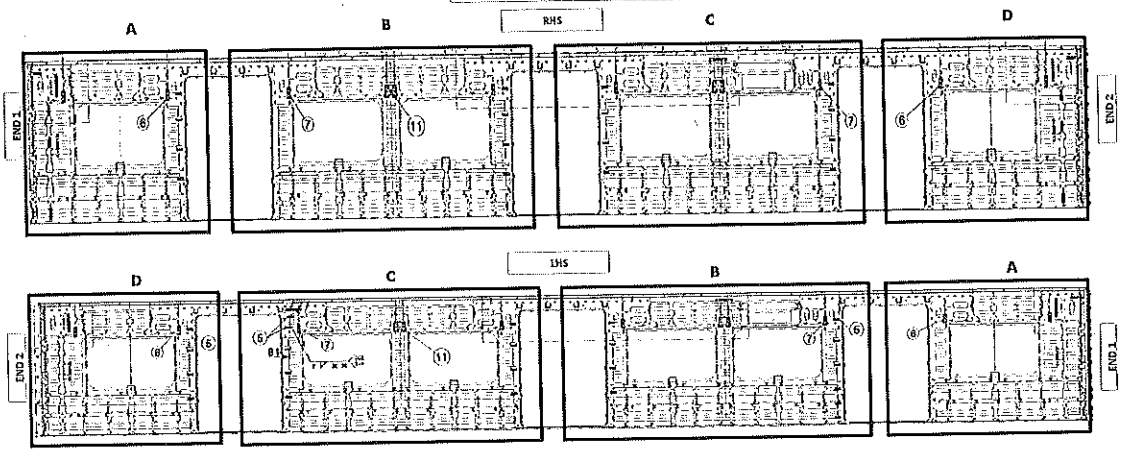
END 1 TAPPING PADS WELDING: Operator (Name&sign): Lindo

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

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

II - Self Inspection - Items to Check

M1/M3/M4 BRACKET INSTALLATION



QUANTITIES (M3/M4)

RHS

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

ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: _____

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

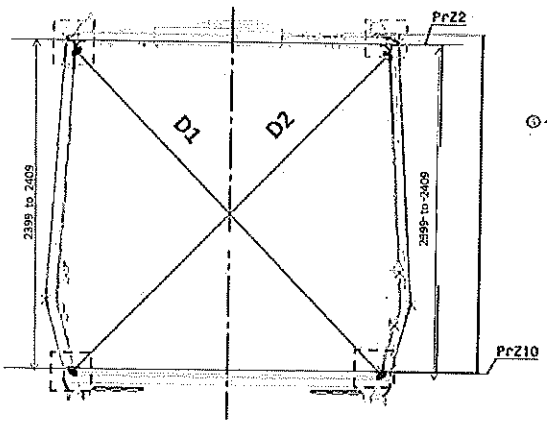
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	2		
	B	10		
	C	11		
	D	6		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	7		
	C	6		
	D	2		

ROOF ENDS:

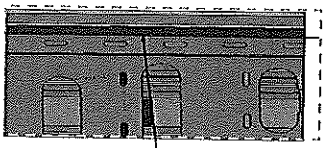
CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: _____

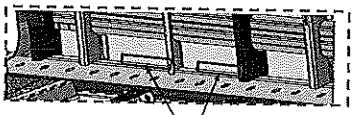
Specifications of Details for CBS measurement



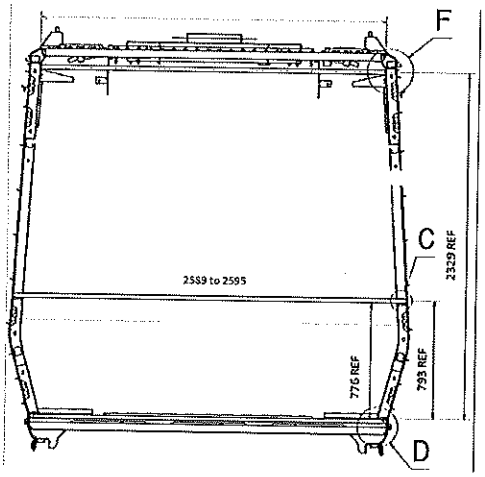
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.

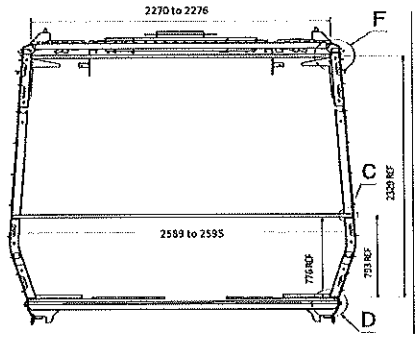


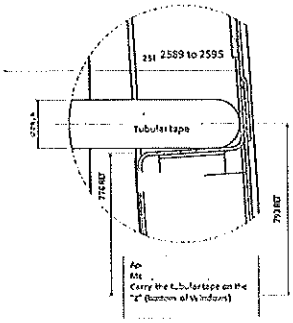
Measurement positions on sidewall and side sill corner.



