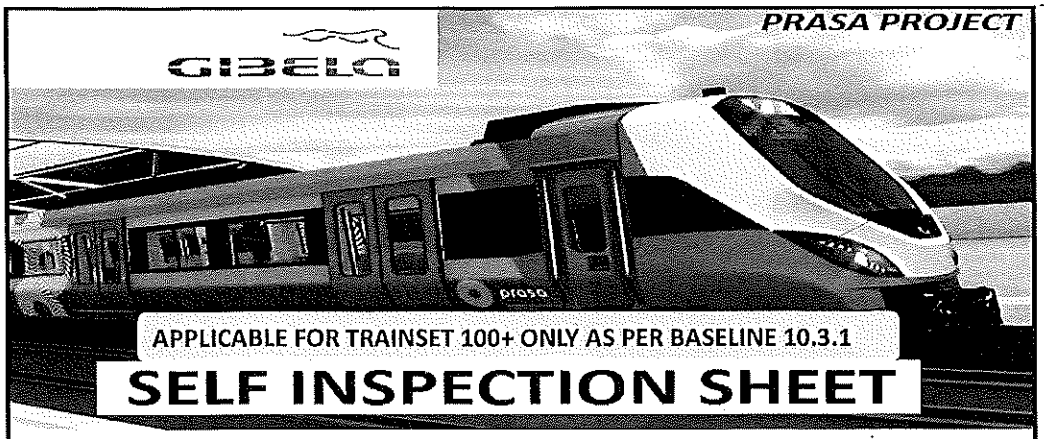
PRASA PROJECT

GIBELA



APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

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

APPLICATION REFERENCE

	MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	MA	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY?
☐	DTR31374497/3	AAD0001413329	CARBODYSHELL M2 ASSEMBLY	CB1210				X			PRA.CB1210.DTR313744 97/3.V25	YES
☐												

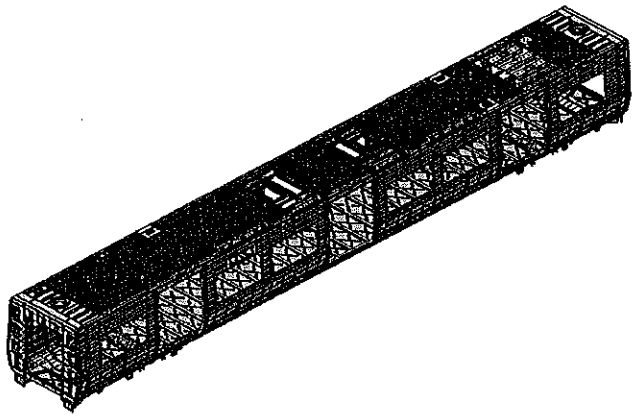
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	10/01/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	10/01/2018
			CHECKER	Nosizo Pindela	10/01/2018
			COMPILER	Thanyani Mathegu	10/01/2018
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	2018/05/18
			CHECKER	Nosizo Pindela	2018/05/18
			REVISED BY	Ramokone Motama	2018/05/18
2	2018/07/04	Certain dimensional checks moved to CB1220 and CB1230	APPROVER	Itumeleng Modiba	2018/07/04
			CHECKER	Nosizo Pindela	2018/07/04
			REVISED BY	Ramokone Motama	2018/07/04
3	2018/12/12	Added dimensional check points to CB1210	APPROVER	Itumeleng Modiba	12/122018
			CHECKER	Nosizo Pindela	12/122018
			REVISED BY	Ramokone Motama	12/122018
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 Mairnela	06/08/2020
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Mairnela	19/04/2021
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi collins	17/08/2021
			CHECKER	Mpho Mulaudzi	
			REVISED BY	Mpho Mulaudzi	
25	21/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombhi collins	21/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/04/2023	Addition of welding consumable traceability	APPROVER	Ntuli Vanessa	14/04/2023
			CHECKER	Mohlampe Amogelang	
			REVISED BY	Mohlampe Amogelang	
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Zwane Ntokozo	
			REVISED BY	Mohlampe Amogelang	
28	07/11/2023	Addition of welder traceability	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
221	M2	STAN 440022	9/04/2024	SI.CB1210.247.V28	17

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

Car: M2	NCR:	Work station: CB1210

Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car TC	M1	M2	M3	M4	TC2	Revision	Observation	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR31374497/3			X						✓		N/A	9/04/24	01/04/24

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)
30 M TAPE	CIBTP 0084	14/03/2024	✓		9/04/24	01/04/24
LASER TAPE	254259124	25/01/2024	✓		9/04/24	01/04/24
TUBULAR	328823-2	15/03/2024	✓		9/04/24	01/04/24

1.3 - Consumables

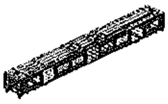
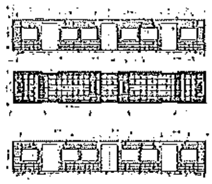
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	314018-74097	MIG	✓		9/04/24	01/04/24
ER 308 L	259687-70322	TIG	✓		9/04/24	01/04/24

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA **SI.CB1210.247.V28**

II - Self Inspection - Items to Check

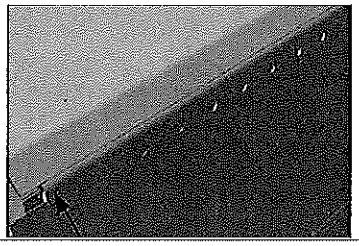
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	[illegible]	[illegible]	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls,Endframes,Roof and Underframe)	AA00001375051	✓			9/04/24	09/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			9/04/24	09/04/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD0000210675	✓			9/04/24	09/04/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			9/04/24	09/04/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			9/04/24	09/04/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓			9/04/24	09/04/24
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.	✓			9/04/24	09/04/24

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.V28

Welder treacibility

Roof ring welds



LHS

Boiler maker (Name & Sign): Jusice

Welder (Name & Sign): MTHOKOZISI

END 1

RHS

Boiler maker (Name & Sign): SEAN

Welder (Name & Sign): MTHOKOZISI

LHS

Boiler maker (Name & Sign): Jusice

Welder (Name & Sign): MTHOKOZISI

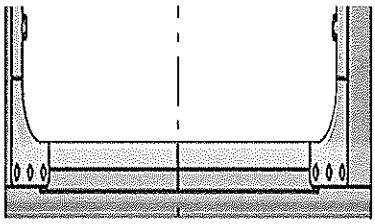
END 2

RHS

Boiler maker (Name & Sign) SEAN

Welder (Name & Sign): MTHOKOZISI

Door ring welds



LHS

Boiler maker (Name & Sign): Innocent

Welder (Name & Sign): MTHOKOZISI

RHS

Boiler maker (Name & Sign): LAWRENCE

Welder (Name & Sign): MTHOKOZISI

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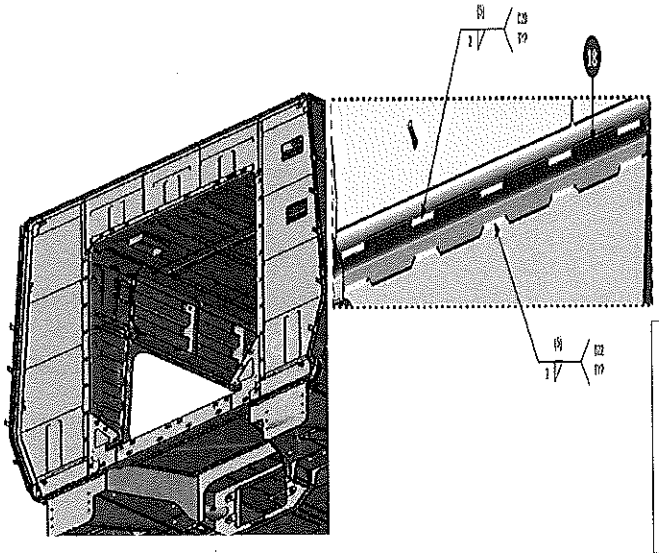
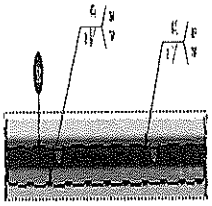
EUF Reinforcement Plates



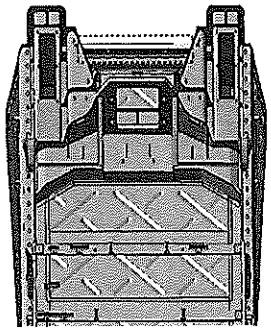
END 1

Boiler maker (Name & Sign): LAWRENCE

Welder (Name & Sign):



END 2

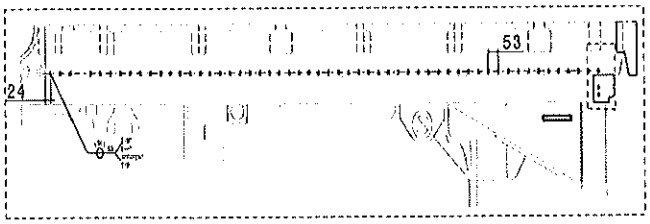


Underneath the CAR

END 2

Boiler maker (Name & Sign):

Welder (Name & Sign):

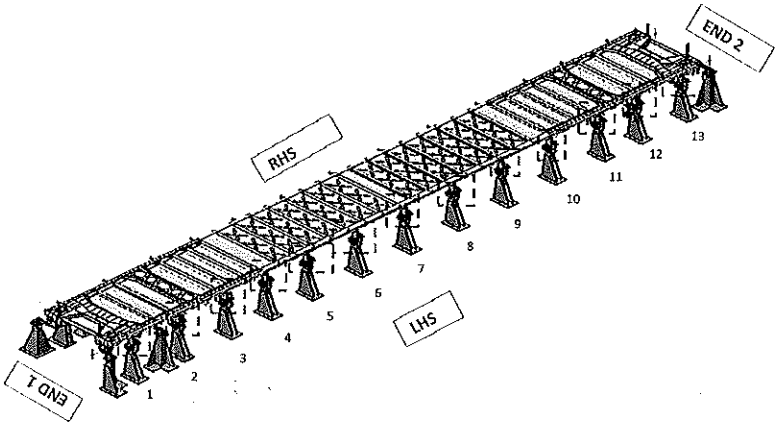


FEDOLI

OPERATOR:

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.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	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0

Signature Operations: Date: 7/04/24

After Welding.

