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						WORK INSTRUCTION	SAFETY?
				TC1	M4	M1	M2	M3	TC2		
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	12/12/2018
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	[illegible]	[illegible]
			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	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	

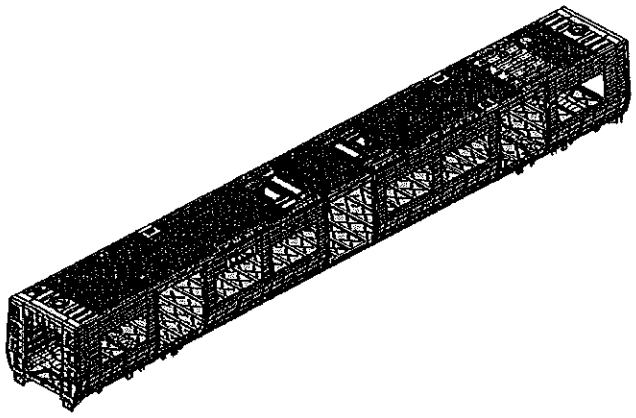
TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
TS222	M2	P. MAGATJI 407964	13/04/24	SI.CB1210.247.V28	17

2024-04-11
INDUSTRIAL QUALITY
MAINLINE

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA 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	TC	Revision	Observation	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR31374497/3			V				V08		V		N/A		

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	308082	15/03/25	V			
LASER TAPE	1085025Q24	08/10/25	V			
30M TAPE	GIBTP0102	18/11/24	V			

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	V			
ER 308 L	2997687-70852	TIG	V			

GIBELA

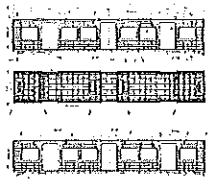
2024 -04- 11

INDUSTRIAL QUALITY
MAINLINE

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

III - Self Inspection - Items to Check

II.1 - Items to check

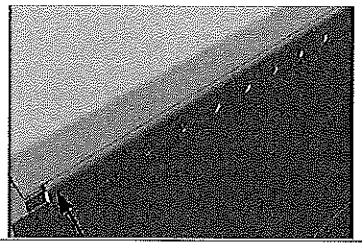
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls,Endframes,Roof and Underframe)	AA00001375051	✓			13/04/24	13/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			13/04/24	13/04/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD0000210675	✓			13/04/24	13/04/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			13/04/24	13/04/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			13/04/24	13/04/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓			13/04/24	13/04/24
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.	✓			13/04/24	13/04/24

GIBELA
2024 -04- 11
INDUSTRIAL QUALITY
MAINLINE

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

Welder treacibility

Roof ring welds



END 1

LHS

Boiler maker (Name & Sign): LAWRENCE Welder (Name & Sign): G.P.

RHS

Boiler maker (Name & Sign): Welder (Name & Sign): G.P.

END 2

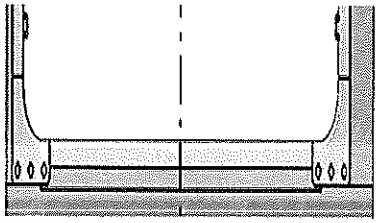
LHS

Boiler maker (Name & Sign): LAWRENCE Welder (Name & Sign): G.P.

RHS

Boiler maker (Name & Sign): Welder (Name & Sign): G.P.

Door ring welds



LHS

Boiler maker (Name & Sign):

Welder (Name & Sign): MITHKUZISI

RHS

Boiler maker (Name & Sign): P. ONISO

Welder (Name & Sign): MITHKUZISI

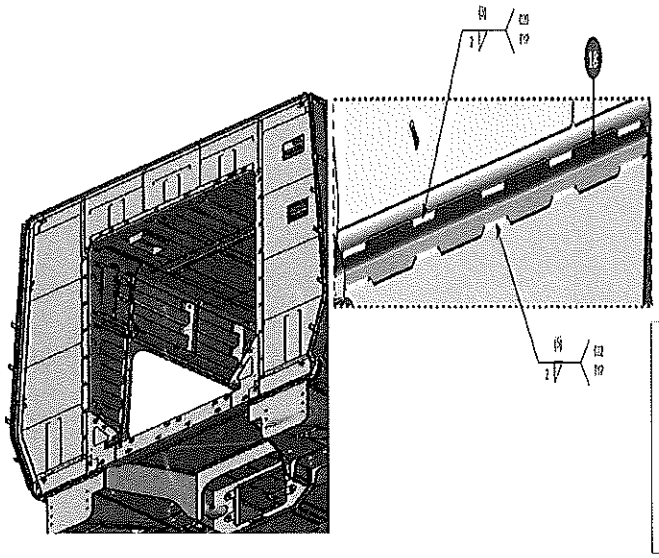
GIBELO

2024 -04- 11

INDUSTRIAL QUALITY
MAINLINE

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

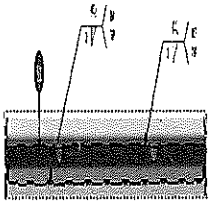
EUF Reinforcement Plates



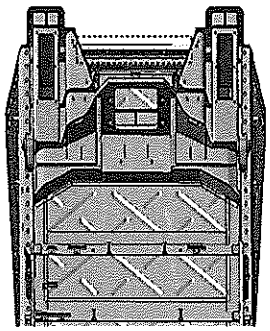
END 1

Boiler maker (Name & Sign):

Welder (Name & Sign):



END 2



Underneath the CAR

END 2

Boiler maker (Name & Sign):

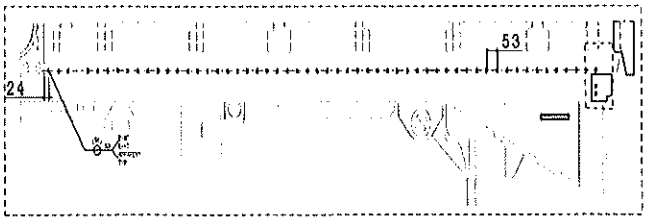
Welder (Name & Sign):

GIBELA

2024 -04- 11

INDUSTRIAL QUALITY MAINLINE

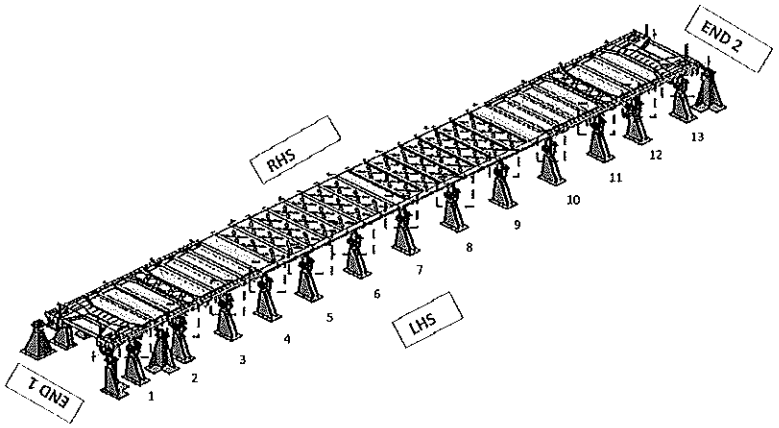
FEDOLI



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: 13/04/24

After Welding.

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

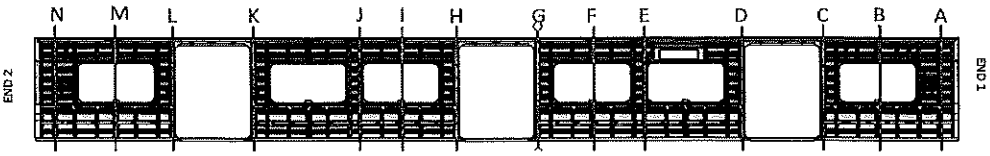
	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0

Signature Industrial Quality: Date: 13/04/24

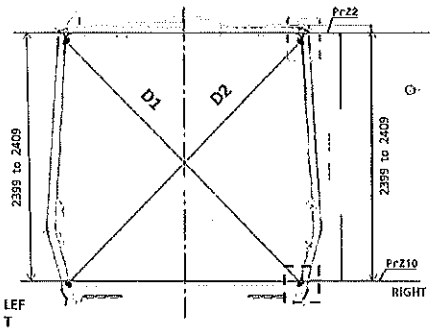
GIBELA
2024 -04- 11
INDUSTRIAL QUALITY
MAINLINE

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

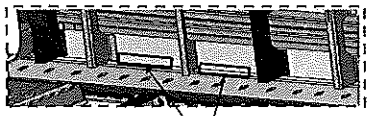
Specifications of Details for CBS measurement



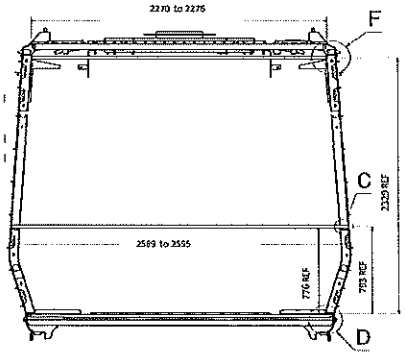
9

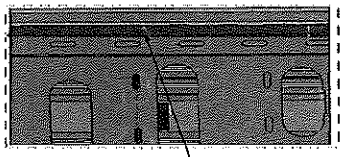


Measurement positions on roof rail and sidewall omega corner.

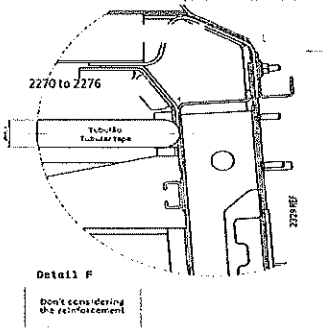


Measurement positions on sidewall and side sill corner.





