APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

APPLICATION REFERENCE

	MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	M4	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY ?
☐	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 Maimela	
			CHECKER	Bongane Masina	06/08/2020
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	
			CHECKER	Bongane Masina	19/04/2021
			REVISED BY	Bongane Masina	
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi collins	
			CHECKER	Mpho Mulaudzi	17/08/2021
			REVISED BY	Mpho Mulaudzi	
25	21/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombhi collins	
			CHECKER	Andani Muthelo	21/02/2022
			REVISED BY	Andani Muthelo	
26	14/04/2023	Addition of welding consumable traceability	APPROVER	Ntuli Vanessa	
			CHECKER	Mohlampe Amogelang	14/04/2023
			REVISED BY	Mohlampe Amogelang	
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	
			CHECKER	Zwane Ntokozo	27/07/2023
			REVISED BY	Mohlampe Amogelang	
28	07/11/2023	Addition of welder traceability	APPROVER	Ngobeni Tyson	
			CHECKER	Andani Muthelo	07/11/2023
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
T529	M2	Pontso 409964	20/Feb/24	SI.CB1210.247.V28	17

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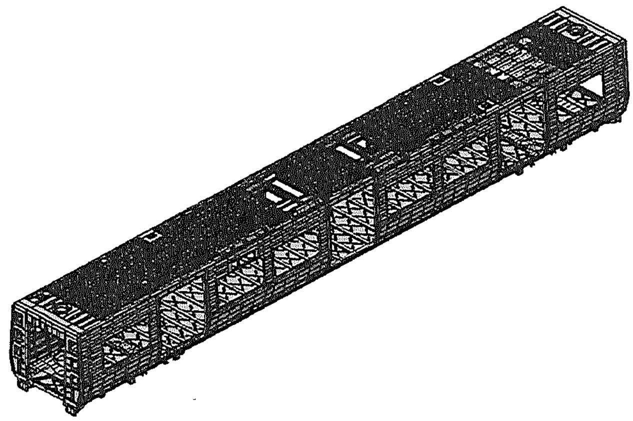
Car: M2 | NCR: | Work station: CB1210

Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	TC1	M1	M2	M3	M4	TC2	Revision	Obsevation	OK	NOK	Rework	Signature/Date (Manufacturing)	Signature/Date (Quality)
	Type of car												
DTR31374497/3			X				V28		✓		N/A	[signature]	[signature] 20/03/2024

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
TUBULAR	32823-2	15/03/25	✓		[signature]	[signature]
LASER TAPE	125425924	08/01/25	✓		[signature]	[signature] 20/03/2024
30M TAPE	EMBTP0102	18/11/24	✓		[signature]	[signature]

1.3 - Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	314018-70097	MIG	✓		[signature]	[signature]
ER 308 L	299687-70532	TIG	✓		[signature]	[signature] 20/03/2024

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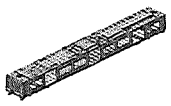
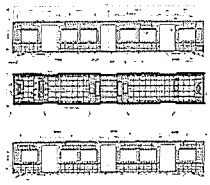
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.V28

II - Self Inspection - Items to Check

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Rework	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls,Endframes,Roof and Underframe)	AA00001375051	✓			20/03/24	20/03/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			20/03/24	20/03/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	**IND-SAL-WMS-016 e DTD0000210675**	✓			20/03/24	20/03/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			20/03/24	20/03/24
05		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			20/03/24	20/03/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓			20/03/24	20/03/24
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.	✓			20/03/24	20/03/24

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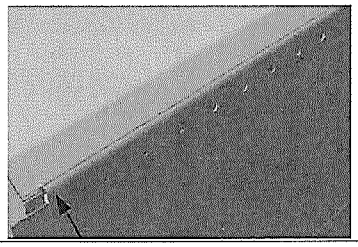
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.V28

Welder treacibility

Roof ring welds



LHS

Boiler maker (Name & Sign): GERALD Welder (Name & Sign): KEITU K. MCW

END 1

RHS

Boiler maker (Name & Sign): WNGA Welder (Name & Sign): MTHOKOZISI

LHS

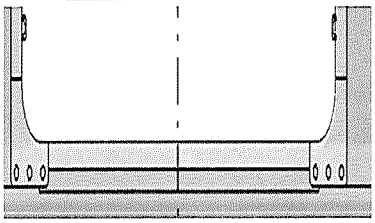
Boiler maker (Name & Sign): GERALD Welder (Name & Sign): KEITU K. MCW