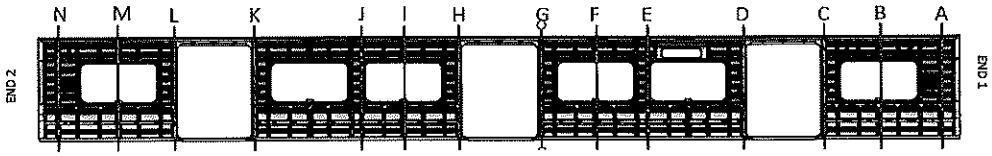
Fill in the gap found each jig pillars / chair and underframe should be 0mm.

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

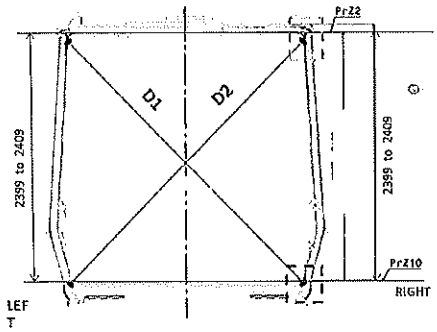
Signature Industrial Quality: Date: 08/04/24

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

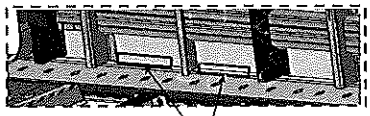
Specifications of Details for CBS measurement



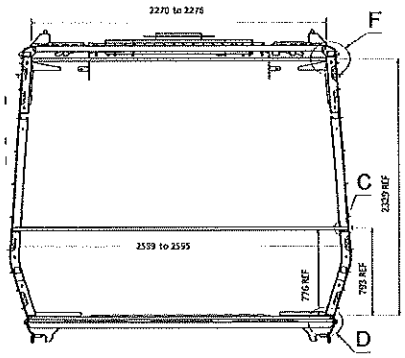
9

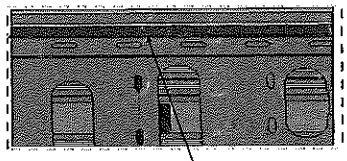


Measurement positions on roof rail and sidewall omega corner.

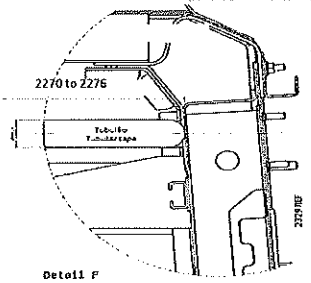


Measurement positions on sidewall and side sill corner.





Reinforcement area measurement positions on roof reinforcement area.

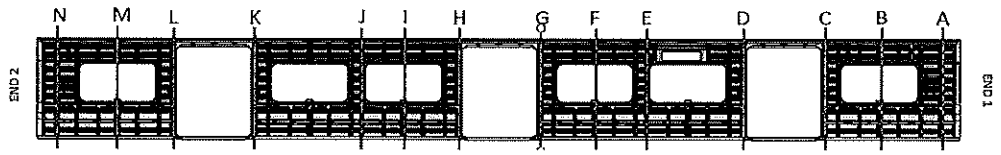


Don't considering the reinforcement

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.V28

Specifications of Details for CBS measurement

BEFORE WELDING



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

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3267	3266	1	2404	2405	1
B	3268	3267	1	2405	2406	1
C	3266	3265	1	2405	2406	1
D	3265	3266	1	2405	2405	0
E	3267	3266	1	2405	2404	1
F	3266	3268	2	2406	2406	0
G	3267	3266	1	2405	2406	1
H	3266	3266	0	2404	2404	0
I	3267	3268	1	2405	2405	0
J	3266	3266	0	2406	2406	0
K	3265	3264	1	2406	2407	1
L	3265	3266	1	2405	2405	0
M	3267	3267	0	2406	2405	1
N	3268	3267	1	2405	2405	0

9/04/2024

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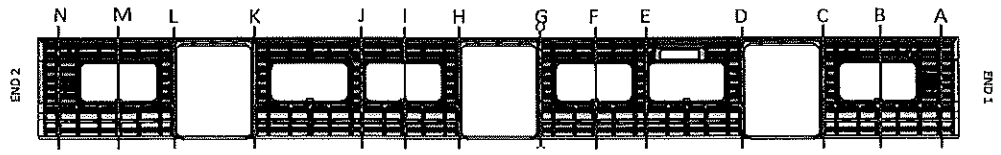
Specifications of Details for CBS measurement

AFTER WELDING



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

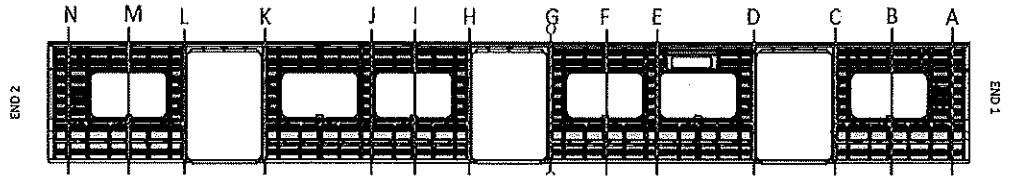
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3296	3297	1	2405	2406	1
B	3266	3265	1	2406	2406	0
C	3295	3296	1	2406	2406	0
D	3295	3295	0	2405	2405	0
E	3266	3265	1	2406	2406	0
F	3266	3266	0	2405	2405	0
G	3295	3295	0	2405	2405	0
H	3296	3295	1	2406	2406	0
I	3267	3266	1	2406	2405	1
J	3266	3267	1	2406	2406	0
K	3296	3297	1	2405	2405	0
L	3295	3296	1	2405	2406	1
M	3267	3268	1	2406	2406	0
N	3297	3296	1	2406	2406	0

9/04/2024

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

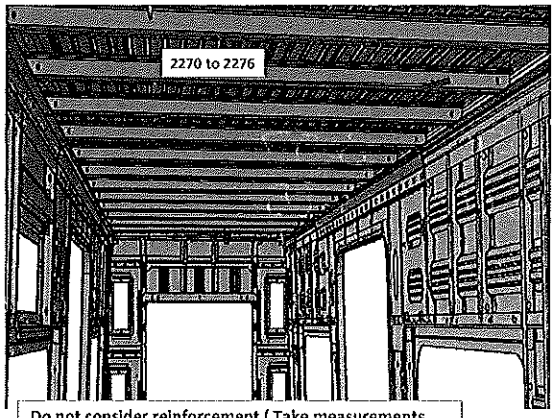
CBS measurement

BEFORE WELDING



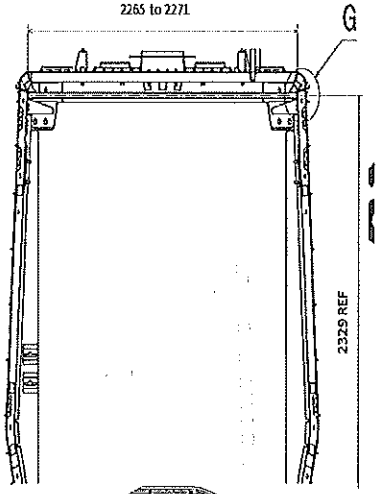
2270 to 2276

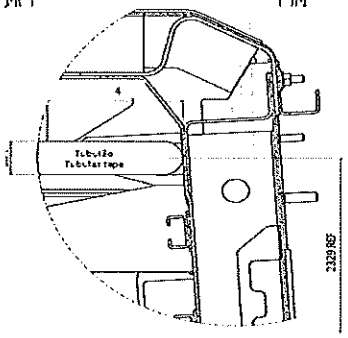
A	2276
B	2277
C	2276
D	2275
E	2277
F	2276
G	2275
H	2276
I	2277
J	2275
K	2274
L	2275
M	2277
N	2277



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

2265 to 2271





2265 to 2271

Detail G

Considering the reinforcement plate

9/04/2024

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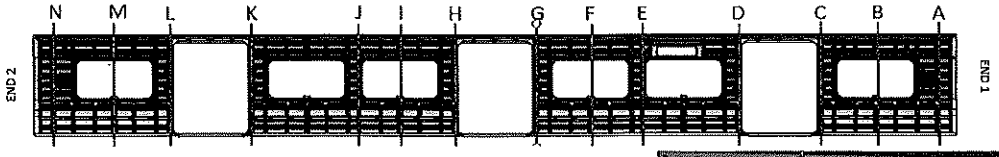
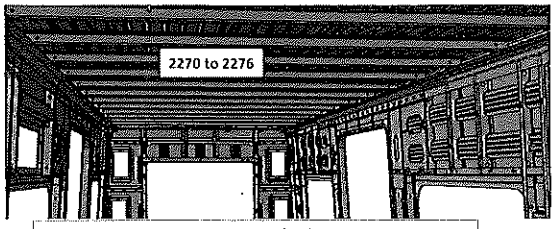
CBS measurement