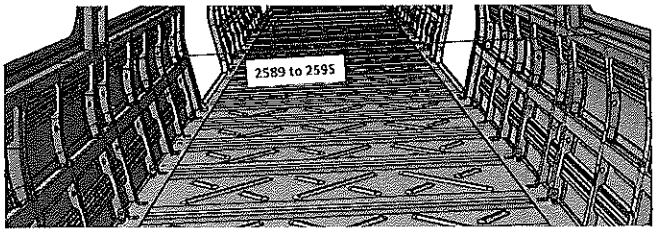
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

CBS measurement

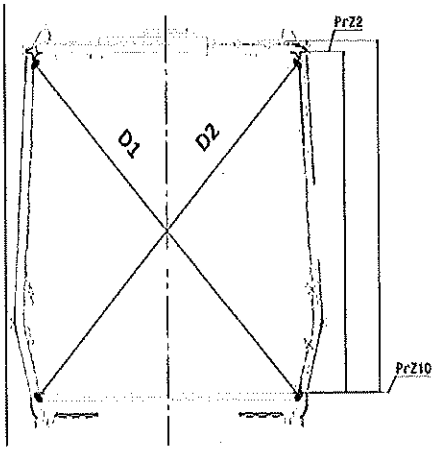


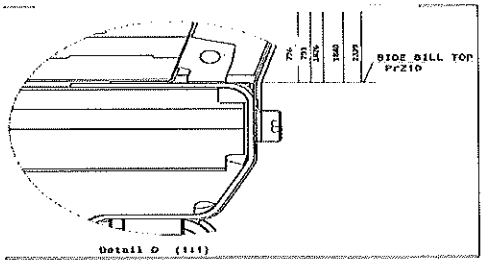


Detail C



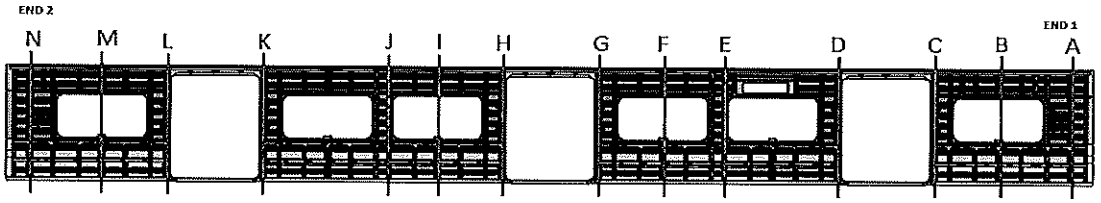
Take measurement close to radius





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

CBS measurement

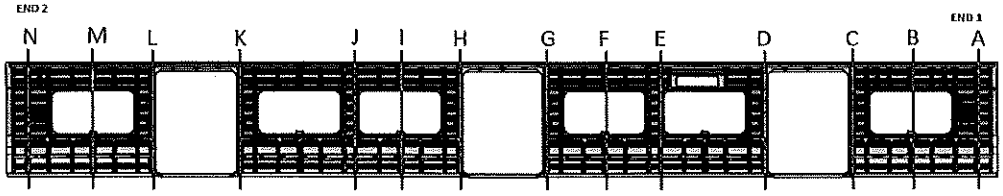


BEFORE WELDING

	ecord D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3295	3299	4	
B	3263	3268	5	
C	3295	3297	2	
D	3293	3295	2	
E	3260	3265	5	
F	3263	3265	2	
G	3291	3296	5	
H	3290	3295	5	
I	3263	3267	4	
J	3264	3264	0	
K	3291	3296	5	
L	3290	3294	4	
M	3260	3265	5	
N	3300	3296	4	