END 2

RHS

Boiler maker (Name & Sign): WNGA Welder (Name & Sign): MTHOKOZISI

Door ring welds



LHS

Boiler maker (Name & Sign): Tim

Welder (Name & Sign): BOBBEE

RHS

Boiler maker (Name & Sign): Tim

Welder (Name & Sign): BOBBEE

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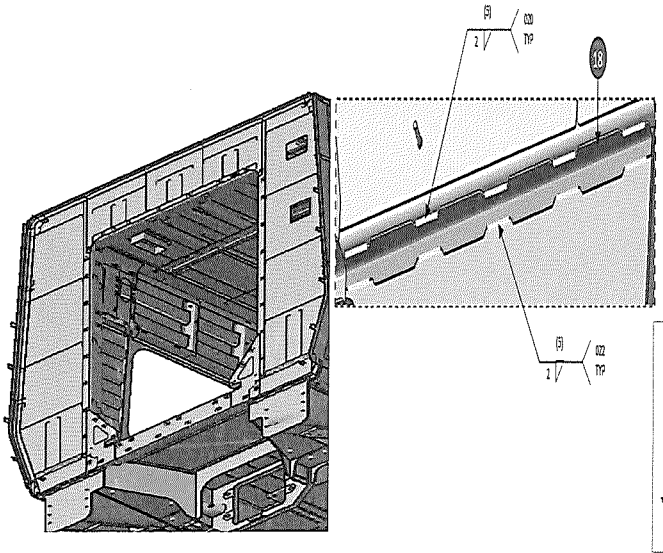
GIBELO	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.V28

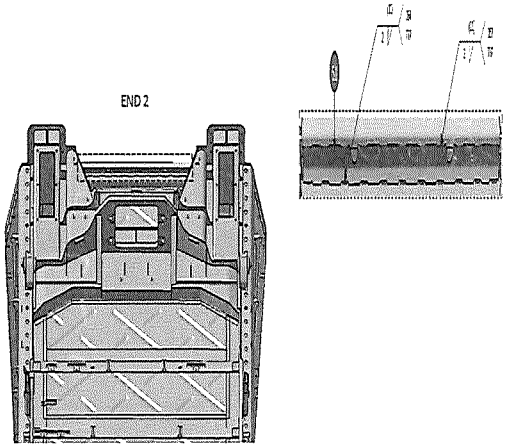
EUF Reinforcement Plates



END 1

Boiler maker (Name & Sign):

Welder (Name & Sign):



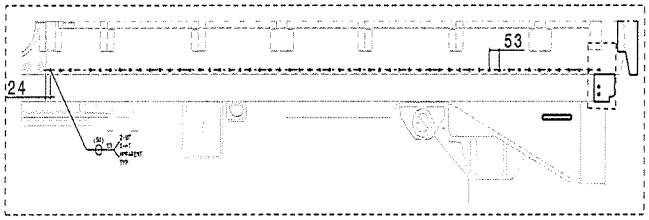
END 2

Underneath the CAR

END 2

Boiler maker (Name & Sign):

Welder (Name & Sign):



FEDOLI

OPERATOR:

GIBELO

2024 -03- 20

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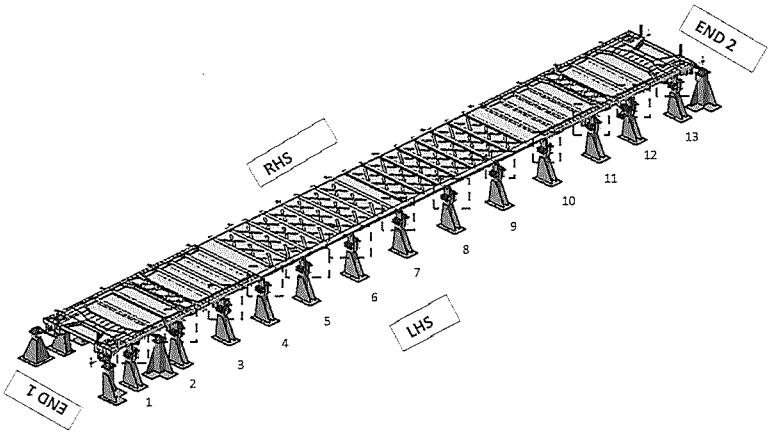
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.V28