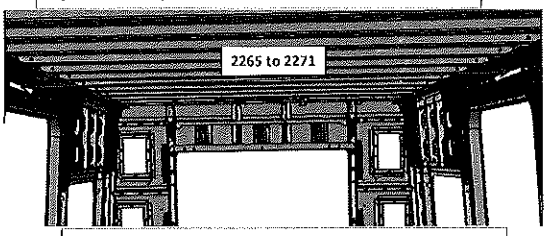
AFTER WELDING



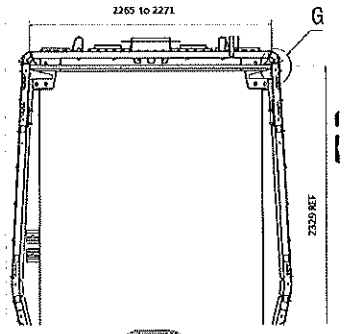
	2265 to 2271	2270 to 2276
A	2269	—
B	—	2276
C	2268	—
D	2267	—
E	—	2275
F	—	2276
G	2267	—
H	2266	—
I	—	2276
J	—	2274
K	2266	—
L	2267	—
M	—	2276
N	2269	—

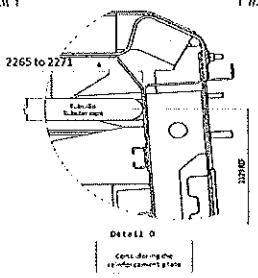


Do not consider reinforcement (Take measurements top area of zee profile



Take measurement close to radius (considering reinforcement)





9/04/2024

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
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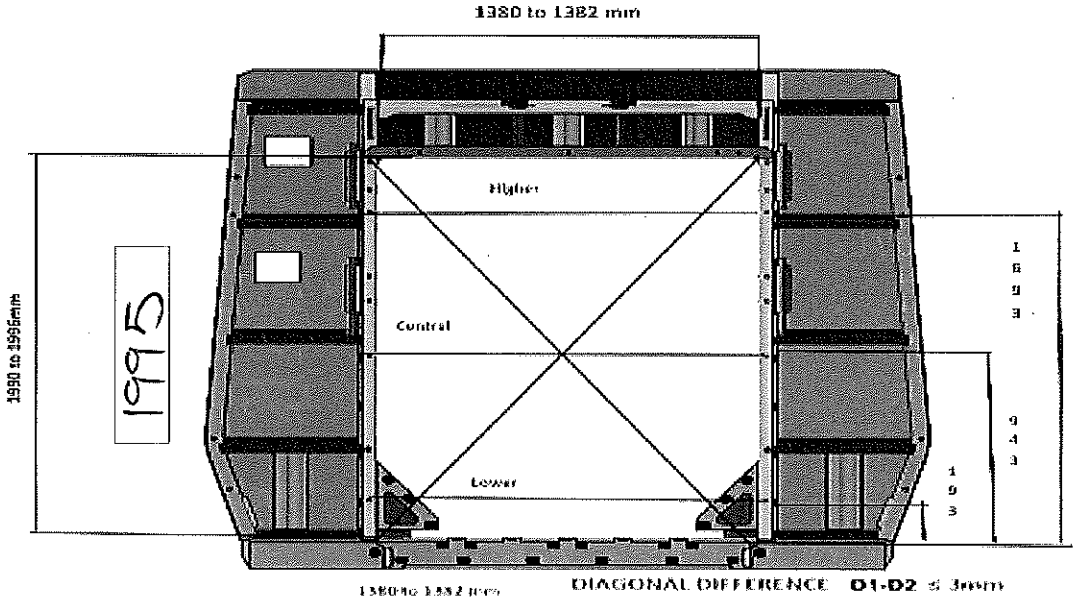
CBS measurement

End frame 1

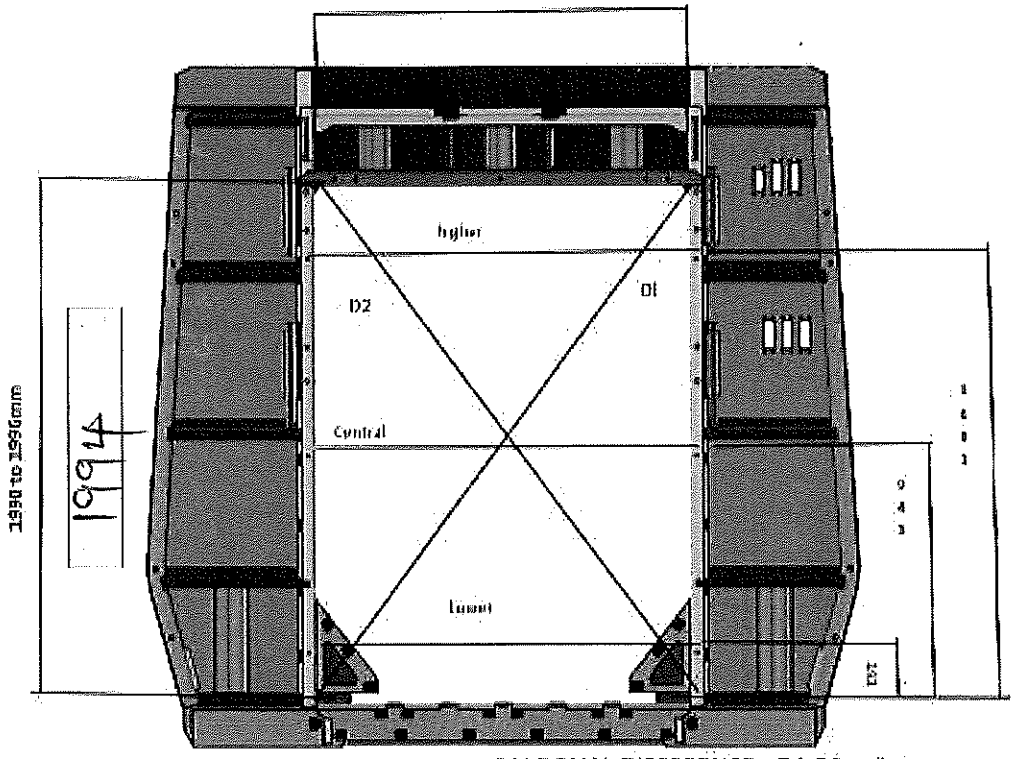


	1380 to 1382 mm	DIAGONAL DIFFERENCE D1-D2 ≤ 3mm	
Higher Dimension	1381	D1	2416
Central Dimension	1381	D2	2414
Lower Dimension	1380	D1-D2	2

9/04/2024

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

End frame 2



1380 to 1382 mm

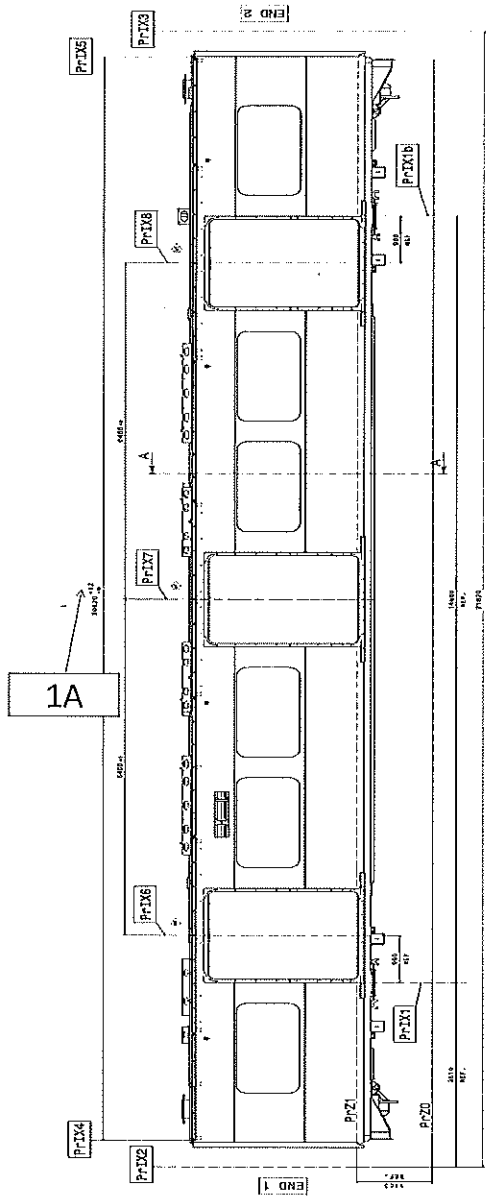
DIAGONAL DIFFERENCE **D1-D2** ≤ 3mm

Higher Dimension	180	D1	2415
Central Dimension	181	D2	2416
Lower Dimension	180	D1-D2	1

9/04/2024

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR313744497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

Specifications of Details for CBS measurement



	LEFT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20624

	RIGHT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20626

Dye penetrant test

Dye-penetration test to be performed by quality personnel

9/04/2024

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.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					

GIBELO	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.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 activities are not complete, the missing activities must not impact the next stage!	9/04/24	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	04/04/24	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":

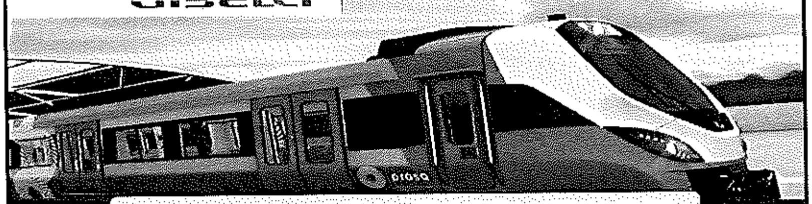
Item	Description		Responsible	Due date	Status

Operations

Quality

PRASA PROJECT

GIBELA



APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

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

APPLICATION REFERENCE

	MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	M6	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY ?
☐	DTR31374497/2	AAD0001413329	CARBODYSHELL M2 ASSEMBLY	CB1220				X			PRA.CB1220.DTR31374497/2.V21	YES
☐												
☐												
☐												
☐												
☐												
☐												