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

CBS measurement

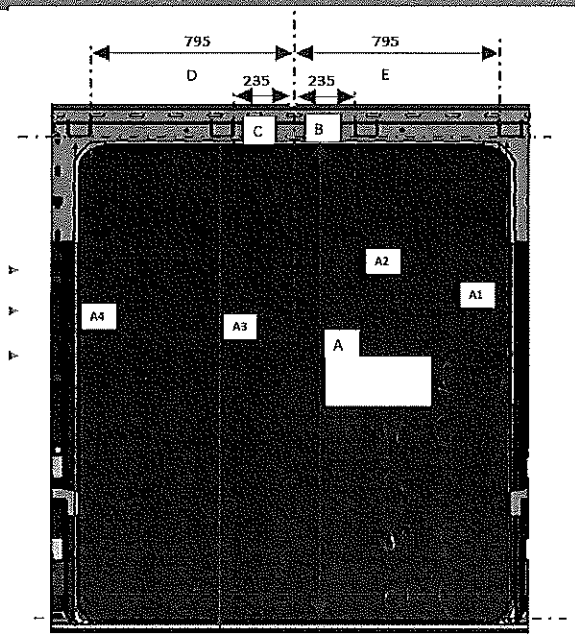


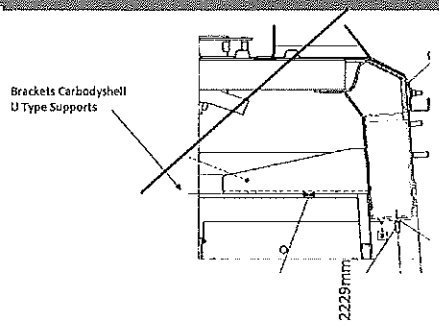
AFTER WELDING

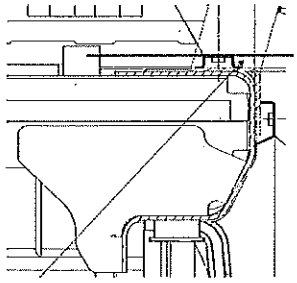
	lecord D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3297	3299	2	2594
B	3264	3268	4	2591
C	3296	3298	2	2593
D	3296	3294	2	2594
E	3264	3261	3	2590
F	3265	3262	3	2594
G	3293	3297	4	2592
H	3294	3292	2	2595
I	3266	3262	4	2592
J	3263	3264	1	2593
K	3296	3292	4	2590
L	3294	3291	3	2592
M	3264	3260	4	2594
N	3299	3296	3	2591

GIBELO	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR302264872	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	2233
A2	2230 to 2232	2232
A3	2230 to 2232	2232
A4	2230 to 2232	2233
B	234 to 236	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795

DOOR 2 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	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	236
D	794 to 796	794
E	794 to 796	795

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	795
E	794 to 796	796

DOOR 1 - RHS

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

DOOR 2 - RHS

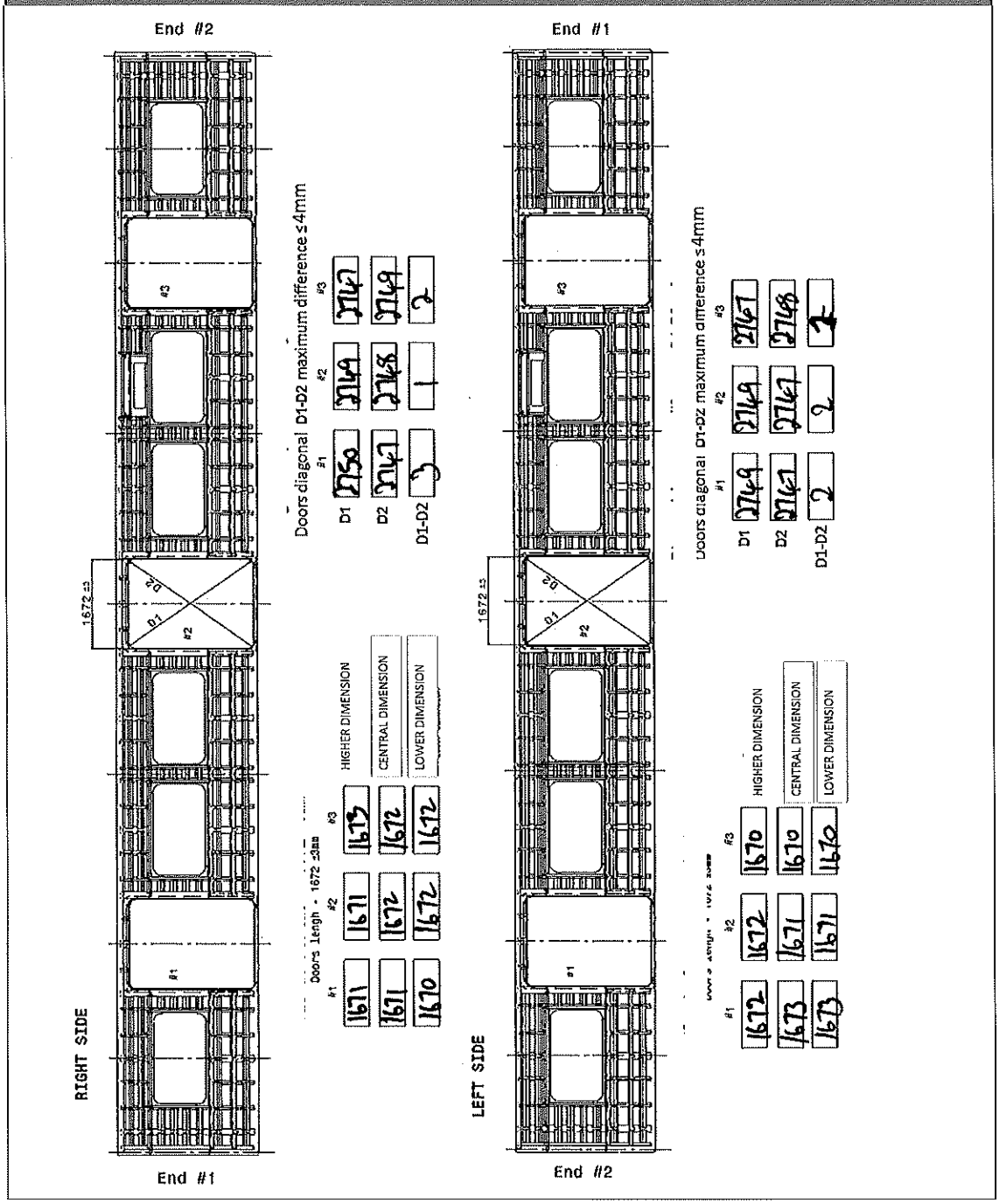
	VALUE	ACTUAL
A1	2230 to 2232	2232
A2	2230 to 2232	2232
A3	2230 to 2232	2231
A4	2230 to 2232	2232
B	234 to 236	234
C	234 to 236	235
D	794 to 796	796
E	794 to 796	795