Specifcations 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: 20/03/24

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: 20/03/24

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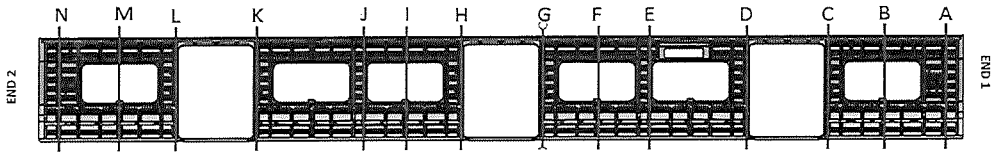
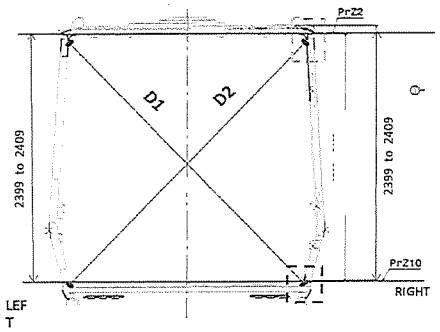
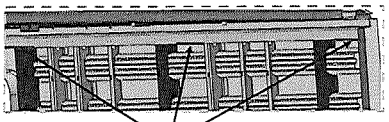
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28 Date 07/11/2023	Project: PRASA SI.CB1210.247.V28

Specifications of Details for CBS measurement

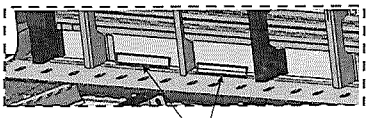


9

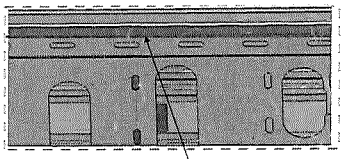




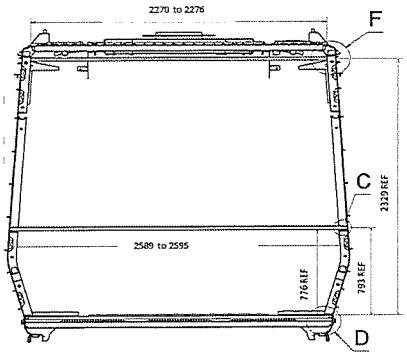
Measurement positions on roof rail and sidewall omega corner.

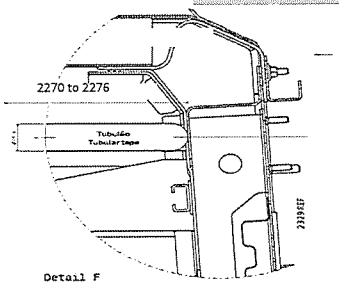


Measurement positions on sidewall and side sill corner.



Reinforcement area measurement positions on roof reinforcement area.





Detail F

Don't considering the reinforcement

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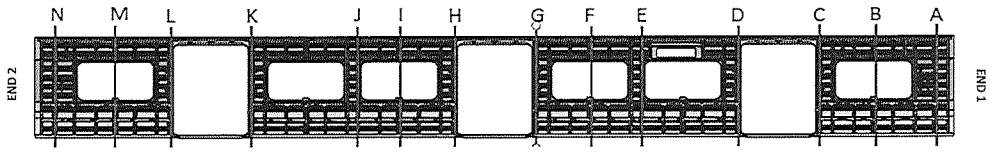
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

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	3269	3269	0	2404	2404	0
B	3268	3267	1	2405	2404	1
C	3269	3270	1	2405	2404	1
D	3268	3268	0	2404	2405	1
E	3269	3266	3	2406	2404	2
F	3271	3270	1	2404	2404	0
G	3269	3268	1	2405	2404	1
H	3270	3271	1	2404	2405	1
I	3269	3268	1	2404	2406	2
J	3269	3269	0	2404	2404	0
K	3271	3272	1	2405	2404	1
L	3270	3270	0	2406	2404	2
M	3269	3267	2	2404	2404	0
N	3269	3267	2	2406	2405	1