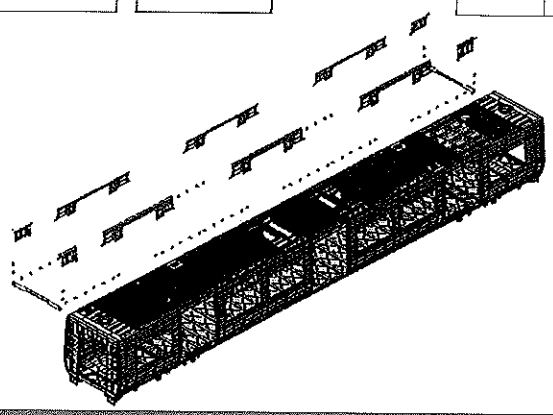
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	01/02/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	01/02/2018
			CHECKER	Nosizo Pindela	01/02/2018
			COMPILER	Thanyani Mathegu	01/02/2018
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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
7	27/05/2019	Removed measurement positions on the display windows	APPROVER	Itumeleng Modiba	27/05/2019
			CHECKER	Nosizo Pindela	27/05/2019
			REVISED BY	Nosizo Pindela	27/05/2019
10	22/08/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	22/08/2019
			CHECKER	Nosizo Pindela	22/08/2019
			REVISED BY	Nosizo Pindela	22/08/2019
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi collins	17/08/2021
			CHECKER	Mpho Mulaudzi	
			REVISED BY	Mpho Mulaudzi	
25	20/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombhi collins	20/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/06/2022	Update Minimum temperature requirement for sealant application	APPROVER	Mbhombhi collins	14/06/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
27	19/10/2022	Addition of traceability for sealant application and welding.	APPROVER	Mbhombhi collins	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	Tyson Ngobeni	28/10/2023
			CHECKER	Kelebone Mathapo	
			REVISED BY	Amogelang Mohlampe	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
121	M02	Asanda [illegible]	10-04-24	SI.CB1220.276.V29	15

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR313744497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

Car: M2	NCR:	Work station:	CB1220

Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car TC1	M1	M2	M3	M4	TC2	Revision	Observation	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR313744497/2			X				29	28-10-23	X		N/A	10-04-24	10/04/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular	32823	15/03/2025	X		10-04-24	
measuring tape	9183A024	10/04/2025	X		10-04-24	

I.3 Consumables

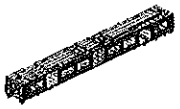
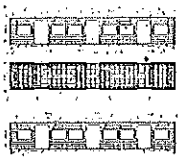
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
308	2731	MIG	X		10-04-24	10/04/24

GIBELO	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

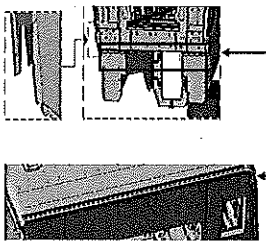
II - Self Inspection - Items to Check

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB1220. DTR31374497/2 Verification of fitment for all reinforcement brackets.	PRA.CB1220. DTR31374497/2	✓			10-04-24	10/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			10-04-24	10/04/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			10-04-24	10/04/24
04		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			10-04-24	10/04/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			10-04-24	10/04/24
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	✓			10-04-24	10/04/24
07	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified Temperature Min - Max (1): Min-Max 10°C - 35°C Relative Humidity Min - Max (1): Min-Max 25% - 80% Sealant Batch No: 4700 Exp Date: ___/04/24 Actuals Temperature: 20 Humidity: 60		✓			10-04-24	10/04/24
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001413329	✓			10-04-24	10/04/24

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

SEALANT APPLICATION



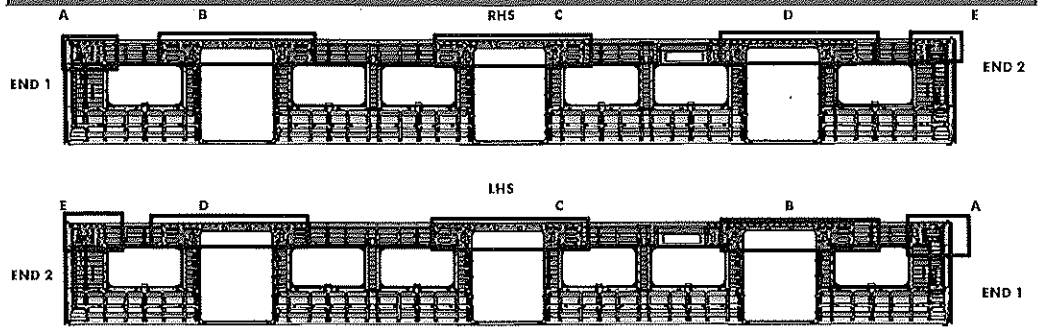
AREA 1 & 2 END 1

Operator (Name & sign):

Operator (Name & sign):

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

II - Self Inspection - Items to Check

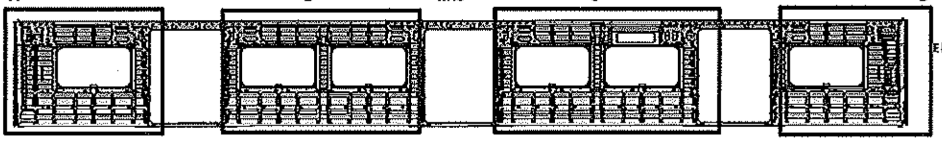


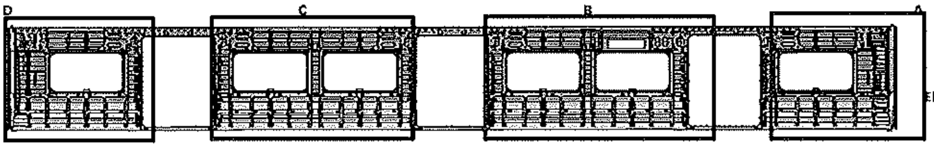
REINFORCEMENT WELDING

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

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29 / Date 28/10/2023	Project: PRASA SI.CB1220.276.V29

II - Self Inspection - Items to Check





BRACKETING

INSTALLATION

C-RAILS: Operator: Leni [signature]

Operator:

DOOR MECHANISMS: Operator: Asanda [signature]

Operator:

TAPPING PADS Operator: Mthokozisi [signature]

Operator:

INSTALLATION & VERIFICATION

SEAT & LUGGAGE BRACKETS: Operator: Priscilla [signature]

Operator: T.T

SEAT BRACKETS VERIFICATION: Operator: N/A

Operator:

WELDING

AREA		LHS	RHS
A	(Seat brackets) : Operator (Name&sign):	Lindo [signature]	Lindo [signature]
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	Lindo [signature]	[signature]
B	(Seat brackets) : Operator (Name&sign):	Lindo & Johny [signature]	[signature]
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	Lindo & Mthokozisi [signature]	[signature]
C	(Seat brackets) : Operator (Name&sign):	[signature]	Mmatsheno [signature]
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	[signature]	Mmatsheno [signature]
D	(Seat brackets) : Operator (Name&sign):	[signature]	[signature]
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	[signature]	Mmatsheno [signature]

ENDS

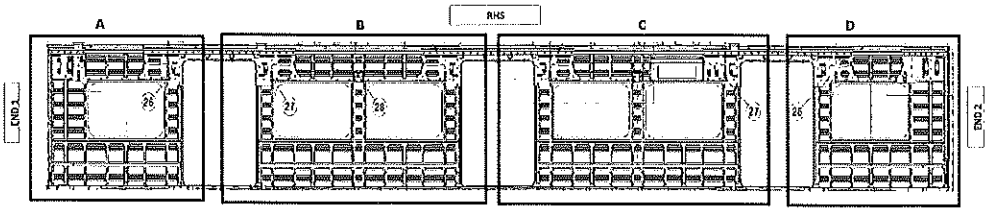
END 1 TAPPING PADS WELDING: Operator (Name&sign): [signature]

END 2 TAPPING PADS WELDING: Operator (Name&sign): Mmatsheno [signature]

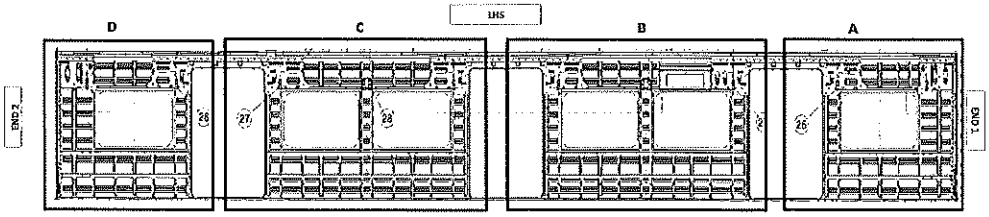
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

M2 BRACKET INSTALLATION

RHS



LHS



QUANTITIES (M2)

RHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	8		
	B	8		
	C	8		
	D	2		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	2		
	B	4		
	C	6		
	D	3		

ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: ASHWIN

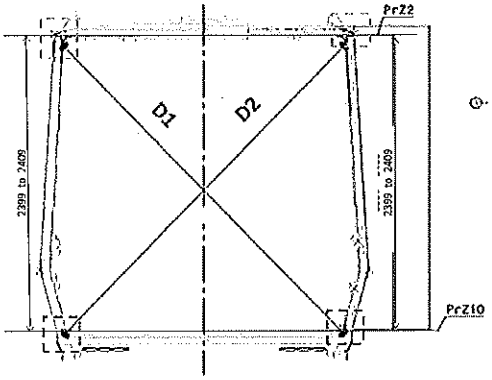
LHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	9		
	B	11		
	C	11		
	D	12		
SEAT BRACKETS	A	12		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	7		
	C	6		
	D	2		

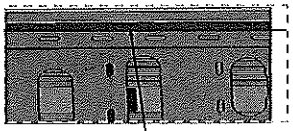
ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

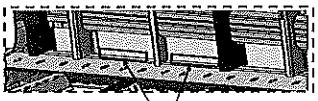
VERIFICATION BY: ASHWIN



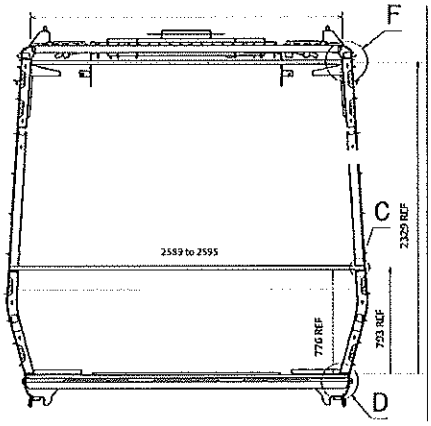
Measurement positions on roof rail and sidewall omega corner.