DOOR 3 - RHS

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

GIBELO	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

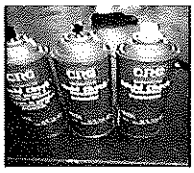


GIBELO	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29

CBS measurement (Manufacturing)

Dye penetrant test

Dye-penetration test to be performed by quality personnel



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

II.2 - Check List REX

Check List Items

Item	Picture/Drawing	Description	Criteria /Record	OK	[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,M3,M4 ASSEMBLY DTR302254B7/2	Rev. 29 Date 28/10/2023	Project: PRA5A SI.CB2220.250.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 f activities are not complete, the missing activities must not impact the next stage!	04/07/2024	Mashud Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	04/07/24	Richmond Industrial Quality	
		NO GO	There are activities pendings that impact/stop the activities of the next process Obs: (To describe problems below)		Operations	
			There are non-conformities impact the quality of the product and there is no corrective action defined yet)		Industrial Quality	

In case of "NO GO", describe blocking problems

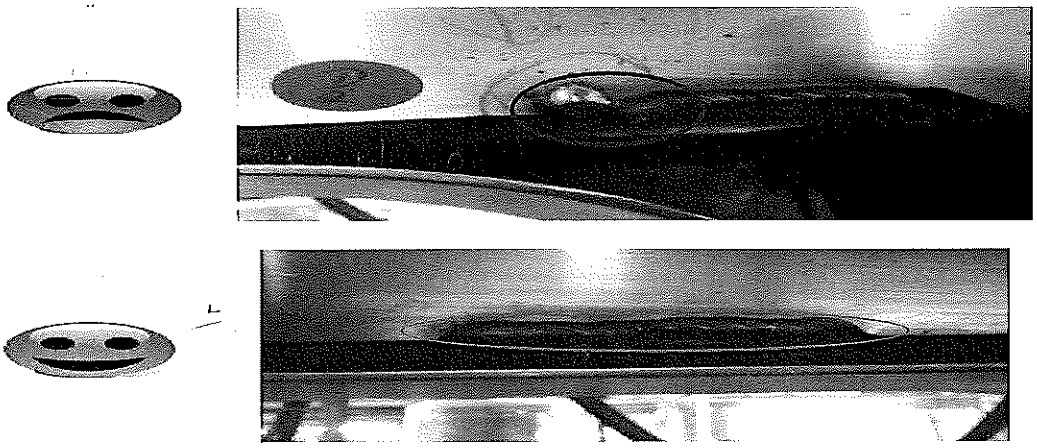
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

Item	Description		Responsible	Due date	Status

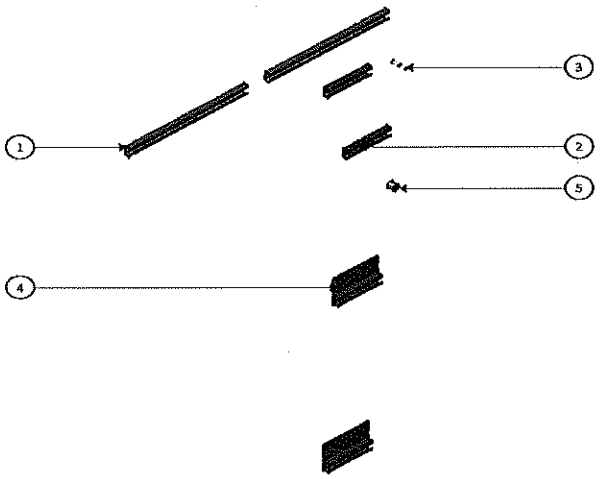
Operations

Quality

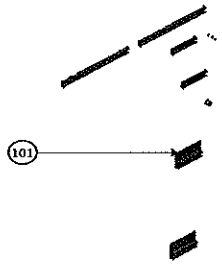
ANNEXURE A: Arc Welding Quality Acceptance Standard



Station: CB1220-004- U108 & U107



PART NO.	ITEM NO.	QTY	DESCRIPTION	MASS (KG)
DTF.0020074083	5	6	EARTH STUD 6	0.035
AA00001201643	4	6	ASSEMBLY SUPPORT	0.271
DTF.0000343505	3	12	WELDING STUD ISO13918 PT – M5X20 - SST	0.007
AA00001160424	2	12	ASSEMBLY SUPPORT	0.193
AA00001184418	1	14	ASSEMBLY SUPPORT	0.522
AA00001161080	101	6	CARBODYSHELL BRACKETS CARBODYSHELL M1/M3/M4 CAR(SIDE FRAME MODULE EFD – 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	CB2230			X				PRA.CB2230.DT000002 25487.V20	YES
☐	DTR3000152673	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB2230		X			X		PRA.CB2230.DT000002 25487.V20	YES
☐												