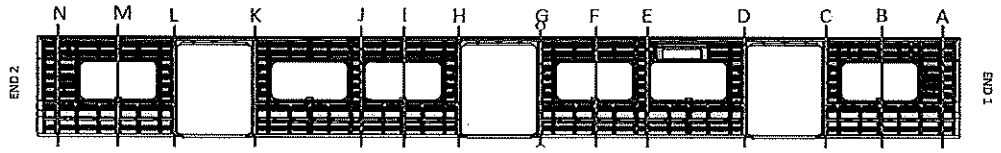
Reinforcement area measurement positions on roof reinforcement area.



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

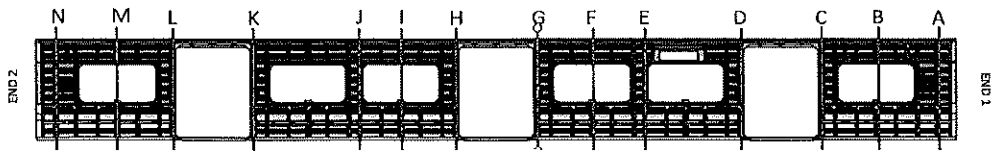
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409 (LHS)	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3769	3768	1	2404	2404	0
B	3768	3768	0	2405	2406	1
C	3770	3771	1	2404	2405	1
D	3766	3768	2	2403	2404	1
E	3768	3769	1	2406	2405	1
F	3769	3769	2	2404	2404	0
G	3766	3766	0	2406	2405	1
H	3769	3768	1	2404	2405	1
I	3769	3769	2	2404	2404	0
J	3769	3769	0	2405	2404	1
K	3771	3770	1	2406	2404	2
L	3769	3770	1	2404	2403	1
M	3769	3768	1	2404	2405	1
N	3769	3769	0	2404	2403	1

GIBELA
2024-04-17
INDUSTRIAL QUALITY
MAINLINE

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

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	3396	3397	1	2404	2404	0
B	3369	3369	0	2405	2406	1
C	3395	3396	1	2405	2404	1
D	3398	3398	0	2404	2404	0
E	3368	3366	2	2403	2402	1
F	3370	3371	1	2406	2404	2
G	3398	3399	1	2404	2405	1
H	3396	3396	0	2404	2403	1
I	3371	3370	1	2402	2406	2
J	3370	3376	0	2404	2404	0
K	3396	3397	1	2405	2403	2
L	3398	3399	1	2406	2405	1
M	3369	3369	0	2404	2406	0
N	3395	3396	1	2403	2404	1

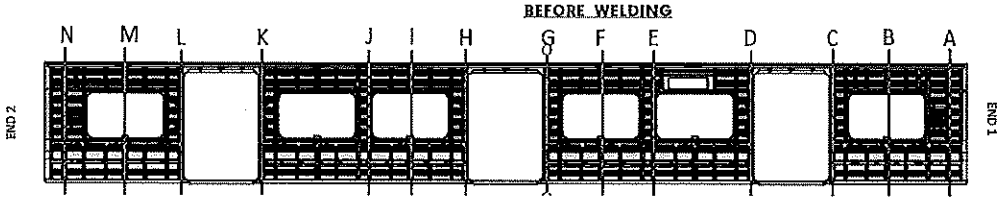
2399 2406
2404 2404

GIBELA
2024 -04- 11
INDUSTRIAL QUALITY
MAINLINE

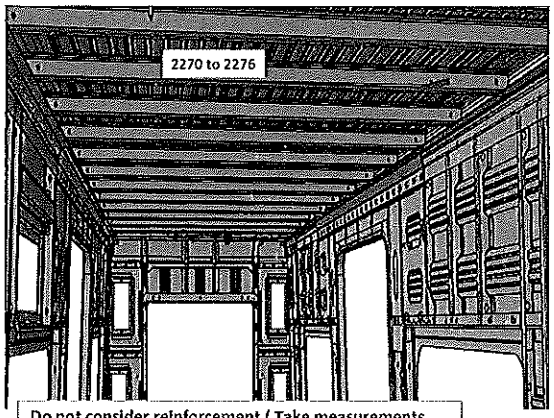
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

CBS measurement

BEFORE WELDING

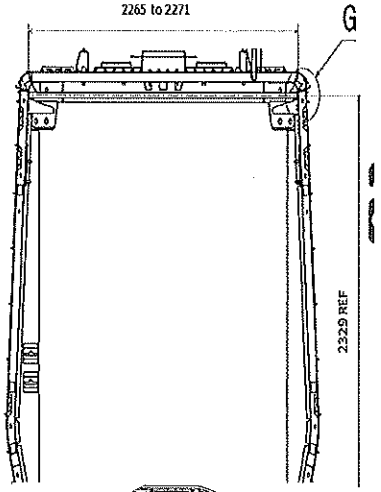


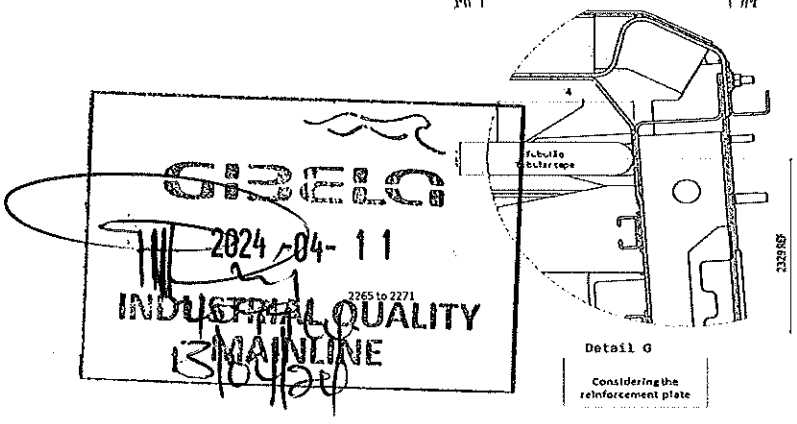
2270 to 2276



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

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

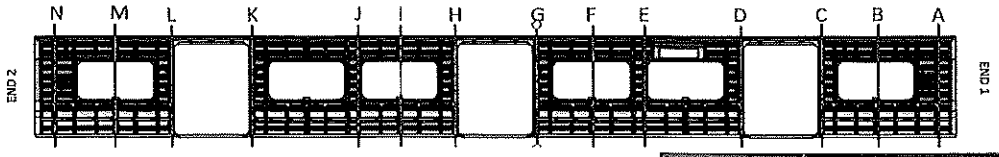




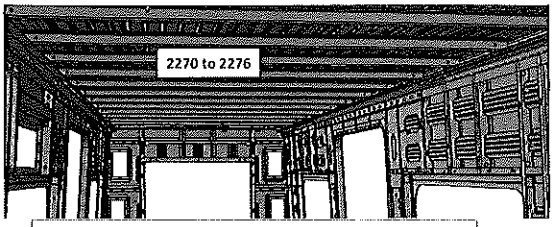
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

CB5 measurement

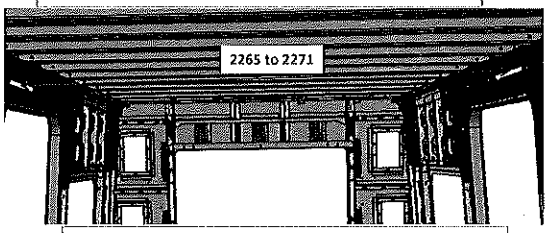
AFTER WELDING



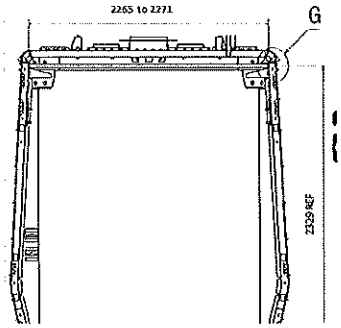
	2265 to 2271	2270 to 2276
A	2269	
B		2270
C	2265	
D	2268	
E		2271
F		2275
G	2268	
H	2266	
I		2274
J		2276
K	2269	
L	2269	
M		2274
N	2269	

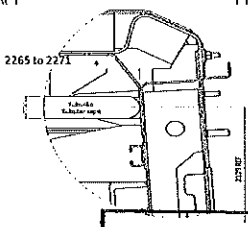


Do not consider reinforcement (Take measurements top area of zee profile



Take measurement close to radius (considering reinforcement)





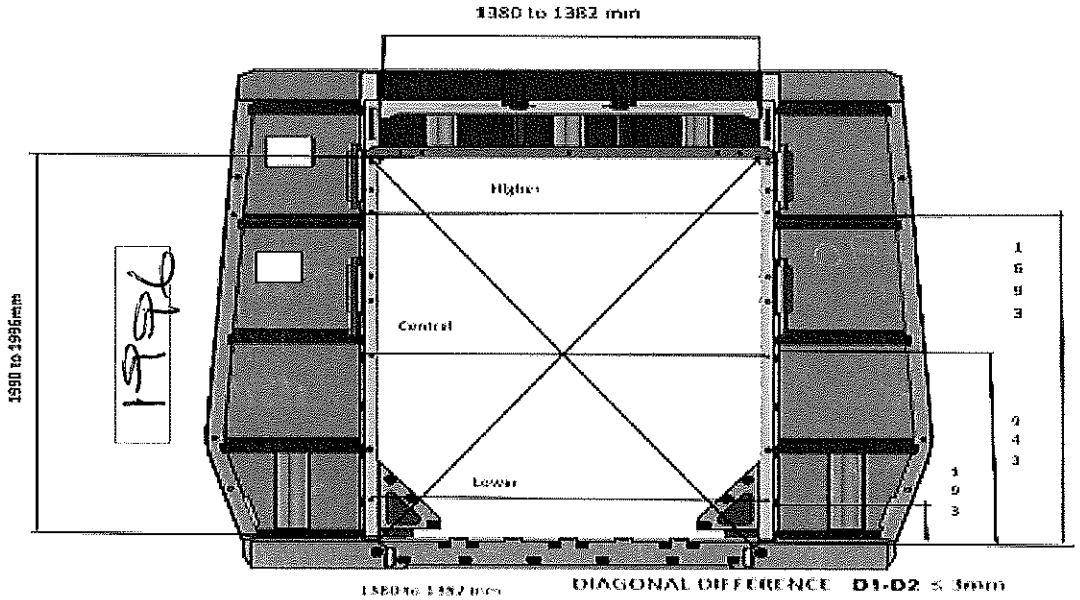
GIBELA
2024 -04- 11
INDUSTRIAL QUALITY
MAINLINE