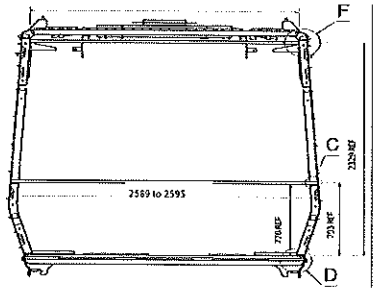
Reinforcement area measurement positions on roof reinforcement area.

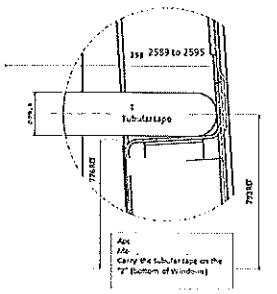


Measurement positions on sidewall and side sill corner.

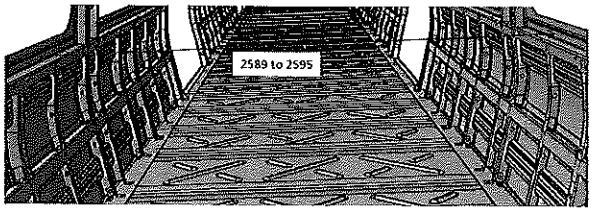


GIBELO	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

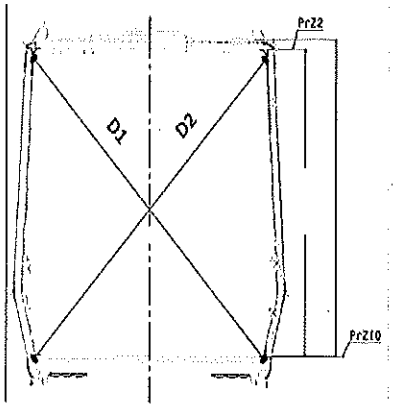


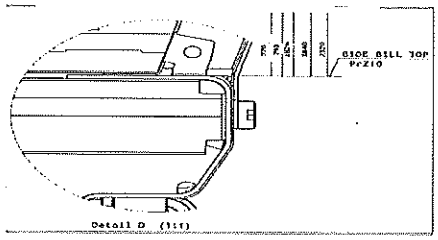


Detail C



Take measurement close to radius

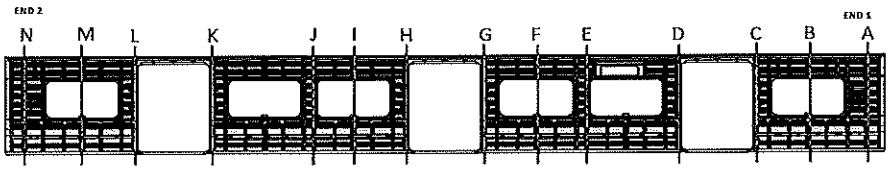




Detail D (1:1)

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI,CB1220.276.V29

CBS measurement



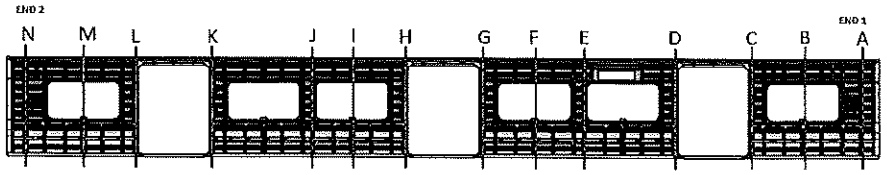
BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3300	3298	2	—
B	3265	3265	0	—
C	3295	3292	3	—
D	3299	3292	7	—
E	3265	3266	1	—
F	3265	3260	1	—
G	3297	3294	3	—
H	3296	3298	2	—
I	3262	3265	3	—
J	3265	3266	0	—
K	3300	3297	3	—
L	3300	3296	4	—
M	3264	3265	1	—
N	3298	3299	1	—

10-04-24

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

CBS measurement



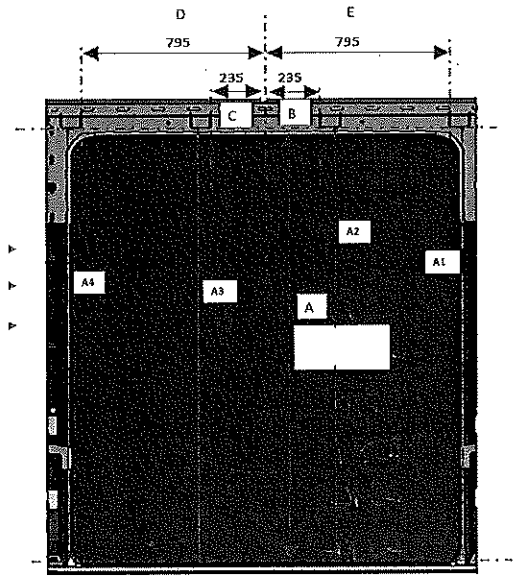
AFTER WELDING

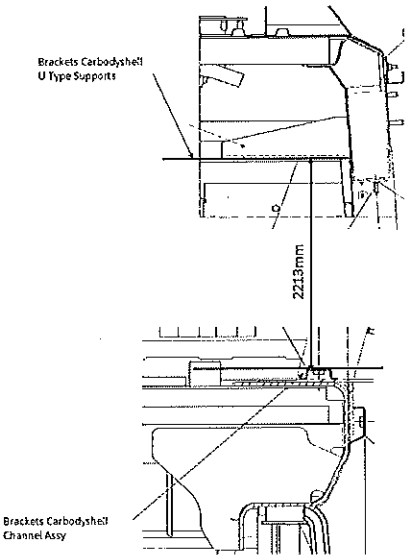
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3299	3300	1	2595
B	3264	3264	0	2589
C	3293	3293	0	2590
D	3294	3298	4	2589
E	3267	3266	1	2594
F	3267	3264	3	2594
G	3295	3297	2	2592
H	3294	3297	3	2590
I	3262	3262	0	2596
J	3265	3270	5	2595
K	3300	3297	3	2595
L	3293	3297	4	2589
M	3263	3265	2	2589
N	3298	3300	2	2595

10-04-24

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR3137449 7/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

Specifications of Details for CBS measurement CB1220





DOOR 1 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	2231
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	795