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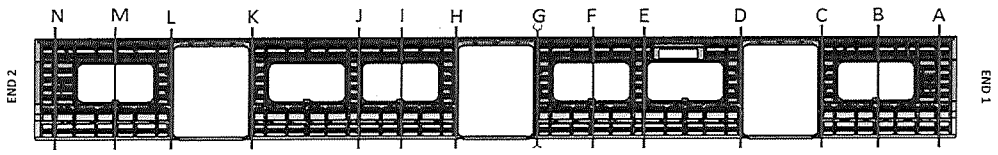
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

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	3296	3297	1	2404	2404	0
B	3269	3270	1	2405	2406	1
C	3298	3298	1	2404	2404	0
D	3297	3299	2	2406	2404	2
E	3269	3268	1	2405	2404	1
F	3270	3268	2	2404	2404	0
G	3296	3297	1	2405	2406	1
H	3298	3299	1	2404	2404	0
I	3269	3271	2	2405	2405	0
J	3270	3271	1	2404	2405	1
K	3296	3297	1	2404	2404	0
L	3298	3298	0	2405	2404	1
M	3268	3266	2	2405	2405	0
N	3295	3295	0	2404	2404	0

L1
2404
20/03/24

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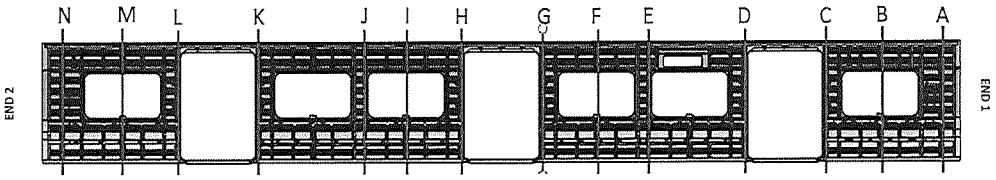
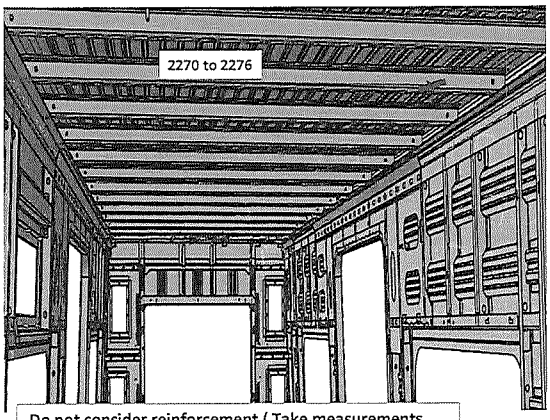
		Date 07/11/2023	SI.CB1210.247.V28

CBS measurement

BEFORE WELDING

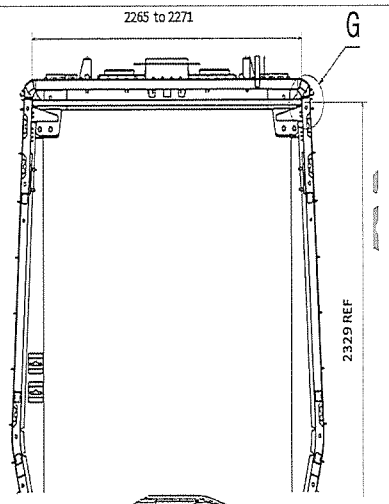


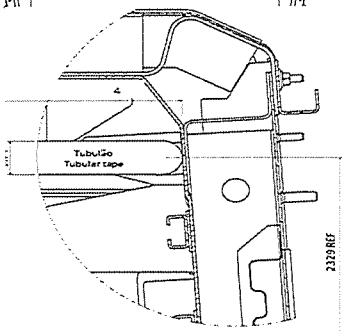


Do not consider reinforcement (Take measurements top area of zee profile

2270 to 2276

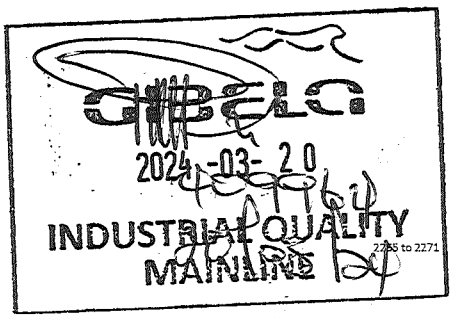
A	2274
B	2272
C	2276
D	2275
E	2276
F	2275
G	2273
H	2270
I	2274
J	2275
K	2276
L	2274
M	2272
N	2271