15/04/24

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

CBS measurement

End frame 1

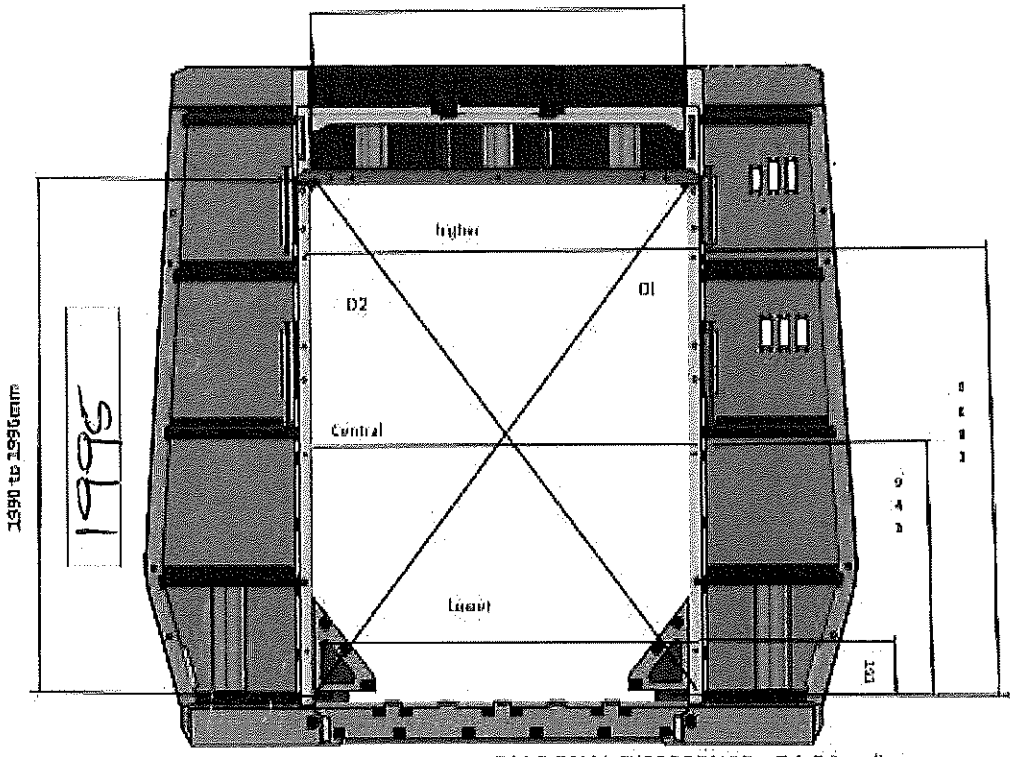


	1380 to 1382 mm	DIAGONAL DIFFERENCE D1-D2 ≤ 3mm	
Higher Dimension	1381	D1	2916
Central Dimension	1382	D2	2915
Lower Dimension	1381	D1-D2	1

GIBELA
2024 -04- 11
INDUSTRIAL QUALITY
MAINLINE

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

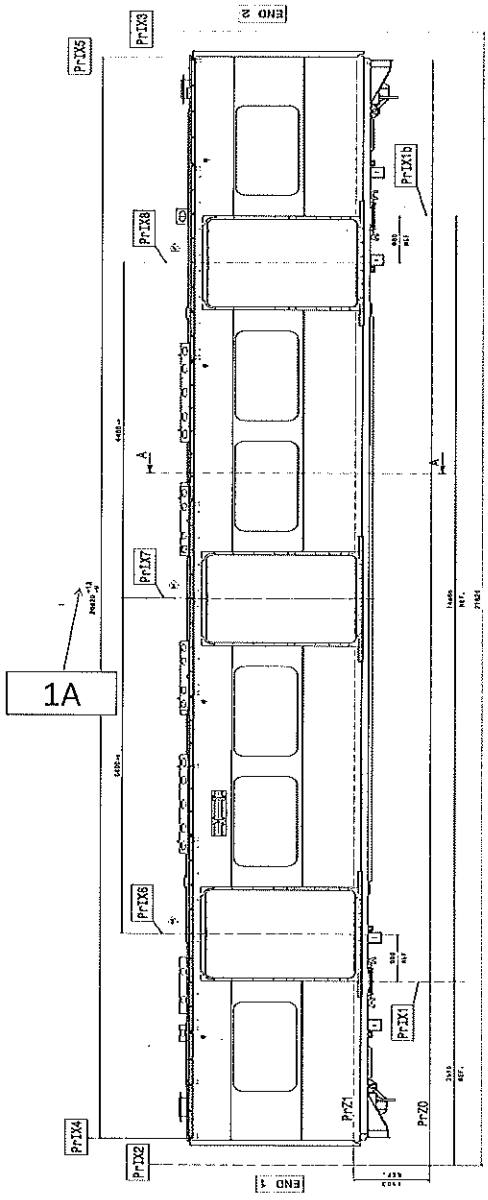
Higher Dimension	1382	D1	2015
Central Dimension	1381	D2	2015
Lower Dimension	1382	D1-D2	0

GIBELA
2024 -04- 11
INDUSTRIAL QUALITY
MAINLINE

24999604
13/04/24

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

Specifications of Details for CBS measurement



	LEFT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20616

	RIGHT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20616

1
409964
13/04/24

Dye penetrant test

Dye-penetration test to be performed by quality personnel

GIBELA
2024 -04- 11
INDUSTRIAL QUALITY
MAINLINE

GIBELO	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			Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX					

GIBELO

2024 -04- 11

INDUSTRIAL QUALITY
MAINLINE

GIBELA	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!	13/04/24	P. MALAKJI Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	13/04/24	AMO 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

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

APPLICATION REFERENCE

	MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	TC2	M1	M2	M3	TC3	WORK INSTRUCTION	SAFETY ?
☐	DTR31374497/2	AA00001A13329	CARBODYSHELL M2 ASSEMBLY	CB1210				X			PRA.CB1220.DTR31374497/2.V21	YES
☐												
☐												
☐												
☐												
☐												
☐												

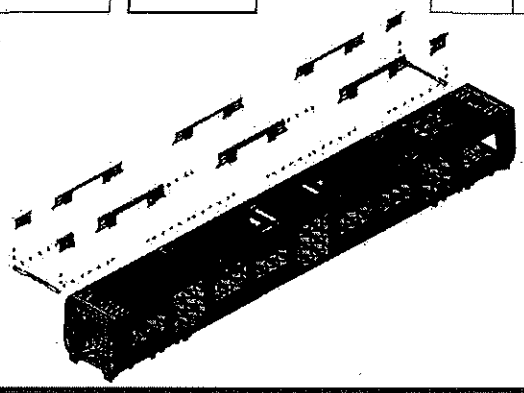
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	01/02/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	01/02/2018
			CHECKER	Nosizo Pindela	01/02/2018
			COMPILER	Thanyani Mathegu	01/02/2018
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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	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	19/04/2021
			REVISED BY	Bongane Masina	19/04/2021
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi collins	17/08/2021
			CHECKER	Mpho Mulaudzi	17/08/2021
			REVISED BY	Mpho Mulaudzi	17/08/2021
25	20/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombhi collins	20/02/2022
			CHECKER	Andani Muthelo	20/02/2022
			REVISED BY	Andani Muthelo	20/02/2022
26	14/06/2022	Update Minimum temperature requirement for sealant application	APPROVER	Mbhombhi collins	14/06/2022
			CHECKER	Andani Muthelo	14/06/2022
			REVISED BY	Andani Muthelo	14/06/2022
27	19/10/2022	Addition of traceability for sealant application and welding.	APPROVER	Mbhombhi collins	19/10/2022
			CHECKER	Ntokozo Zwane	19/10/2022
			REVISED BY	Amogelang Mohlampe	19/10/2022
28	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokozo Zwane	14/04/2023
			REVISED BY	Amogelang Mohlampe	14/04/2023
29	28/10/2023	Addition of bracket quantity	APPROVER	Tyson Ngobeni	28/10/2023
			CHECKER	Kelebone Mathapo	28/10/2023
			REVISED BY	Amogelang Mohlampe	28/10/2023

TRAINSET	CAR	OPERATOR NAMES /ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
TS222	MD2	Asha.MJ-407171	15-04-24	SI.CB1220.276.V29	15

GIBELO	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	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 ctrl	Revision	Observation			Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR31374497/2	X	29	28/10/2023	X	N/A	15-04-24	15/04/2024

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instrument	Serial number	Calibration or Verification Validation Date			Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular measuring tape	3383	15/05/2025	X		15-04-24	15/04/24
	CTJ5TA025	10/04/2025	X		15-04-24	

I.3 Consumables

Welding Consumable Control - Used for Special Process

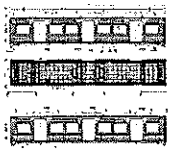
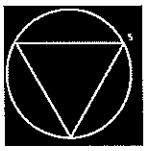
Filler Material	Heat Number	Welding Process			Signature/Date (Manufacturing)	Signature/Date (Quality)
308	23/1067	MIG	X		15-04-24	15/04/24