DOOR 2 - LHS

	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	794
E	794 to 796	796

DOOR 3 - LHS

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

DOOR 1 - RHS

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

DOOR 2 - RHS

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

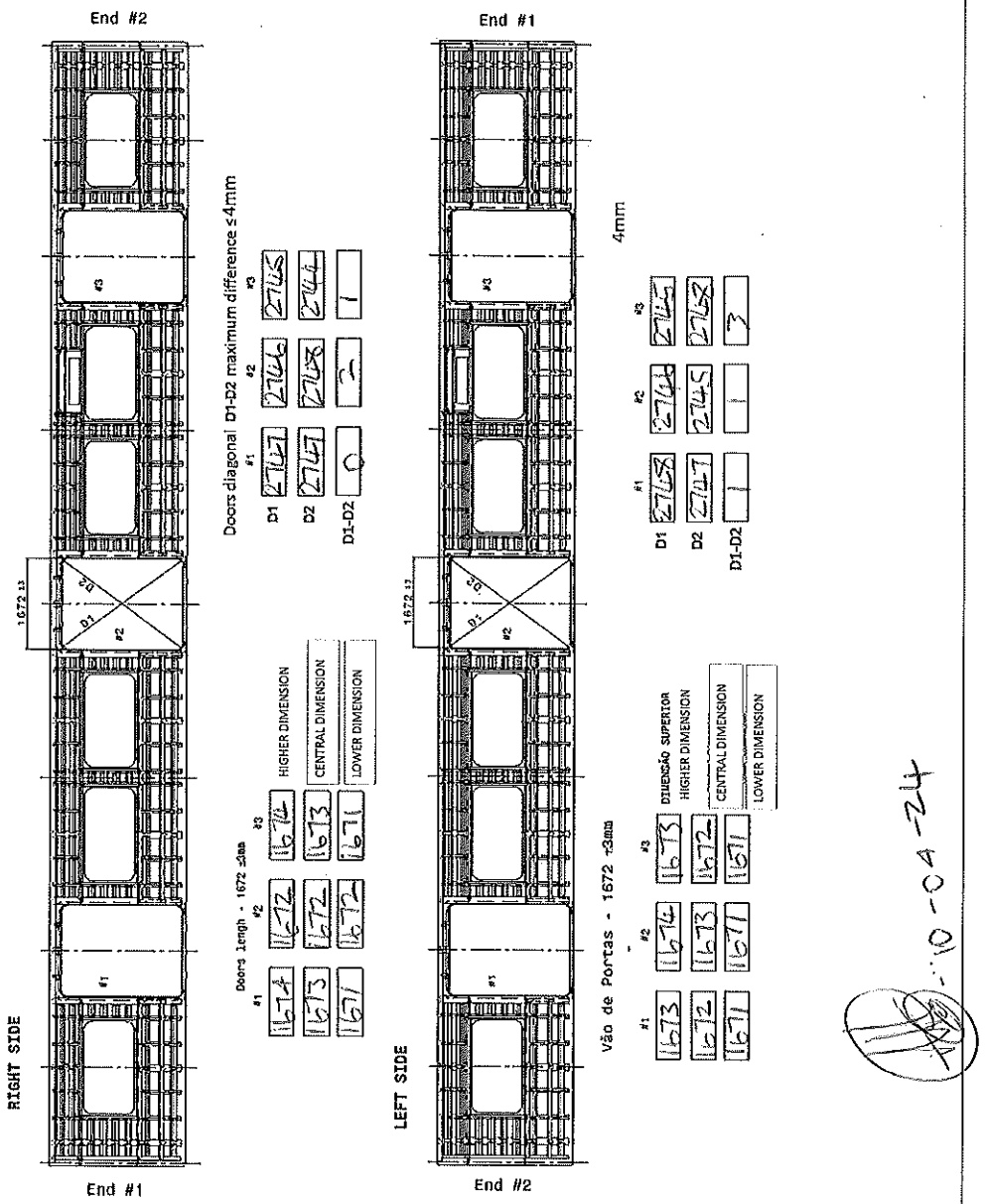
DOOR 3 - RHS

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

10-09-24

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

Specifications of Details for CBS measurement CB1220

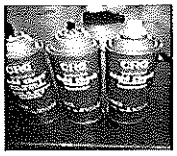


GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

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)

IL2 - Check List REX

Check List Items

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

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT		GO	(If activities are not complete, the missing activities must not impact the next stage!	10-04-24	ASAHIDA Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party)	10/04/24	Industrial Quality	
			There are activities pendings that impact/stop the activities of the next process Obs: (To describe problems below)		Operations	
			There are non-conformities impact the quality of the product and there is no corrective action defined yet)		Industrial Quality	

In case of "NO GO", describe blocking problems

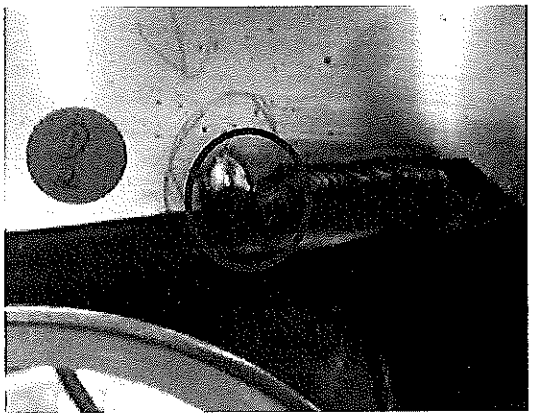
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

Item	Description		Responsible	Due date	Status

Operations

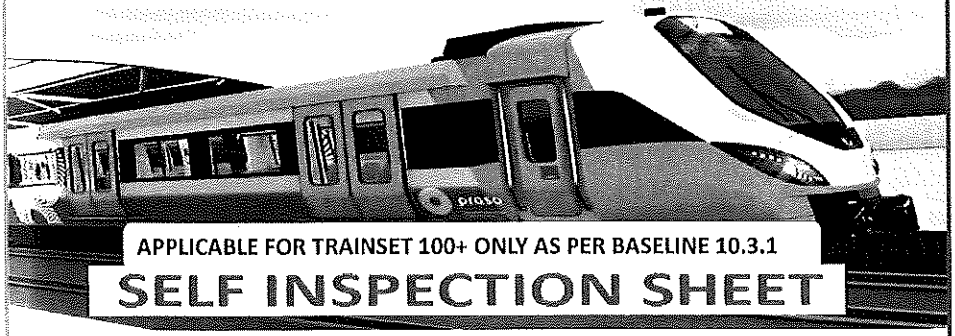
Quality

ANNEXURE A: Arc Welding Quality Acceptance Standard



PRASA PROJECT

GIBELA



APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

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

APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ?
				TC1	M4	M1	M2	M3	TC2		
AA00001374497	AAD0001413329	CARBODYSHELL M2 ASSEMBLY	CB1230				X			PRA.CB1230.AA000013 74497.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	Vanessa Ntuli	13/03/2019
10	23/03/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	23/08/2019
			CHECKER	Nosizo Pindela	23/08/2019
			REVISED BY	Nosizo Pindela	23/08/2019
	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 mesurement addition	APPROVER	Collins Mbhombhi	27/07/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
28	17/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mbhombhi	17/10/2022
			CHECKER	Nkokozo 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 traceability on thresholds for boiler makers and welders	APPROVER	Ngoboni Tyson	06/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
221	M2	Zanele 42779	11/04/24	SI.CB1230.277.V29	11

GIBELA
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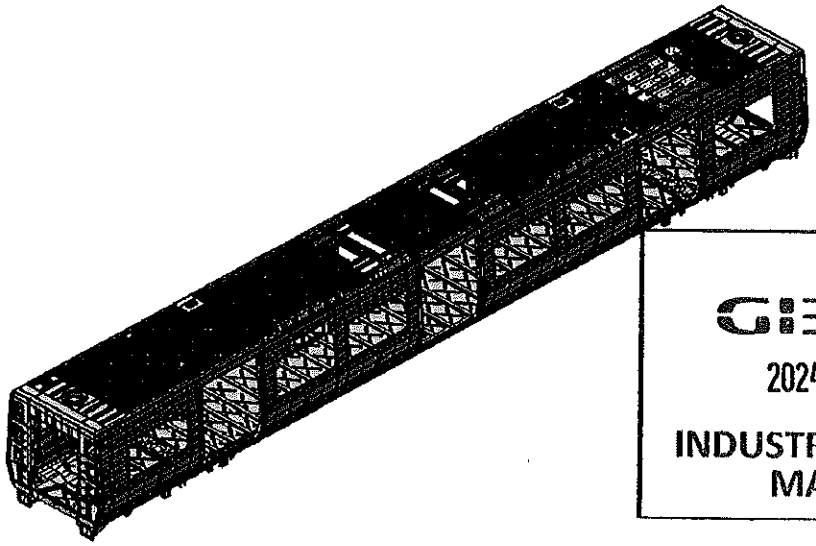
GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	SI.CB1230.277.V29

Car:	NCR:	Work station: CB1230

Safety Related



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I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car TC1	M1	M2	M3	M4	TC2	Revision	Observation	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
PRA.CB1230.AA00001374497			X				30		X		N/A	11/04/24	11/04/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Tubular	GIBC50073	2024/05/11	X		11/04/24	11/04/24
Combination square	GIBTA0398	2024/05/05	X		11/04/24	11/04/24
Tape Measurement	12062-2	2025/02/19	X		11/04/24	11/04/24

1.3 Consumables

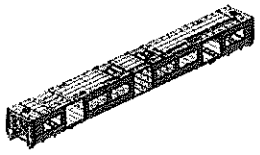
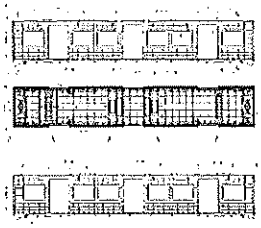
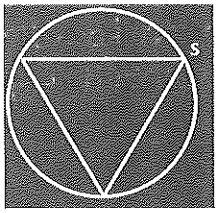
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 LSi	E235067	Mig	X		11/04/24	11/04/24

GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	SI.CB1230.277.V29

II - Self Inspection - Items to Check

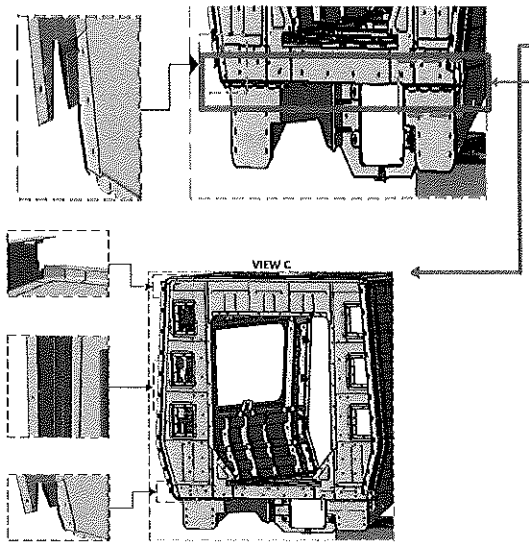
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.AA00001374497 Verification of fitment for all brackets.	PRA.CB1230.AA00001374497	X			11/04/24	11/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	X			11/04/24	11/04/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	X			11/04/24	11/04/24
04		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	X			11/04/24	11/04/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	X			11/04/24	11/04/24
06		Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS 018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	X			11/04/24	11/04/24
07	N/A GIBELA 2024 -04- 11 INDUSTRIAL QUALITY MAINLINE	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (1) Min-Max 10°C - 35°C Relative humidity Min - Max (1) Min-Max 25% - 80%	Sealant Batch No: ISR 10-03 Exp Date: 05/24 Actuals Temparature: 20°C Humidity: 37%	X			11/04/24	11/04/24
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	X			11/04/24	11/04/24

GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	SI.CB1230.277.V29

END 2 SEALANT

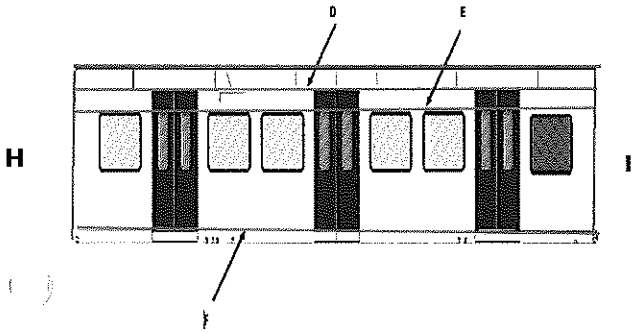
AREA 1



OPERATOR (Name & sign): Zanele LEROY

OPERATOR (Name & sign): LEROY

OPERATOR (Name & sign): Zanele



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) :	Sinie	Sinie
Operator (Name & sign) :		
Operator (Name & sign) :	Ishendo	Ishendo
Operator (Name & sign) :		
Operator (Name & sign) :		

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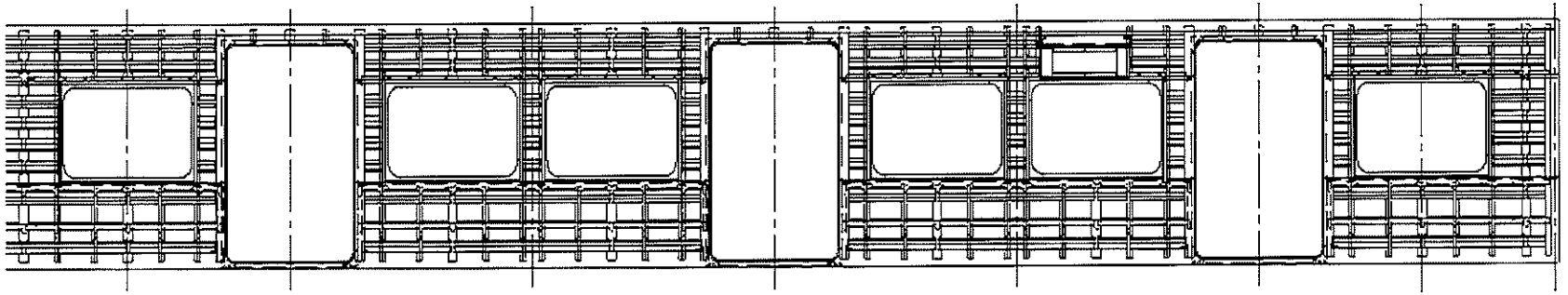
latness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.

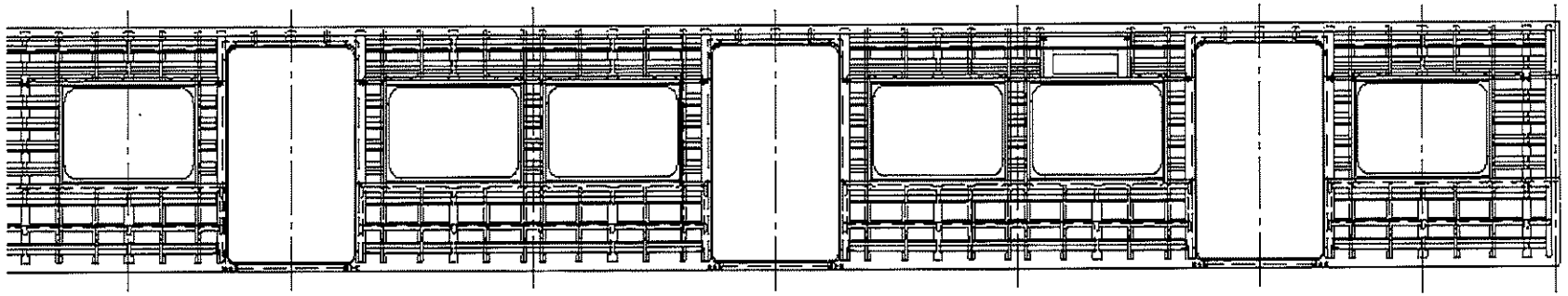
RIGHT SIDE



MAXIMUM 1

MINIMUM 0.2

LEFT SIDE



MAXIMUM 2

MINIMUM 1.5

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CARBODYSHELL M2 ASSEMBLY AA00001374497

Specifications of Details for CBS measurement CB1230

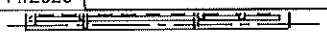
Rev. 30

Date 06/11/2023

Project: PRASA

SI.CB1230.277.V29

END #1



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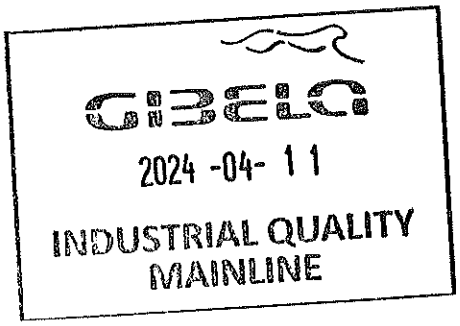
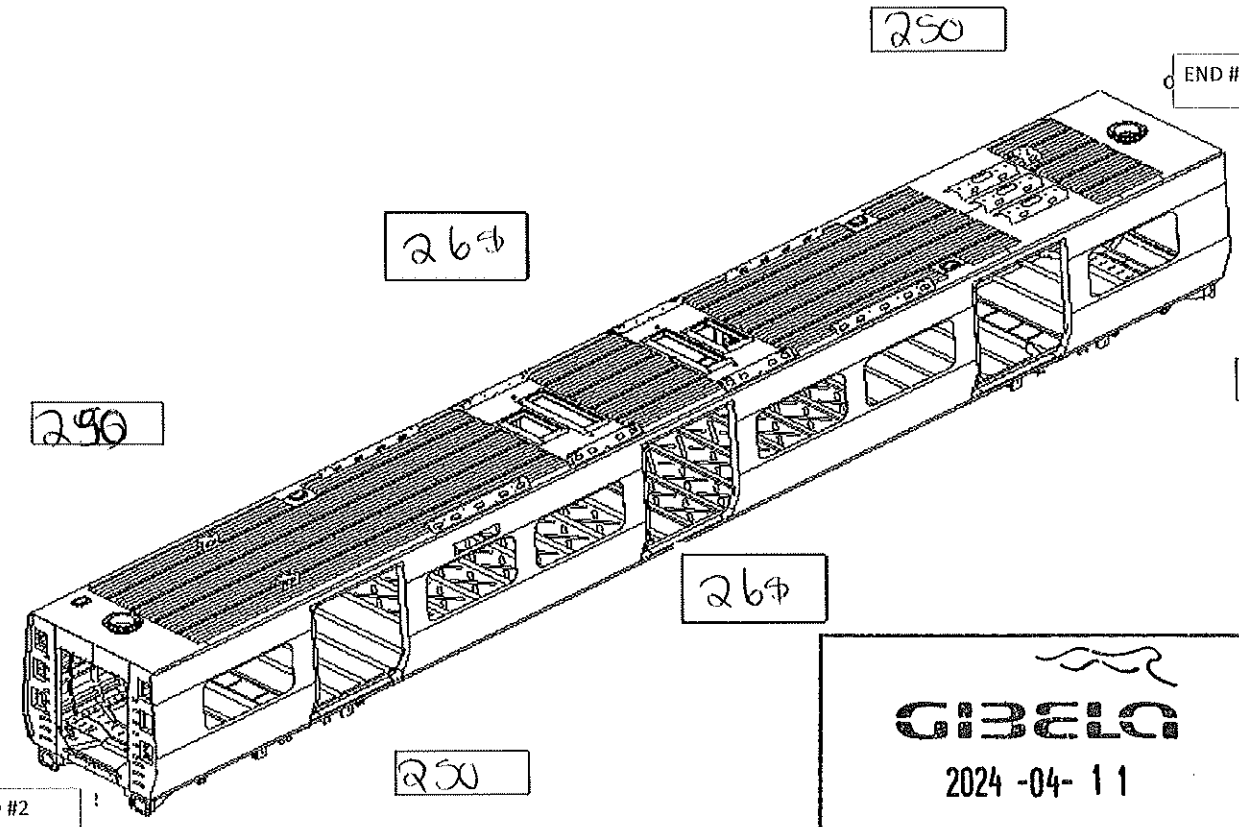


GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	SI.CB1230.277.V29

Specifications of Details for CBS measurement CB1230

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



CAMBER	
RIGHT	19
LEFT	19

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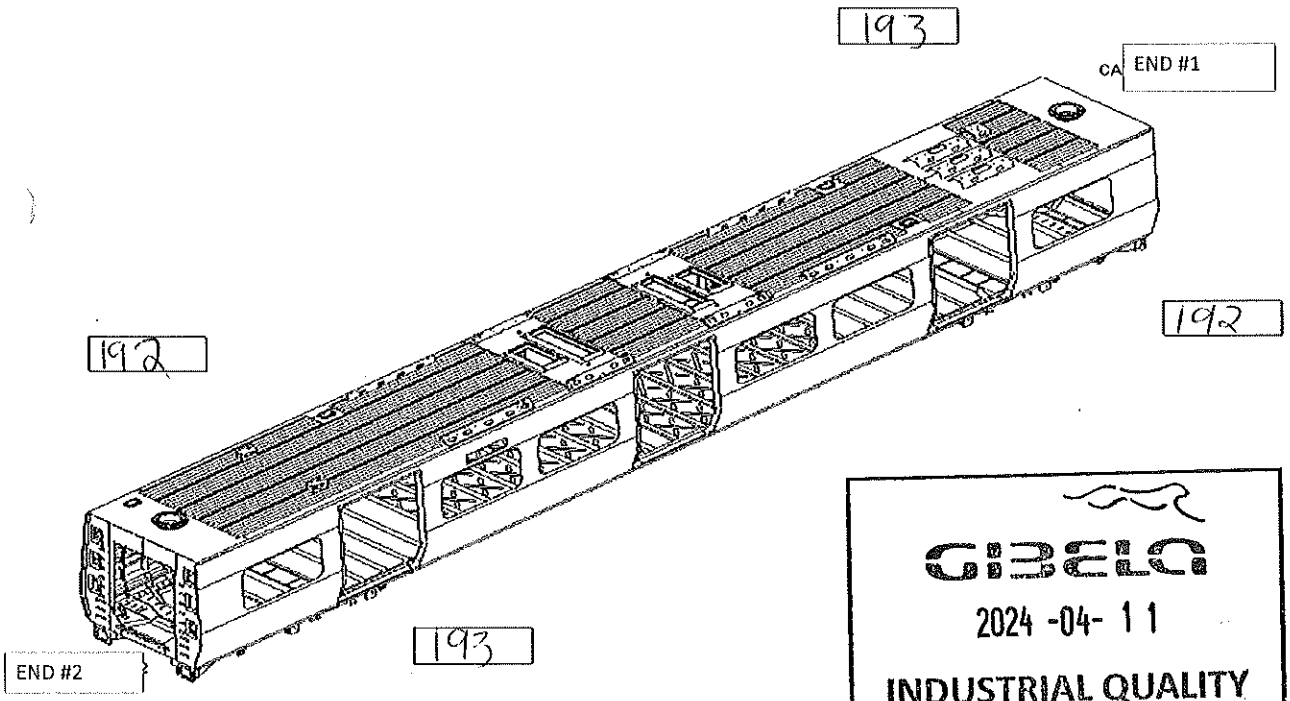
MAINLINE