Detail G

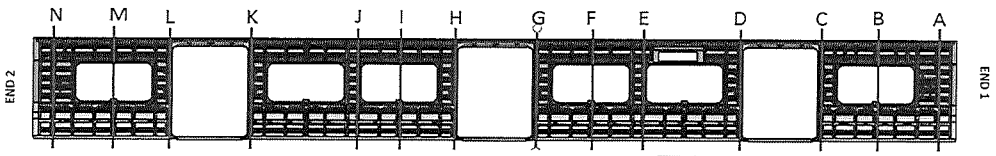
Considering the reinforcement plate



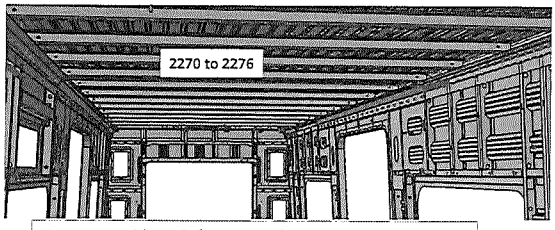
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA
		Date 07/11/2023	SI.CB1210.247.V28

CBS measurement

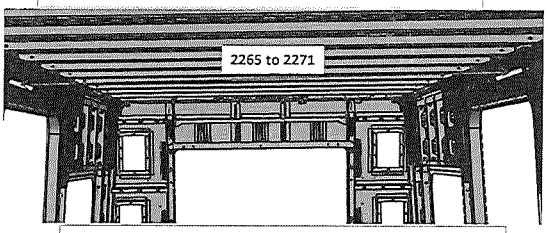
AFTER WELDING



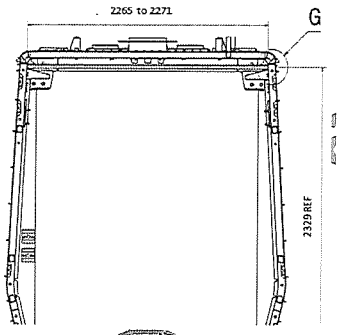
	2265 to 2271	2270 to 2276
A	2269	
B		2271
C	2265	
D	2267	
E		2276
F		2275
G	2266	
H	2267	
I		2275
J		2276
K	2269	
L	2269	
M		2274
N	2266	

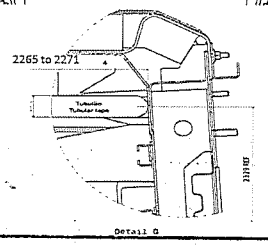


Do not consider reinforcement (Take measurements top area of zee profile



Take measurement close to radius (considering reinforcement)





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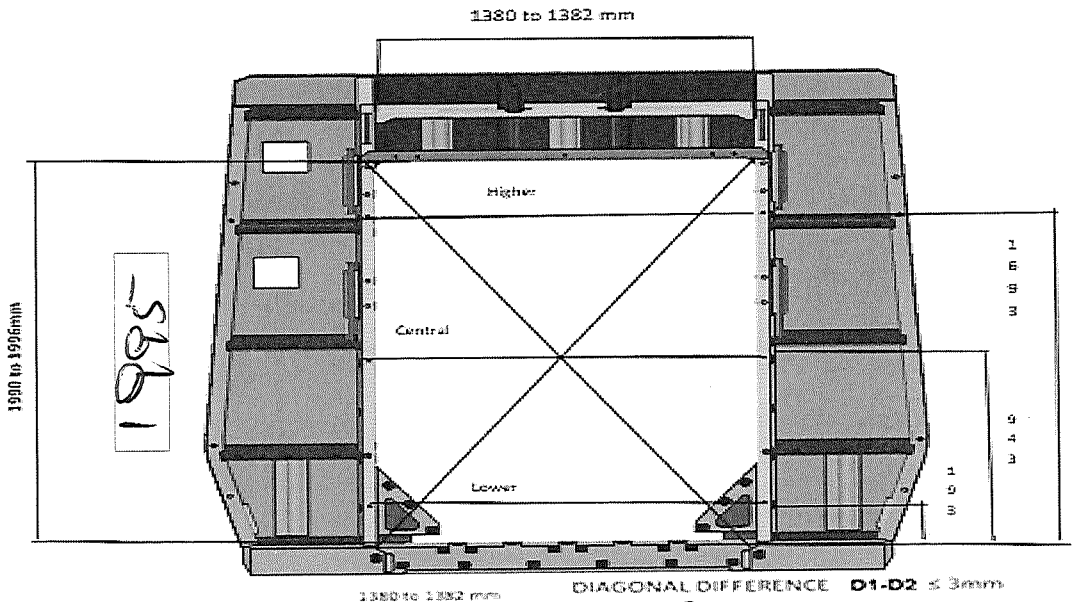
CBS measurement