GIBELO
2024 -04- 13
INDUSTRIAL QUALITY
MAINLINE

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 26/10/2023	SI.CB1220.276.V29

II - Self Inspection - Items to Check

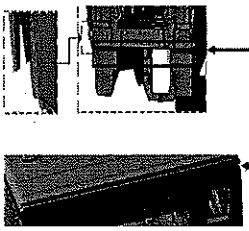
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record				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	✓			15-04-24	15/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675		✓		15-04-24	15/04/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			15-04-24	15/04/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			15-04-24	15/04/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.		✓		15/04/24	15/04/24
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.		✓		15-04-24	15/04/24
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 (°C) Min-Max 15°C - 35°C Relative Humidity (rh) - Max (%) Min-Max 25% - 60% Sealant Batch No: 2aq135 Exp Date: 1 OCT 24 Actuals Temperature: 16 Humidity: 71		✓			15-04-24	15/04/2024
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001613329	✓			15-04-24	15/04/24

GIBELA
2024 -04- 13
INDUSTRIAL QUALITY
MAINLINE

GIBELO	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): MThokozisi

Operator (Name & sign): MThokozisi

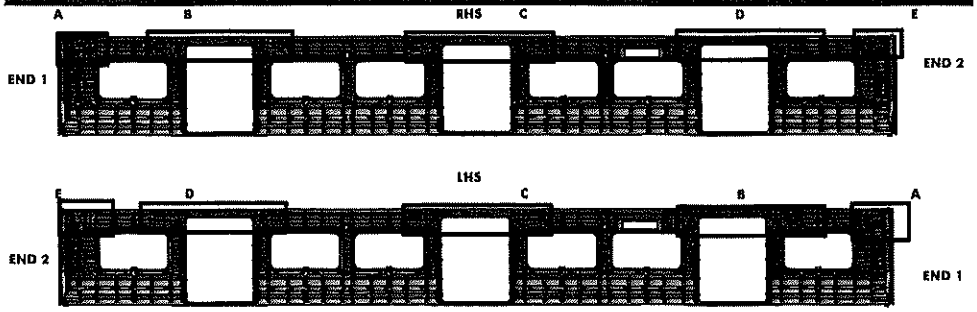
GIBELO

2024 -04- 13

INDUSTRIAL QUALITY
MAINLINE

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

II - Self Inspection - Items to Check



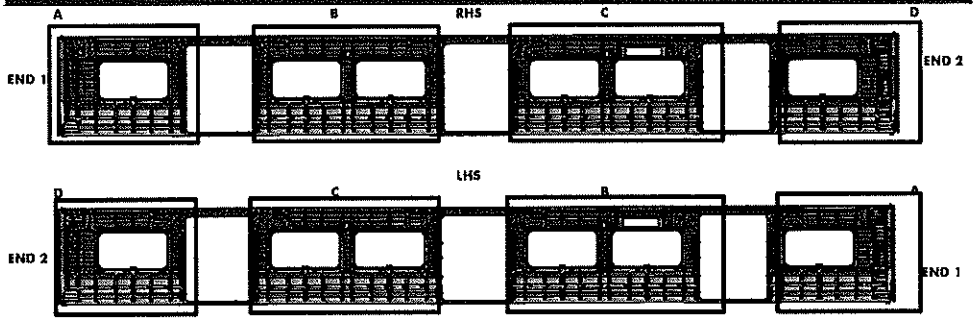
REINFORCEMENT WELDING

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

GIBELO
2024 -04- 13
INDUSTRIAL QUALITY
MAINLINE

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

II - Self Inspection - Items to Check



BRACKETING

INSTALLATION

C-RAILS: Operator:

Operator:

DOOR MECHANISMS: Operator:

Operator:

TAPPING PADS Operator:

Operator:

INSTALLATION & VERIFICATION

SEAT & LUGGAGE BRACKETS: Operator:

Operator:

SEAT BRACKETS VERIFICATION: Operator:

Operator:

WELDING

AREA	LHS	RHS
A (Seat brackets) : Operator (Name&sign):		
(C-rails, Luggage and earth bushes) : Operator (Name&sign):		
B (Seat brackets) : Operator (Name&sign):		
(C-rails, Luggage and earth bushes) : Operator (Name&sign):		
C (Seat brackets) : Operator (Name&sign):		
(C-rails, Luggage and earth bushes) : Operator (Name&sign):		
D (Seat brackets) : Operator (Name&sign):		
(C-rails, Luggage and earth bushes) : Operator (Name&sign):		

ENDS

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

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

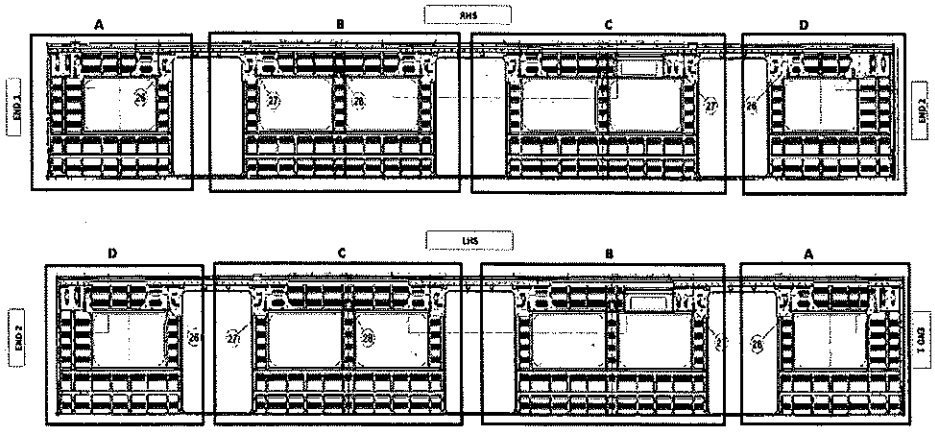
GIBELA

2024 -04- 13

INDUSTRIAL QUALITY
MAINLINE

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

M2 BRACKET INSTALLATION



QUANTITIES (M2)

RHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	6		
	B	8		
	C	8		
	D	2		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	2		
	B	4		
	C	1		
	D	1		

ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: ASA 10/4

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		

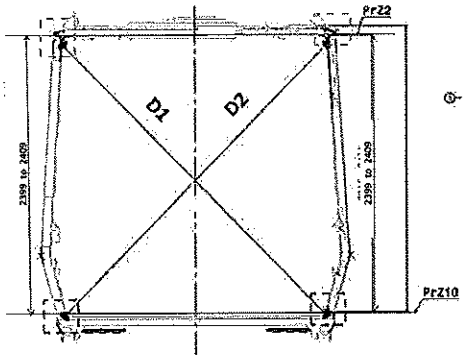
ROOF ENDS:

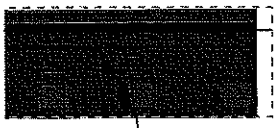
CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

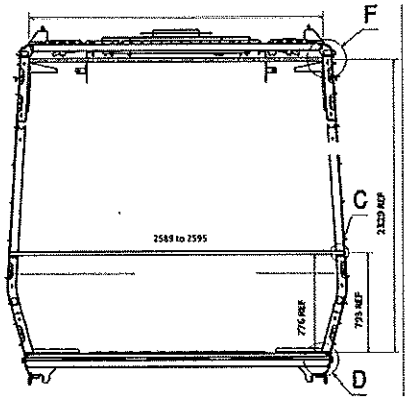
VERIFICATION BY: ASA 10/4

GIBELO
2024 -04- 13
INDUSTRIAL QUALITY
MAINLINE

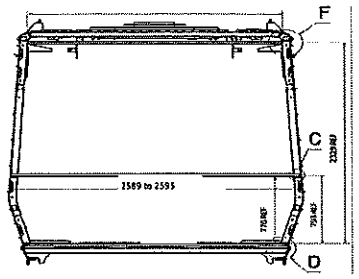
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

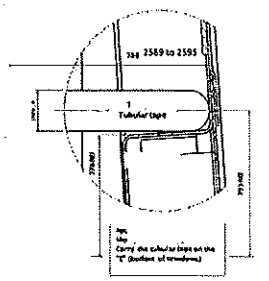




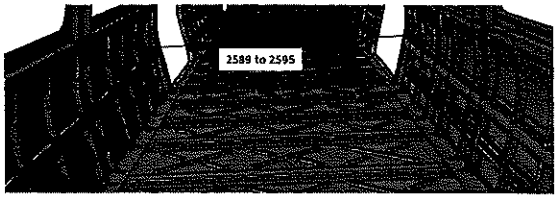


GIBELO	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

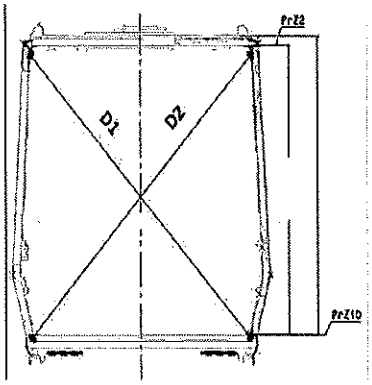


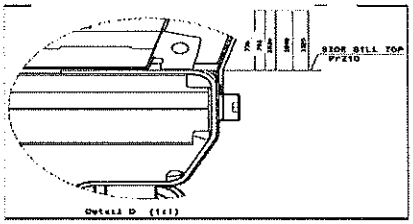


Detail C



Take measurement close to radius





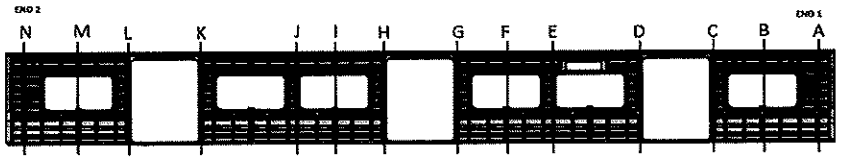
GIBELO

2024 -04- 13

INDUSTRIAL QUALITY
MAINLINE

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

CBS measurement



BEFORE WELDING

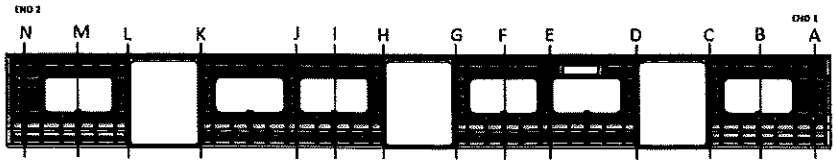
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	5300	5293	7	
B	5262	3264	2	
C	3293	3293	0	
D	3294	3293	1	
E	3264	3264	0	
F	3263	3262	2	
G	3299	3297	2	
H	5300	3298	2	
I	3264	3263	1	
J	3264	3264	0	
K	3296	3296	0	
L	3297	3295	2	
M	3264	3264	0	
N	3297	3298	1	