E

GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	SI.CB1230.277.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.



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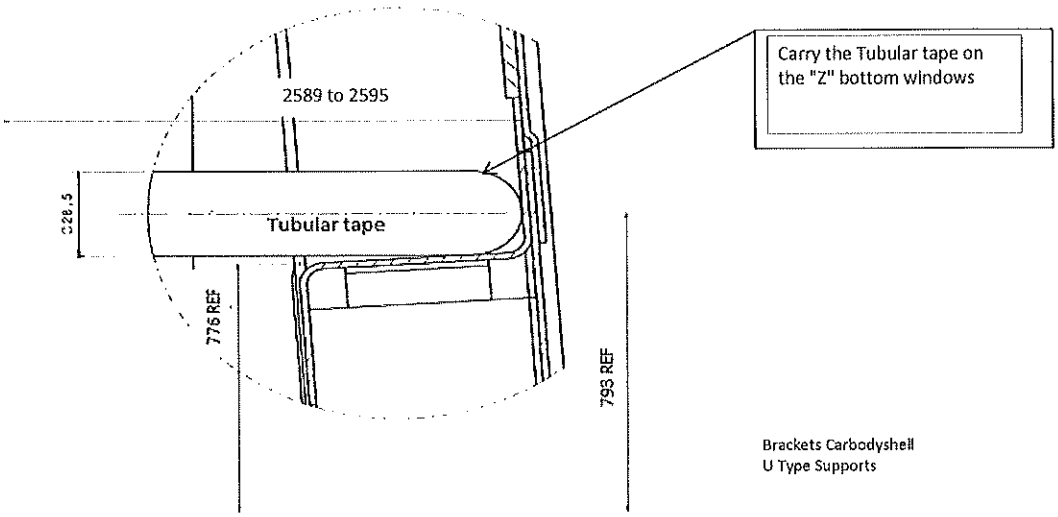
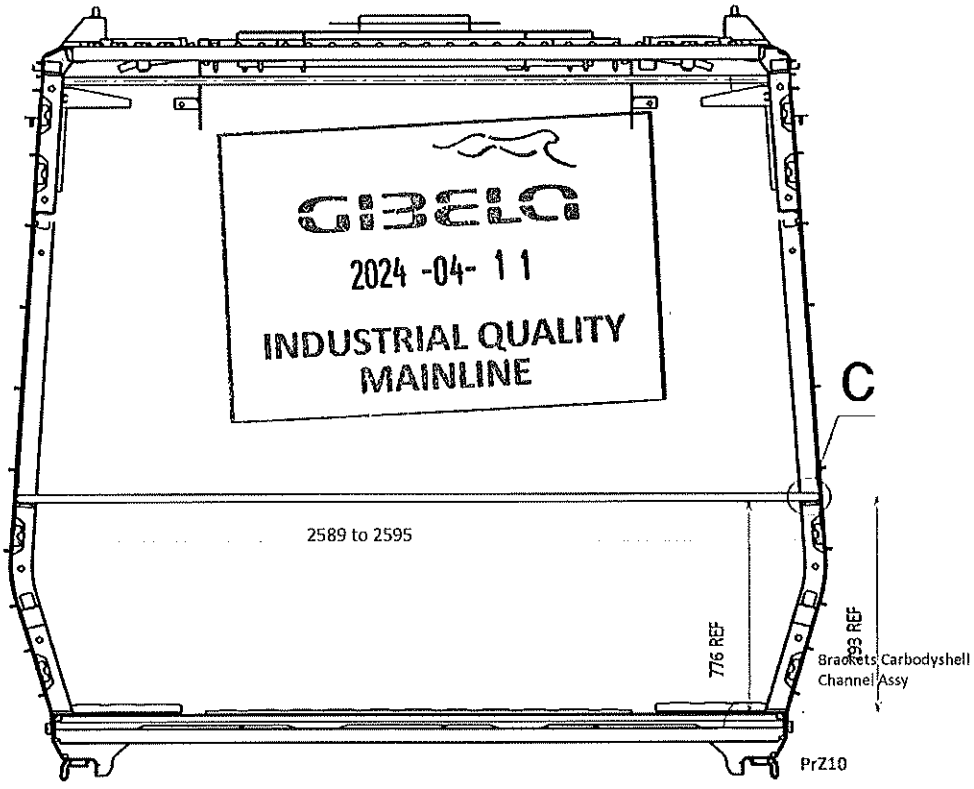
TWIST FOUND ON END 1	
TRANVERSE	1
LONGITUDINAL	1

TWIST FOUND ON END 2	
TRANVERSE	1
LONGITUDINAL	1

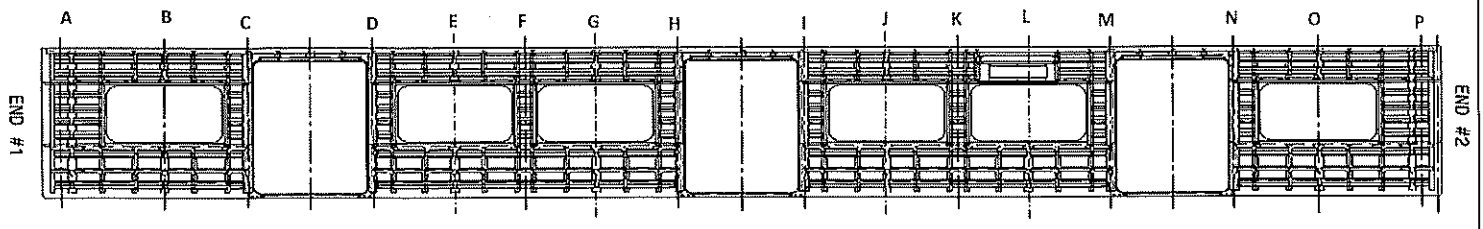

2589 to 2595
Carry the Tubular tape on the "Z" bottom windows
Tubular tape
776 REF
793 REF
Brackets Carbodyshell
U Type Supports

Detail C


GIBELA
2024 -04- 11
INDUSTRIAL QUALITY
MAINLINE
C
2589 to 2595
776 REF
793 REF
Brackets Carbodyshell
Channel Assy
PrZ10

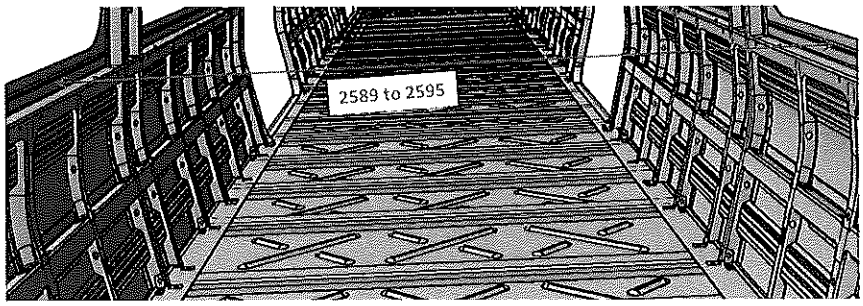
GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	SI.CB1230.277.V29

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



GIBELA
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Threashold verification

Nominal value :38

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

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

BOILER MAKER: Kgalso

WELDER: Mafumisa
Tiele

GIBELA
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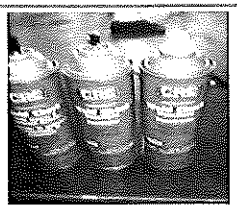
Dye penetrant test

Dye-penetration test to be performed by quality personnel



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GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30 Date 06/11/2023	Project: PRASA SI.CB1230.277.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
2024 -04- 11
INDUSTRIAL QUALITY
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GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	SI.CB1230.277.V29

Self Inspection - Final Result

			Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)	DATE	NAME	SIGNATURE
HOLD POINT		GO	(If f activities are not complete, the missing activities must not impact the next stage!	11/04/24	Zanele Mahlangu Operations	
			Every auto Inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	11/04/24	Andani Industrial Quality	
		NO GO	There are activities pendings that impact/stop the activities of the next process Obs: (To describe problems below)		Operations	
			There are non-conformities impact the quality of the product and there is no corrective action defined yet)		Industrial Quality	

In case of "NO GO", describe blocking problems

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

Item	Description		Responsible	Due date	Status

Operations

Quality

GIBELA
2024 -04- 11
INDUSTRIAL QUALITY
MAINLINE