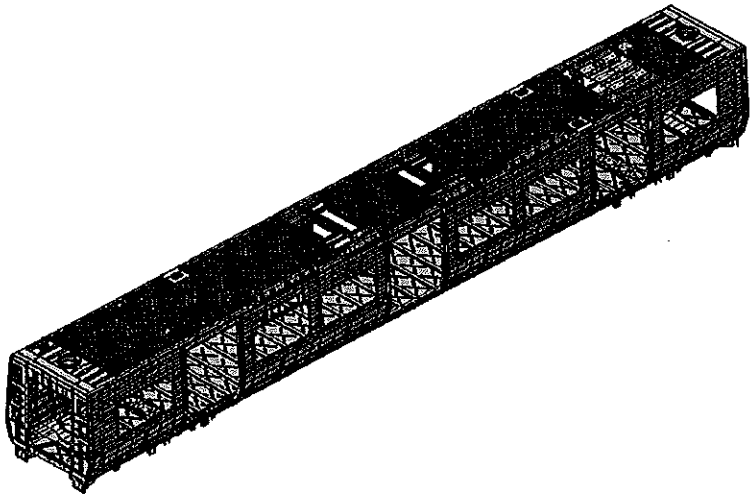
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	2018/08/02	GIBELA NEW CREATION	APPROVER	Philipe Marques	2018/08/02
			CHECKER	Nosizo Pindela	2018/08/02
			COMPILER	Nosizo Pindela	2018/08/02
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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
231	NM	Gwele 42079	04/01/24	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	N/A	Remark	Signature/Date (Operations)	Signature/Date (Quality)
PRA.CB2230.DT00000225487						30		X		N/A	04/07/24	04/07/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	N/A	Signature/Date (Operations)	Signature/Date (Quality)
Tape Measure	22713	26/04/25	X		04/07/24	
Combination square	CB02	27/07/24	X		04/07/24	04/07/24
Tape Measure	CB11	23/04/25	Y		04/07/24	

1.3 Consumables

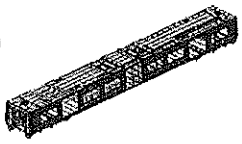
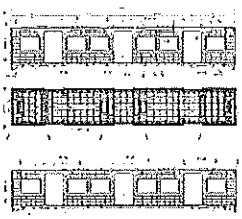
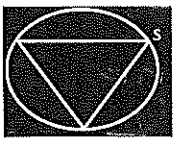
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 5183	31317	MIG	Y		04/07/24	04/07/24

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

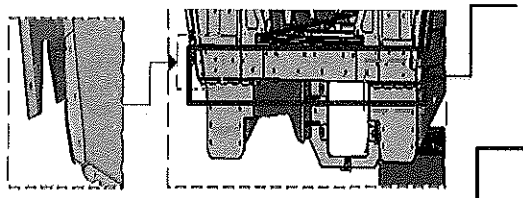
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Remark	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.DT00000225487 Verification of fitment for all brackets.	PRA.CB1230.DT00000225487	Y			04/07/24	04/07/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	Y			04/07/24	04/07/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	Y			04/07/24	04/07/24
04		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	Y			04/07/24	04/07/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	Y			04/07/24	04/07/24
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.	Y			04/07/24	04/07/24
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: 15R-2-03 Exp Date: 15/04/24 Actuals Temperature: 19°C Humidity: 49%	Y			04/07/24	04/07/24
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 (floshes, dirt, dust) **Refer to Annexure B**	Y			04/07/24	04/07/24
09	N/A	Verification of sealant application in certain regions in the drawing.	AAD0001278566	Y			04/07/24	04/07/24

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

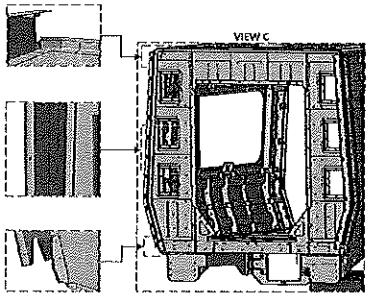
II - Self Inspection - Items to Check

END 2 SEALANT

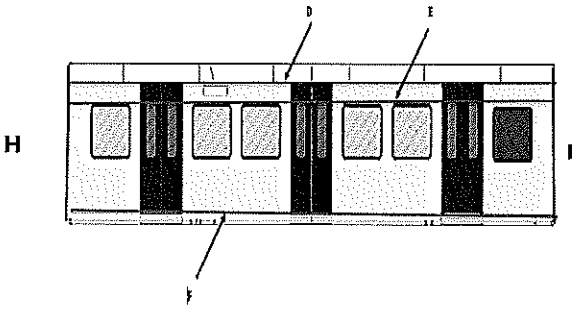
AREA 1



AREA 2 (VIEW C)



OPERATOR (Name & sign):	LERATO
OPERATOR (Name & sign):	LERATO
OPERATOR (Name & sign):	LERATO