16-04-24

GIBELA
2024 -04- 13
INDUSTRIAL QUALITY
MAINLINE

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

CBS measurement



AFTER WELDING

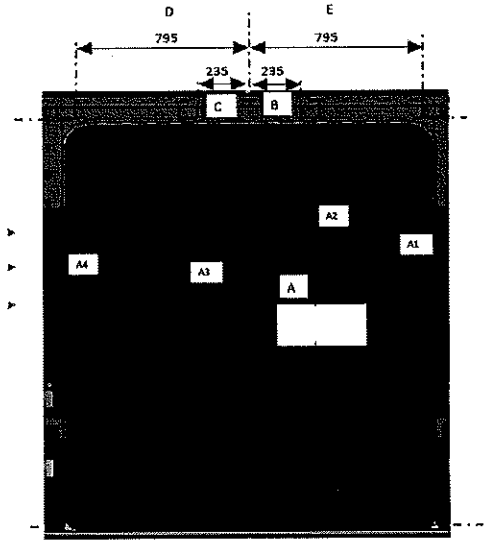
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3299	3297	2	2595
B	3262	3264	2	2589
C	3292	2595	3	2589
D	2595	3298	3	2590
E	3266	3263	2	2595
F	3265	3260	5	2595
G	2595	3302	7	2595
H	3300	3299	1	2595
I	3261	3264	3	2594
J	3263	3268	5	2595
K	3296	3294	2	2589
L	3295	3299	4	2589
M	3261	3268	7	2589
N	3293	3300	7	2595

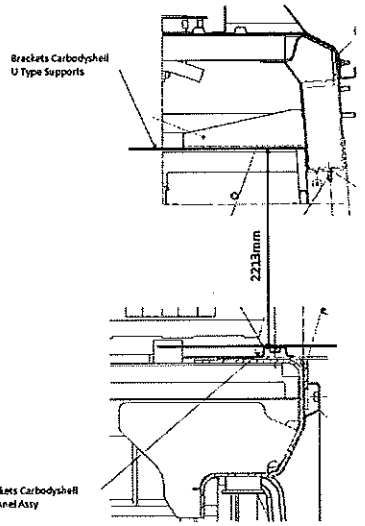
GIBELA
2024 -04- 13
INDUSTRIAL QUALITY
MAINLINE

15-04-24

GIBELA	CARBODYSHELL M2 ASSEMBLY OTR313744972	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	2232
A2	2230 to 2232	2231
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	794

DOOR 2 - 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	795
E	794 to 796	794

DOOR 3 - 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	794

DOOR 1 - RHS

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

DOOR 2 - RHS

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

GIBELA

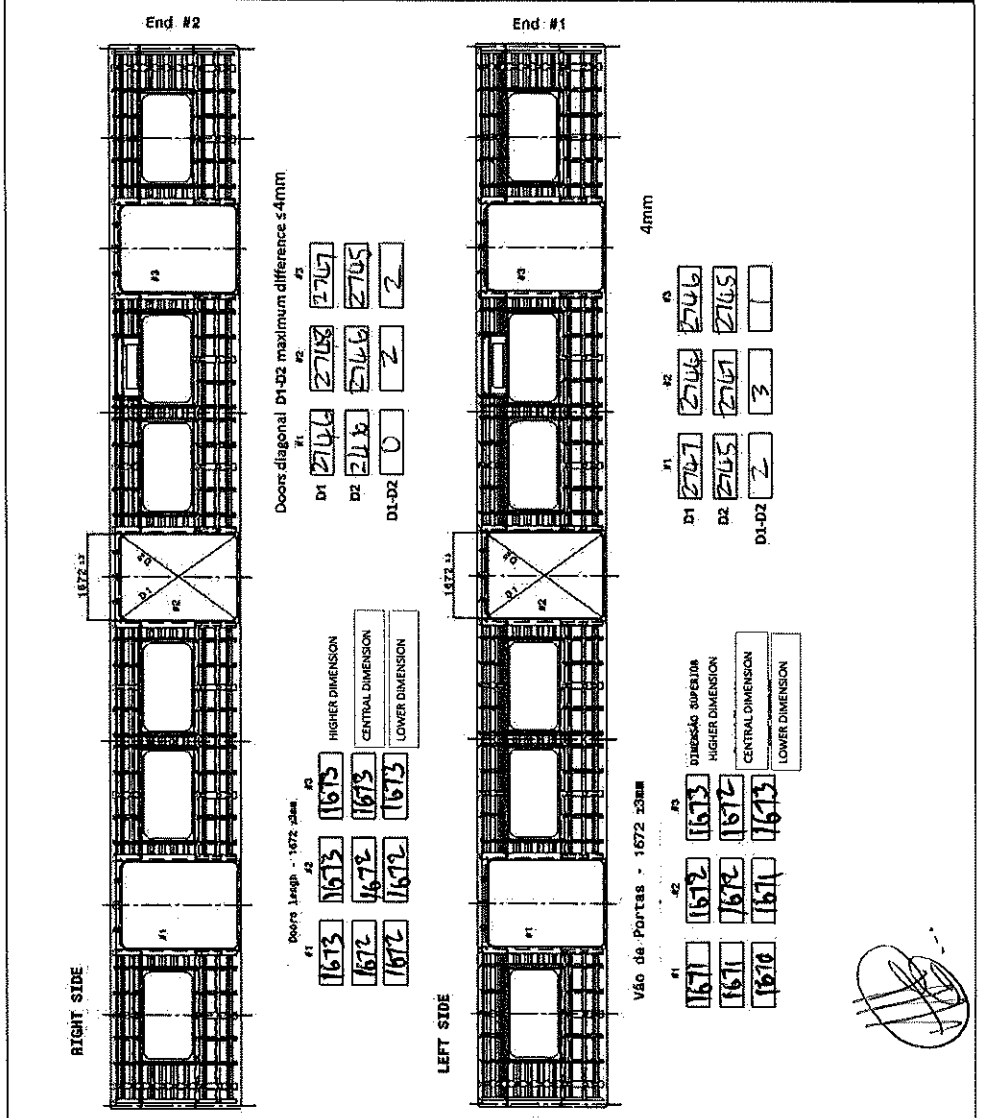
2024 -04- 13

INDUSTRIAL QUALITY
MAINLINE

15-04-24

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

Specifications of Details for CBS measurement CB1220



GIBELO

2024 -04- 13

INDUSTRIAL QUALITY
MAINLINE

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR313744497/2	Rev. 29	Project: PRASA
		Date 26/10/2023	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	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)

8.2 - Check List REX

Check List Items

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

GIBELA
2024 -04- 13
INDUSTRIAL QUALITY
MAINLINE

GIBELA	CARBODYSHELL M2 ASSEMBLY DTR313744971/2	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		If activities are not complete, the missing activities must not impact the next stage!	15-04-24	ASPRIDA Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party)	15/04/24	AMO 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":

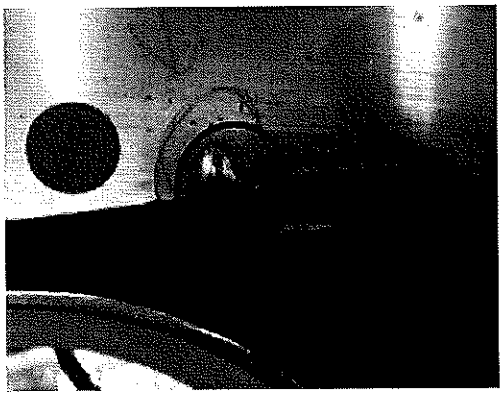
Item	Description		Responsible	Due date	Status

Operations

Quality

GIBELA
2024 -04- 13
INDUSTRIAL QUALITY
MAINLINE

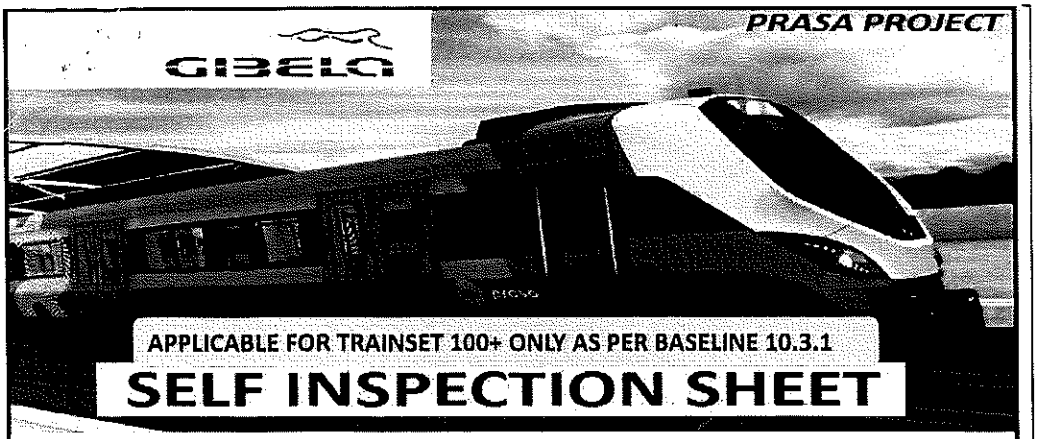
ANNEXURE A: Arc Welding Quality Acceptance Standard