End frame 1



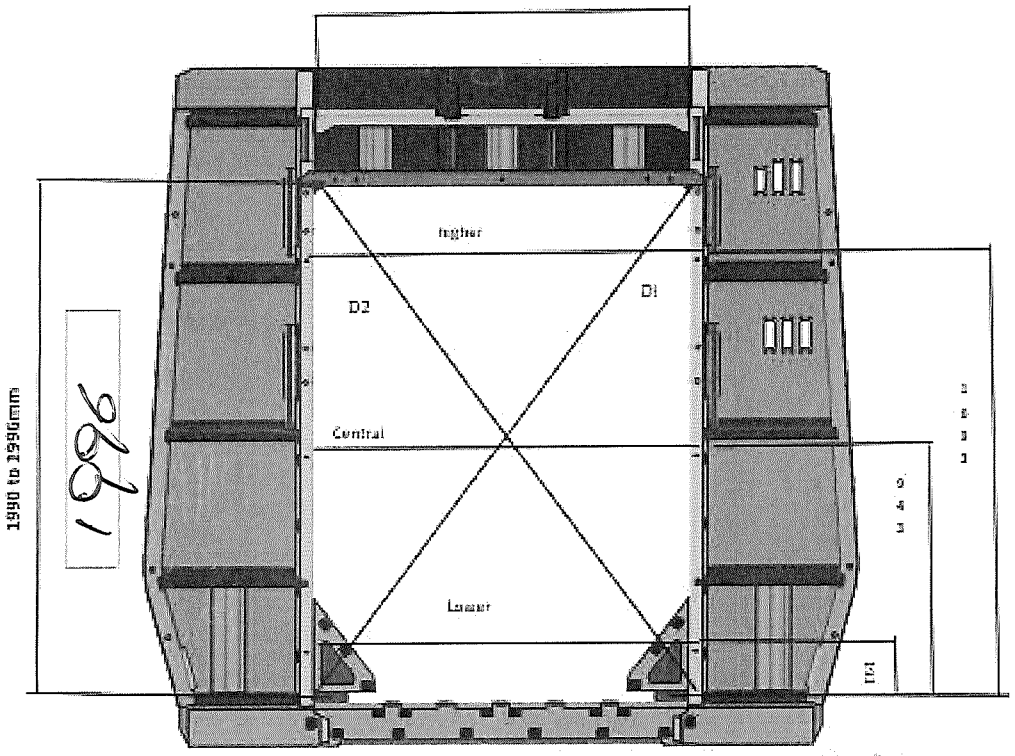
Higher Dimension	1350
Central Dimension	1351
Lower Dimension	1380
D1	2415
D2	2416
D1-D2	1