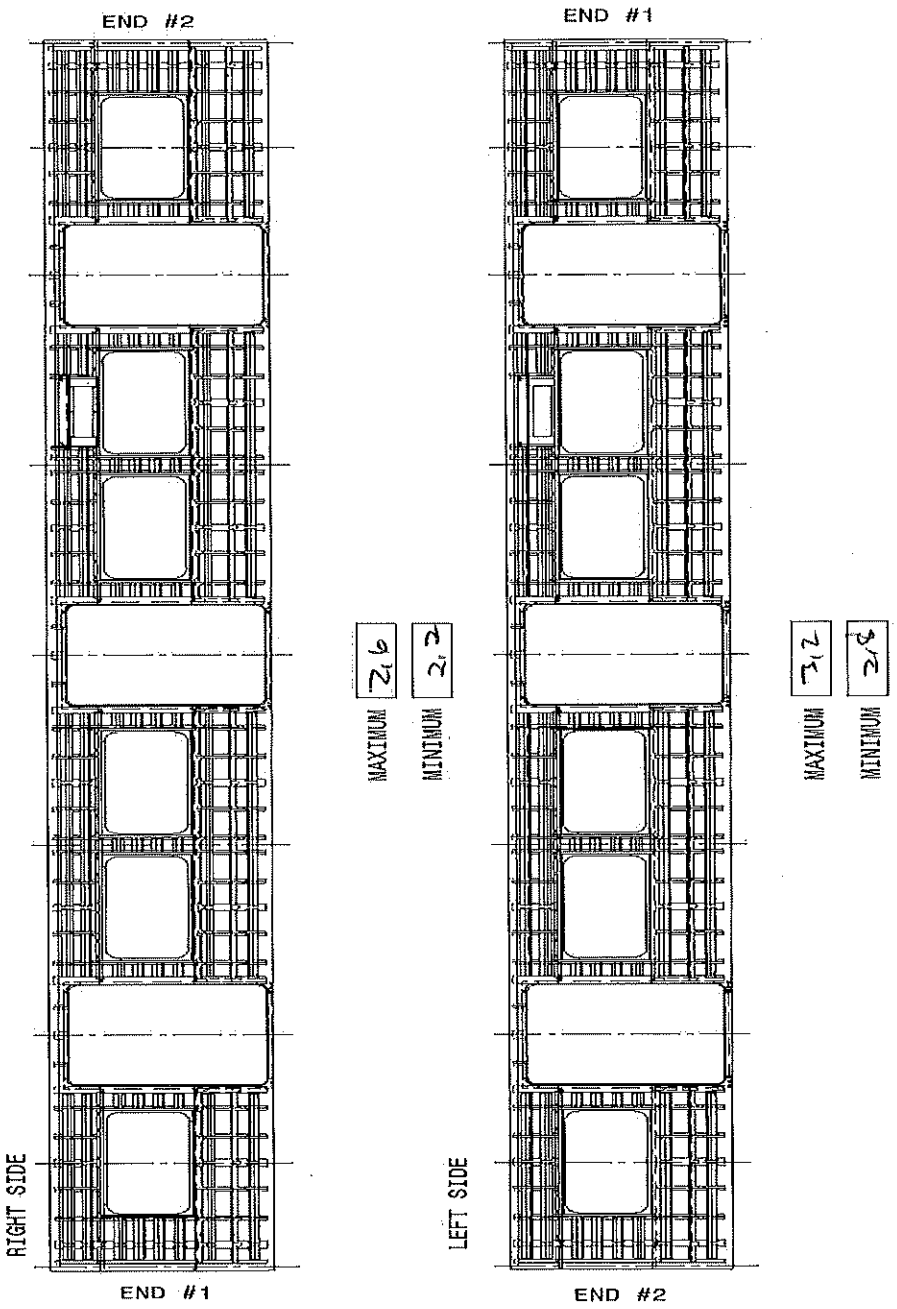


Area D,E,F,G,H,I	LHS	RHS
Operator (Name & sign) :	D,E,F,G,H,I	D,E,F,G,H,I
Operator (Name & sign) :	Buhle	Sinle
Operator (Name & sign) :		
Operator (Name & sign) :	Boitumelo	Ishendro
Operator (Name & sign) :		
Operator (Name & sign) :		