GIBELO
2024 -04- 13
INDUSTRIAL QUALITY
MAINLINE

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	M1	M2	M3	M4	TC2	WORK INSTRUCTION	SAFETY ?
☐	AA00001374497 1	AAD0001413329	CARBODYSHELL M2 ASSEMBLY	CB1230				X			PRA.CB1230.AA000013 74497.V20	YES
☐												
☐												
☐												
☐												

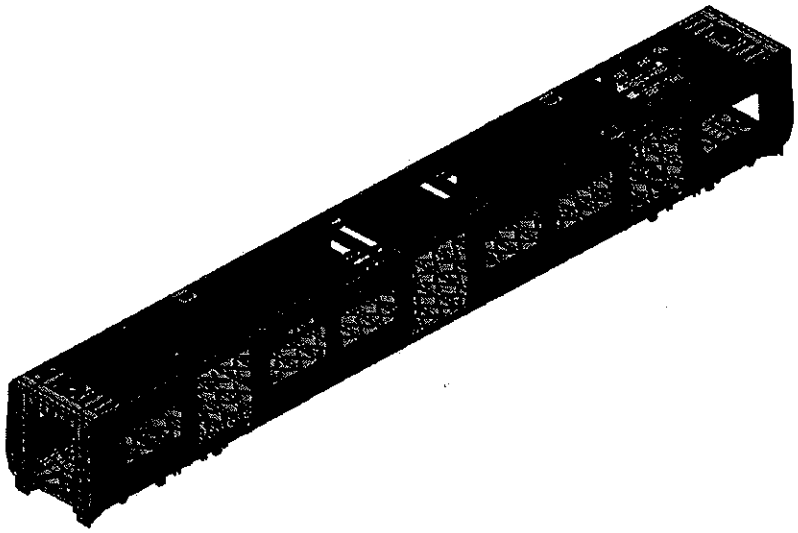
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	2018/08/02	GIBELA NEW CREATION	APPROVER	Philipe Marques	2018/08/02
			CHECKER	Nosizo Pindela	2018/08/02
			COMPILER	Nosizo Pindela	2018/08/02
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality 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
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	2020-05-17
			CHECKER	Bongane Masina	06/08/2020
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	
			CHECKER	Bongane Masina	19/04/2021
			REVISED BY	Bongane Masina	
25	20/02/2022	New Baseline change 10.3.1	APPROVER	Collins Mbhombhi	
			CHECKER	Andani Muthelo	20/02/2022
			REVISED BY	Andani Muthelo	
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Collins Mbhombhi	
			CHECKER	Andani Muthelo	14/06/2022
			REVISED BY	Andani Muthelo	
27	26/07/2022	Threashold mesurement addition	APPROVER	Collins Mbhombhi	
			CHECKER	Andani Muthelo	27/07/2022
			REVISED BY	Andani Muthelo	
28	17/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mbhombhi	
			CHECKER	Ntokozo Zwane	17/10/2022
			REVISED BY	Amogelang Mohlampe	
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	
			CHECKER	Ntokozo Zwane	14/04/2023
			REVISED BY	Amogelang Mohlampe	
30	06/11/2023	Added traceabilty on thresholds for boiler makers and welders	APPROVER	Ngobeni Tyson	
			CHECKER	Andani Muthelo	06/11/2023
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
233	M02	Nonkanhla 1127423	16/04/24	SI.CB1230.277.V29	11

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

Car: M02	NCR:	Work station: CB1230

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 (Operations)	Signature/Date (Quality)
PRA.CB1230.AA00001374497			X				30		✓		N/A	16/04/24	16/04/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Operations)	Signature/Date (Quality)
Tubular Square	22615	2024/10/11	✓		16/04/24	16/04/24
Measuring tape	GIBCS0187	2024/10/11	✓			
	01B911	2024/07/02	✓			

2024-05-17

1.3 Consumables

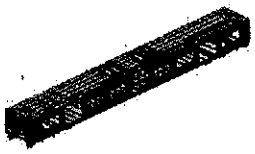
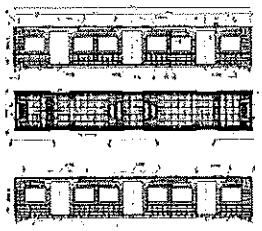
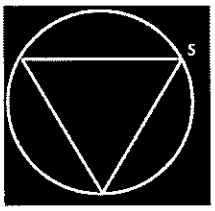
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
308 CSi	E231067	MIG	✓		16/04/24	16/04/24

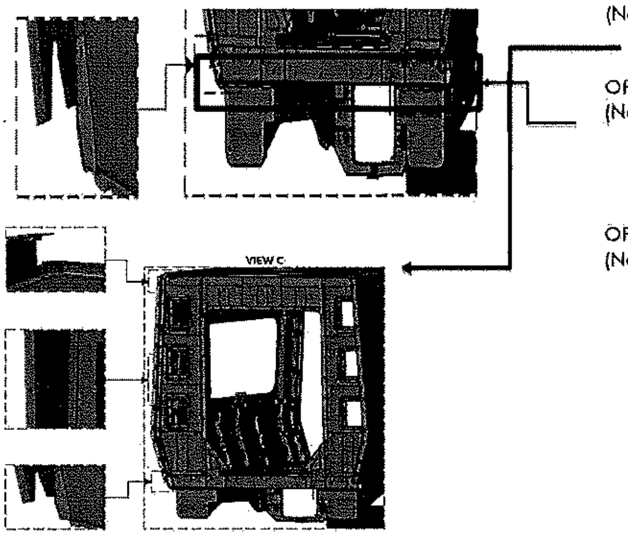
GIBELO	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30 / Date 06/11/2023	Project: PRASA SI.CB1230.277.V29

II - Self Inspection - Items to Check

II.1 - Items to check

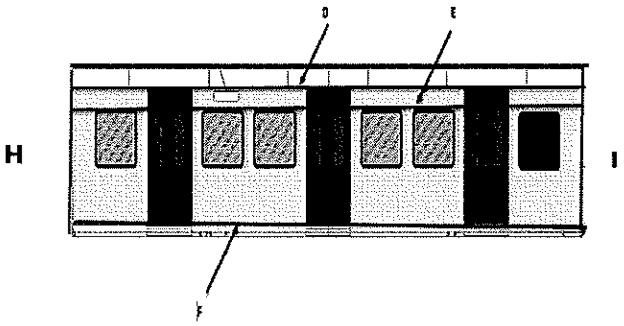
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK			Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.AA00001374497 Verification of fitment for all brackets.	PRA.CB1230.AA00001374497	✓			Kgotsu 16/04/24	16/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			Thami 16/04/24	16/04/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			Emma 16/04/24	16/04/24
04		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			Thami 16/04/24	16/04/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			Thami 16/04/24	16/04/24
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.	✓			Emma 16/04/24	16/04/24
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: 105338 Exp Date: May 2024 Actuals Temparature: 21 °C Humidity: 49 %	✓			Bulle 16/04/24	16/04/24
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	✓			Bulle 16/04/24	16/04/24

AREA 1



END 2 SEALANT

OPERATOR (Name & sign):	Leroy [signature]
OPERATOR (Name & sign):	Leroy [signature]
OPERATOR (Name & sign):	Zanele [signature]

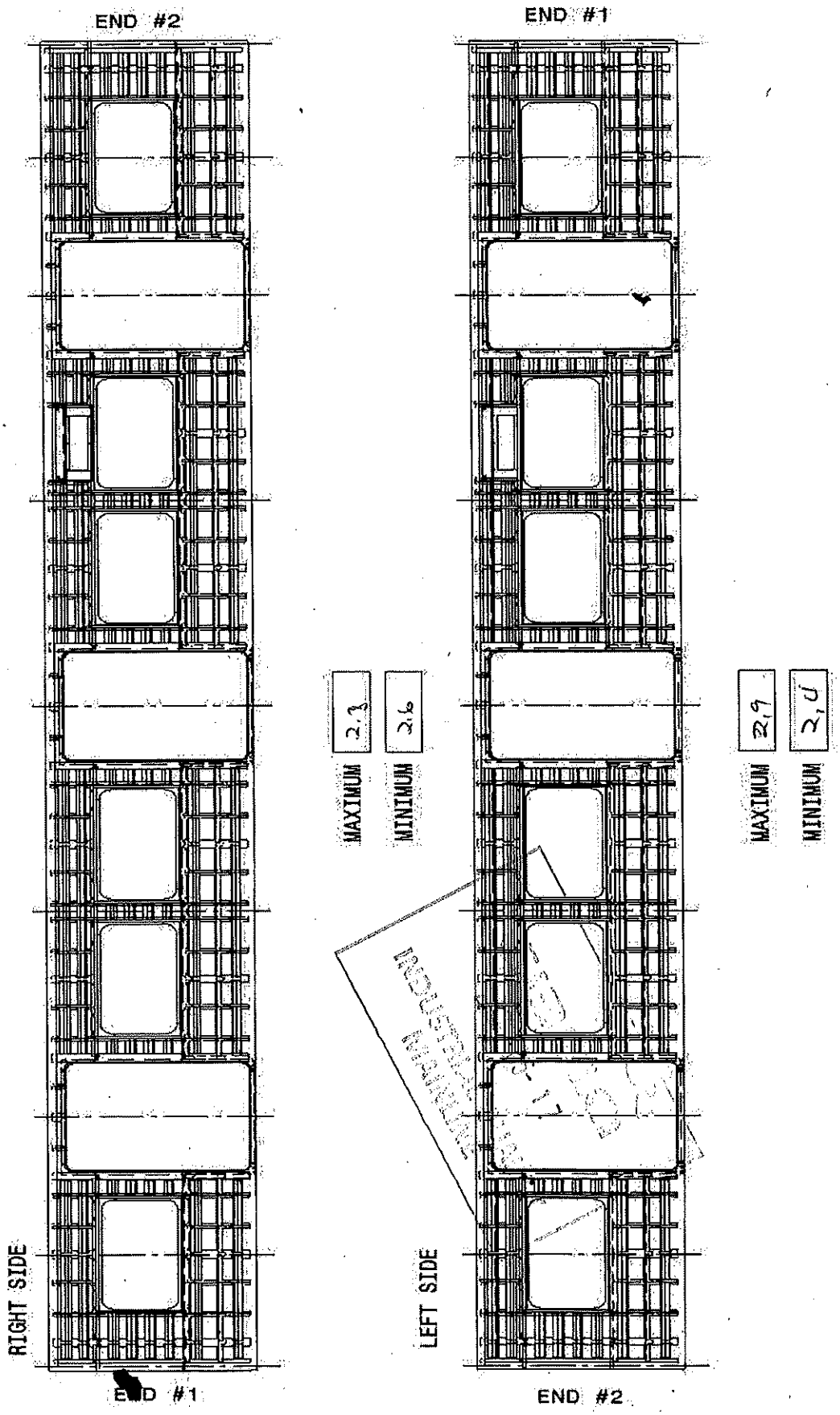


Area D,E,F,G,H,I	LHS	RHS
Operator (Name & sign) :	D, E, F, G, H, I	D, E, F, G, H, I
Operator (Name & sign) :	[signature]	
Operator (Name & sign) :	Tshenolo	Bahle
Operator (Name & sign) :	[signature]	[signature]
Operator (Name & sign) :	Sihle	Baily
Operator (Name & sign) :	[signature]	[signature]

GIBELA 2024-05-17 INDUSTRIAL QUALITY MAHLUBE

Specifications of Details for CBS measurement CB1230

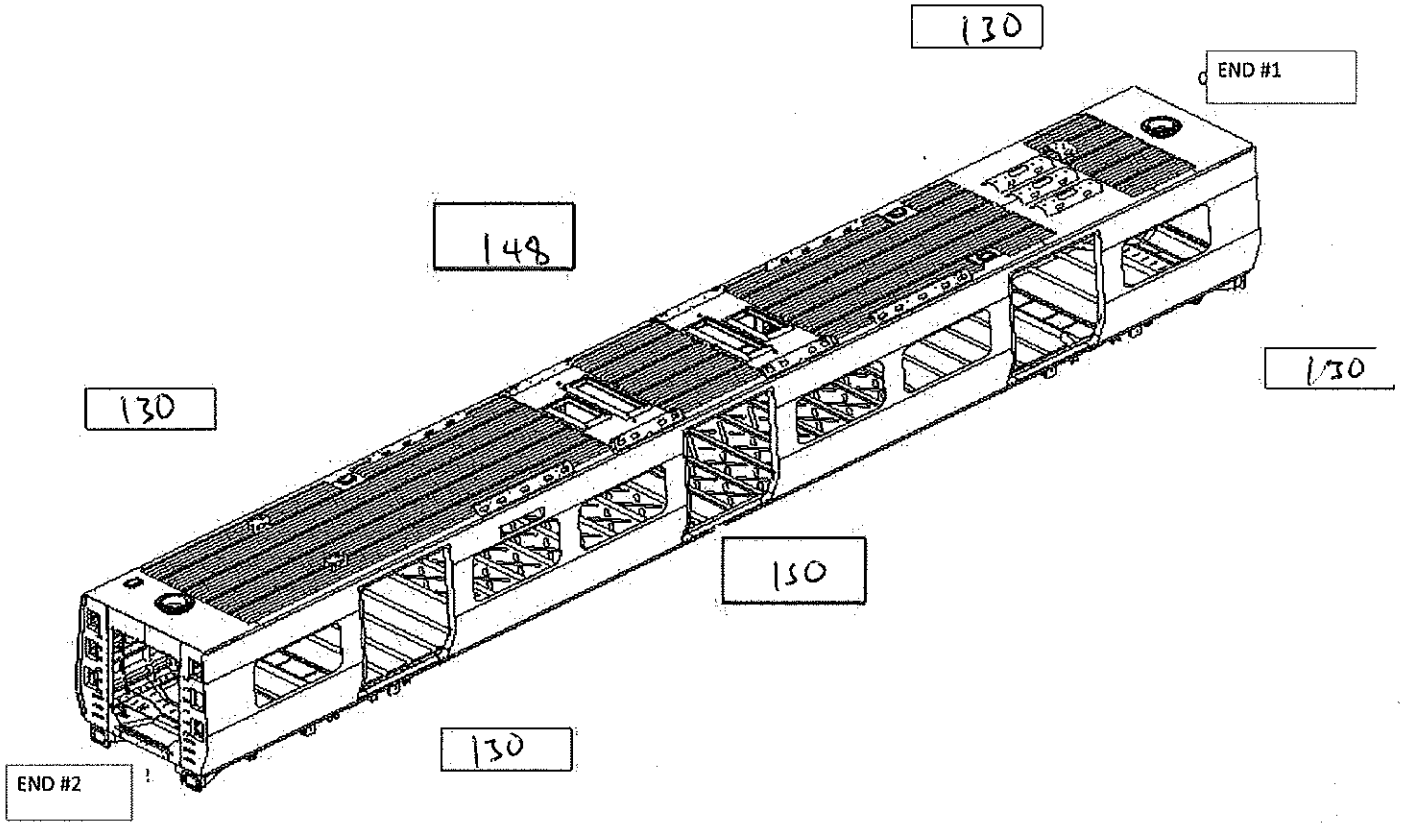
Flatness side left and right maximum of 7mm in the valley to peak measured 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



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	20
LEFT	18

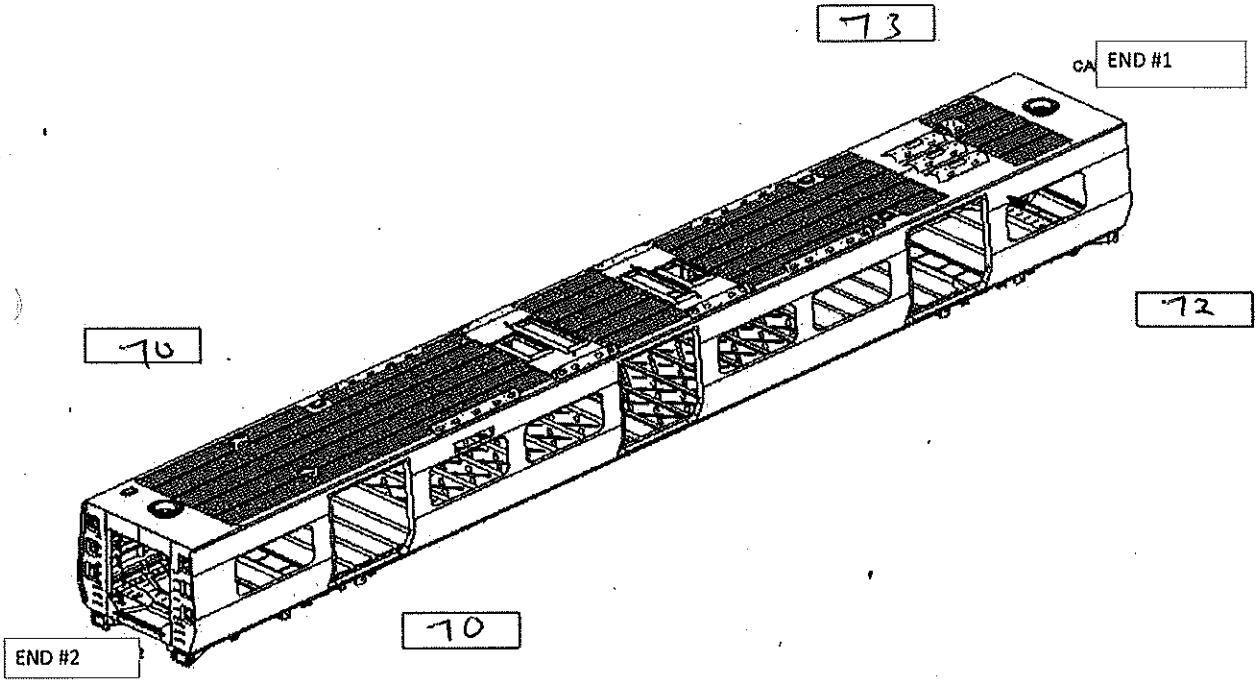
E

GIBELA
2024 -05- 17
INDUSTRIAL QUALITY
MARIKINA

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

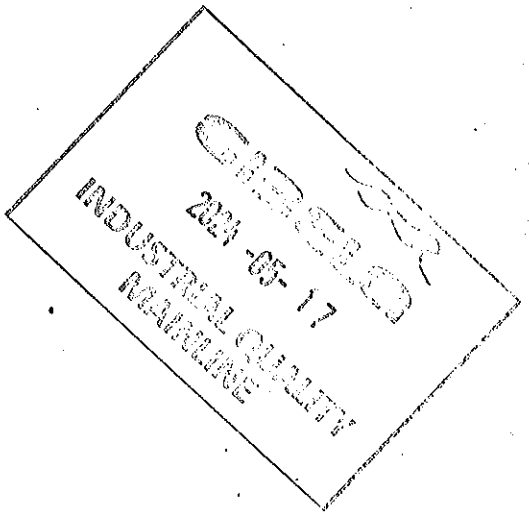
Specifications of Details for CBS measurement CB1230