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

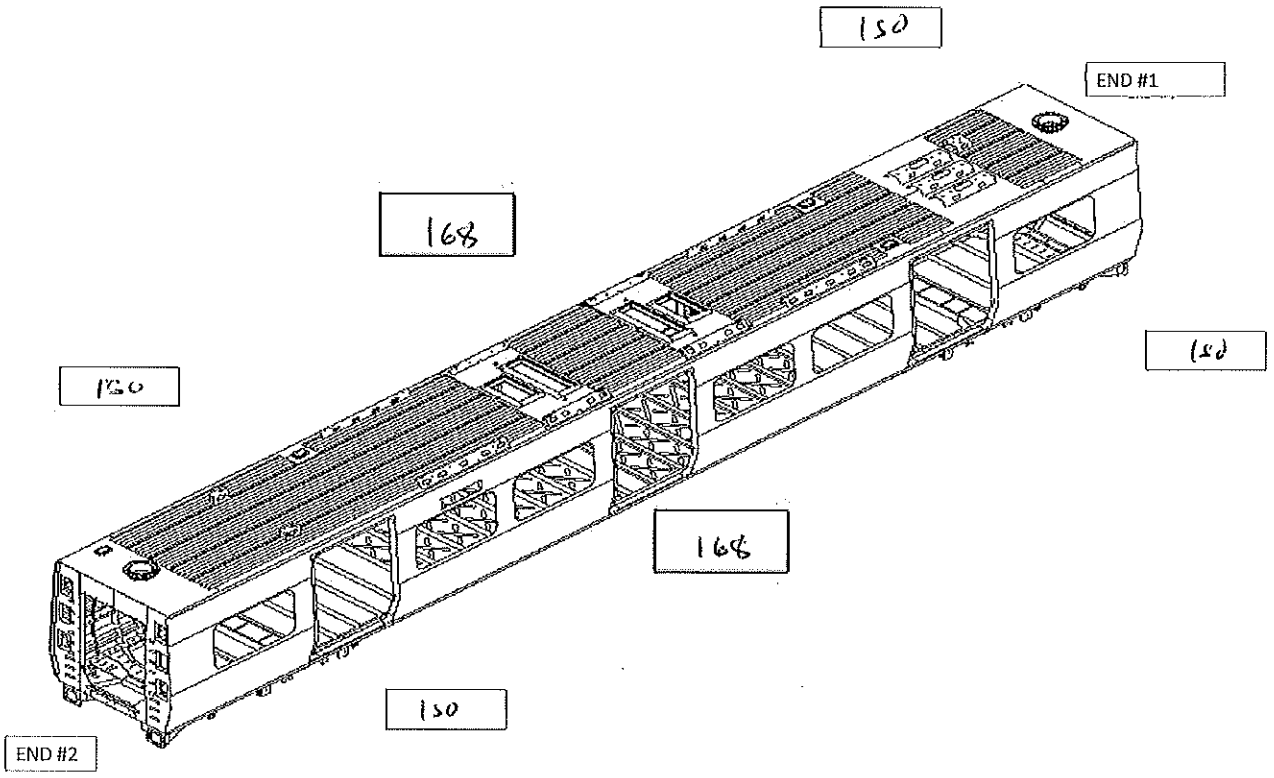
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



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)

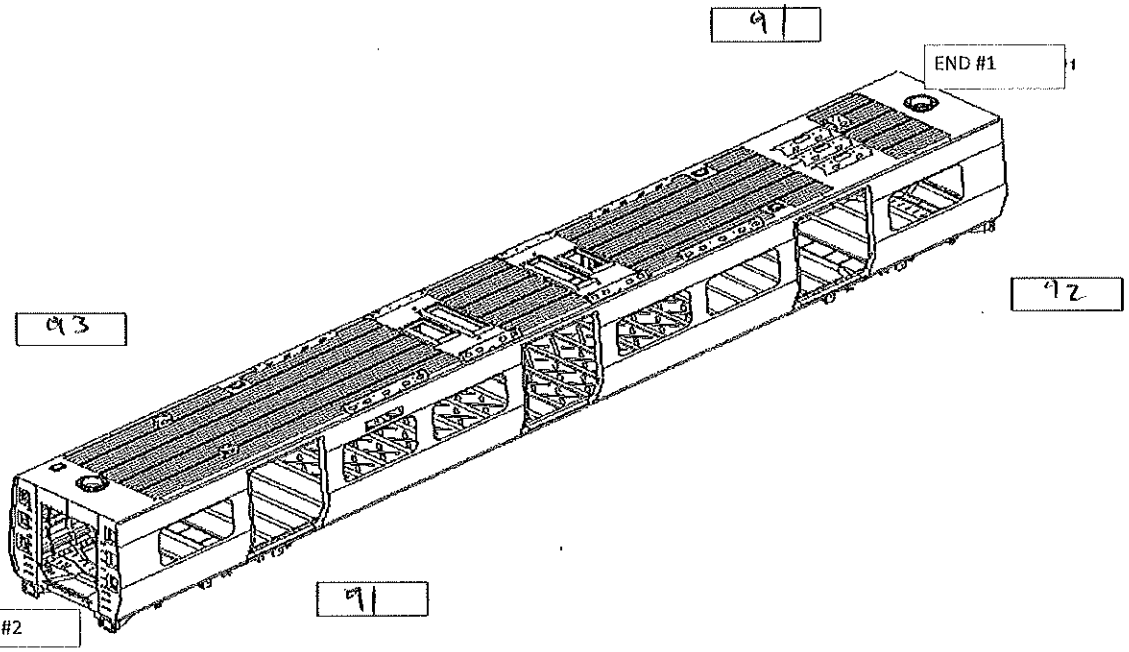


MEASURED CAMBER VALUES	
RIGHT	18
LEFT	18

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

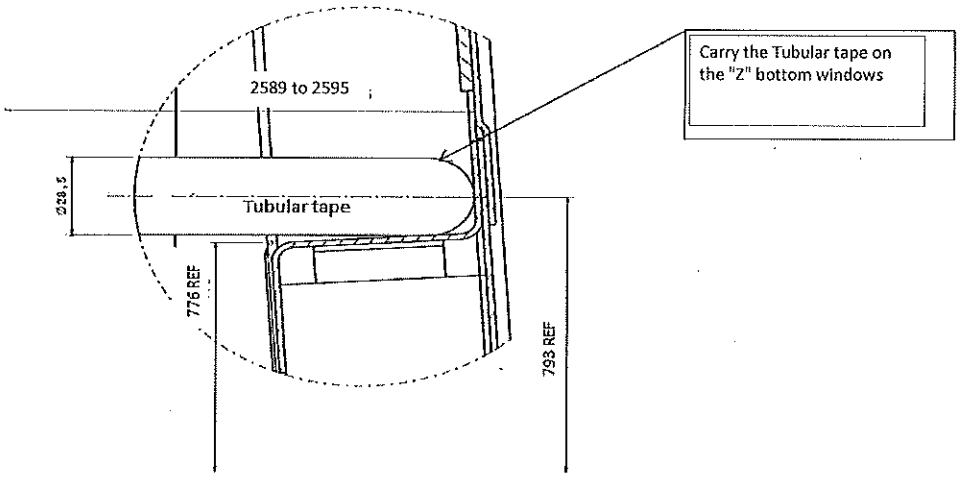
Specifications of Details for CBS measurement CB1230

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.

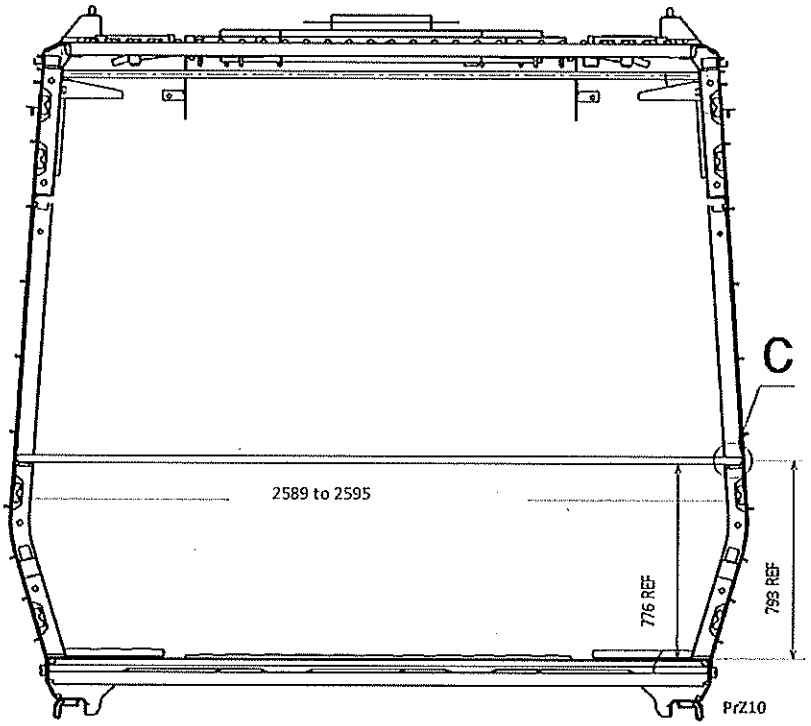


TWIST FOUND ON END 1	
TRANVERSE	1
LONGITUDINAL	1

TWIST FOUND ON END 2	
TRANVERSE	2
LONGITUDINAL	2

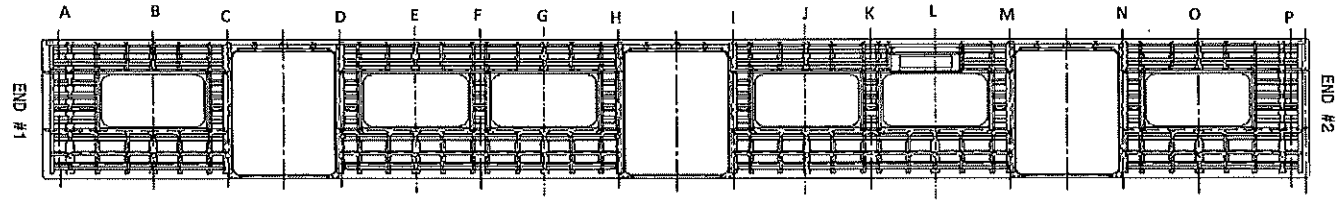

2589 to 2595
Carry the Tubular tape on the "Z" bottom windows
Ø28,5
Tubular tape
776 REF
793 REF

Detail C


C
2589 to 2595
776 REF
793 REF
PrZ10

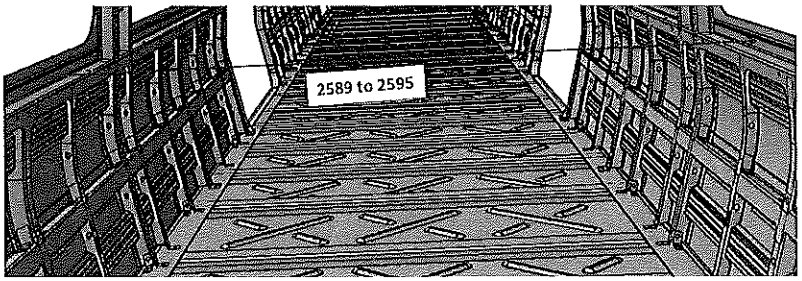
GIBELA	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



Threashold verification

Nominal value :38

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

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

BOILER MAKER: Lonaj

WELDER: Zanele Dlamini

Dye penetrant test

Dye-penetration test to be performed by quality personnel

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

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

HOLD POINT			Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)	DATE	NAME	SIGNATURE
		GO	(If f activities are not complete, the missing activities must not impact the next stage!	04/01/24	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	05/01/24	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

ANNEXURE A: Arc Welding Quality Acceptance Standard