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

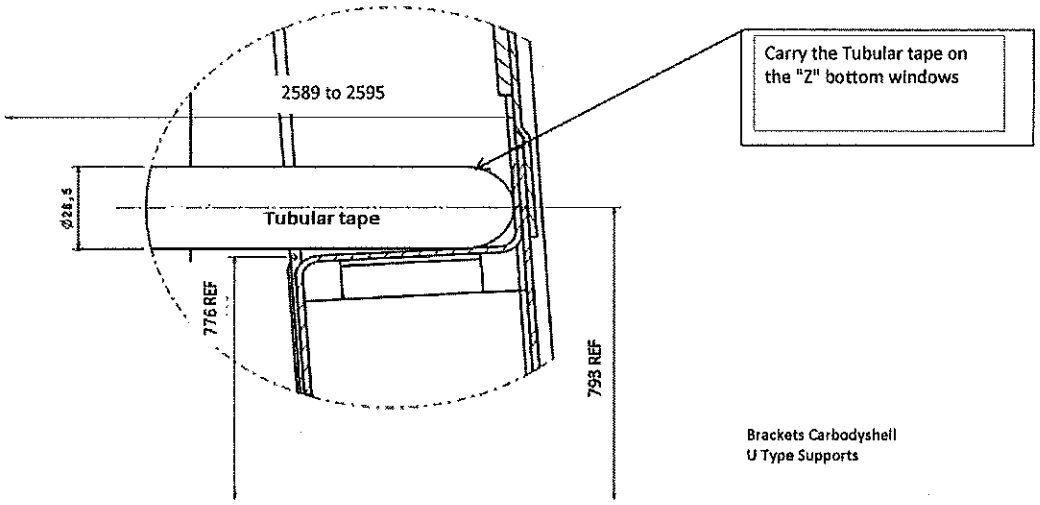


TWIST FOUND ON END 1	
TRANVERSE	1
LONGITUDINAL	2

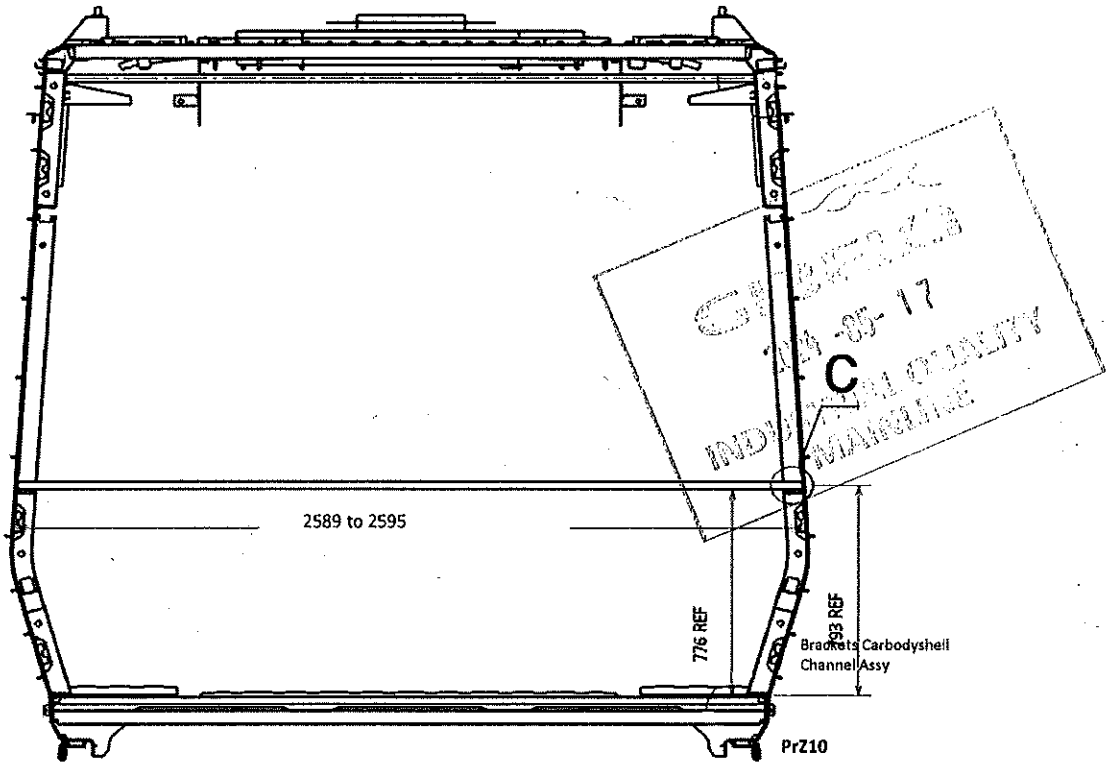
TWIST FOUND ON END 2	
TRANVERSE	0
LONGITUDINAL	3



Specifications of Details for CBS measurement CB1230

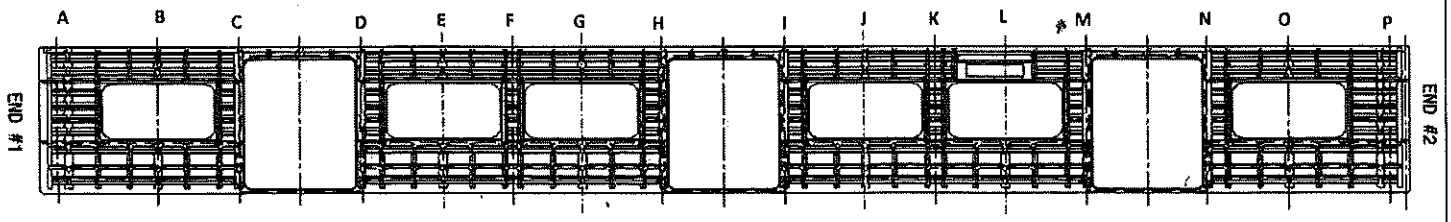


Detail C



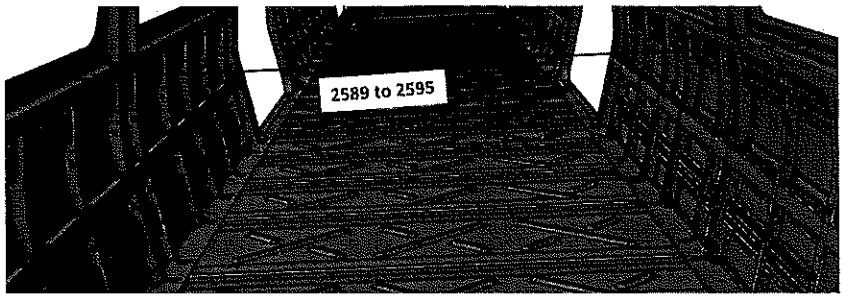
GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	SI.CB1230.277.V29

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



Threashold verification

Nominal value :38

Door 1		Door 2		Door 3	
L	R	L	R	L	R
36	37	37	38	38	37
Door 4		**Door 5**		**Door 6**	
L	R	L	R	L	R
38	37	38	37	38	38

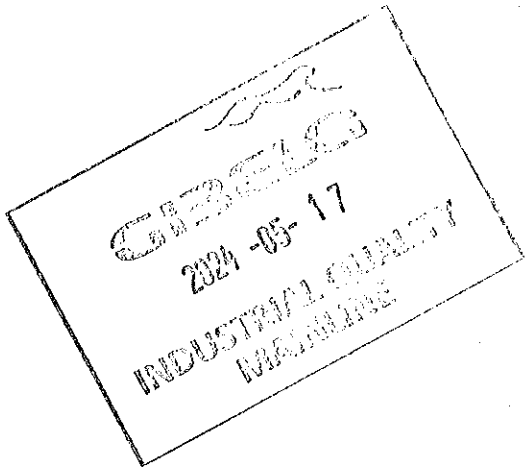
BOILER MAKER: Kgolgo

WELDER: Emmanuel E. Maputo

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

Dye penetrant test

Dye-penetration test to be performed by quality personnel



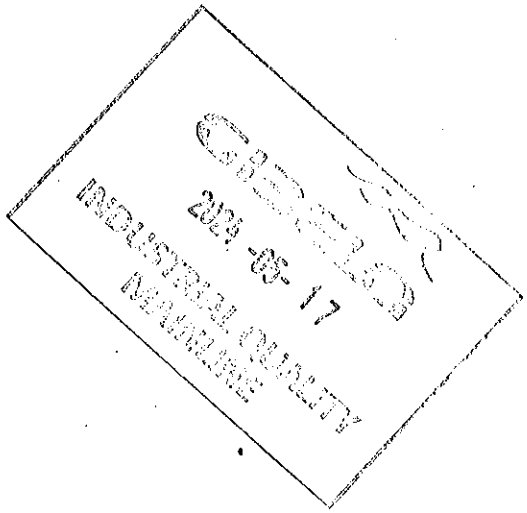
Specifications of Details for CBS measurement

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

II.2 - Check List REX

Check List Items

Item	Picture/Drawing	Description	Criteria /Record				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 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			(If f activities are not complete, the missing activities must not impact the next stage!	16/04/24	Mohlauhla Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	16/04/24	Richmond 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

GIBELA
2024 -05- 17
INDUSTRIAL QUALITY
MANUFACTURE