20/03/24

GIBELA
2024 -03- 20
INDUSTRIAL QUALITY
MAINLINE

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

End frame 2



1380 to 1382 mm

DIAGONAL DIFFERENCE **D1-D2** ≤ 3mm

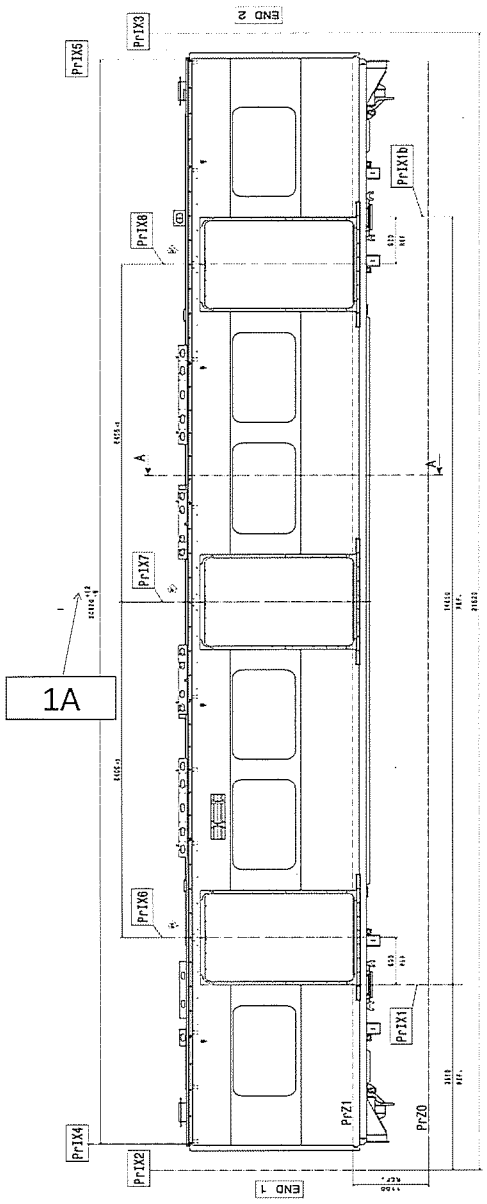
Higher Dimension	1381	D1	2414
Central Dimension	1381	D2	2415
Lower Dimension	1380	D1-D2	1

2024-03-20

GIBELA
2024 -03- 2 0
INDUSTRIAL QUALITY
MAINLINE

	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	20614

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

Dye penetrant test

Dye-penetration test to be performed by quality personnel

2024 -03- 20
INDUSTRIAL QUALITY
MAINLINE

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	NOK	Remark	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 -03- 20
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 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!	20/03/2024	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	20/03/2024	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":

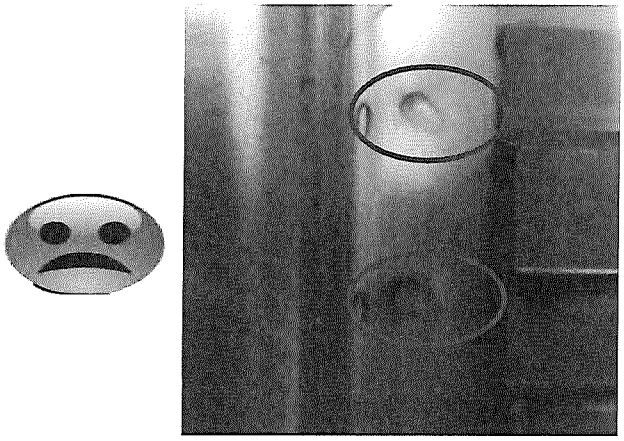
Item	Description		Responsible	Due date	Status

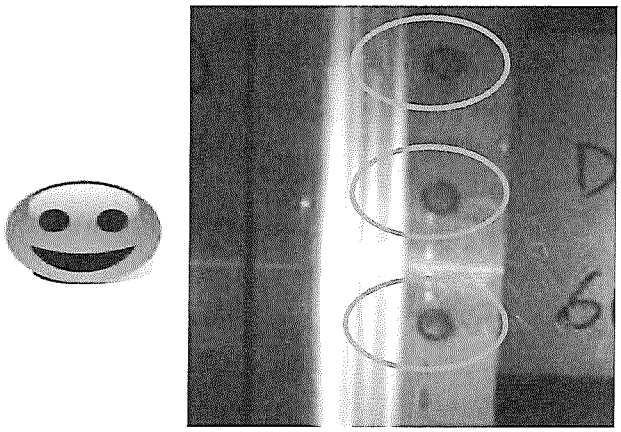
Operations

Quality

GIBELA
2024 -03- 20
INDUSTRIAL QUALITY
MAINLINE

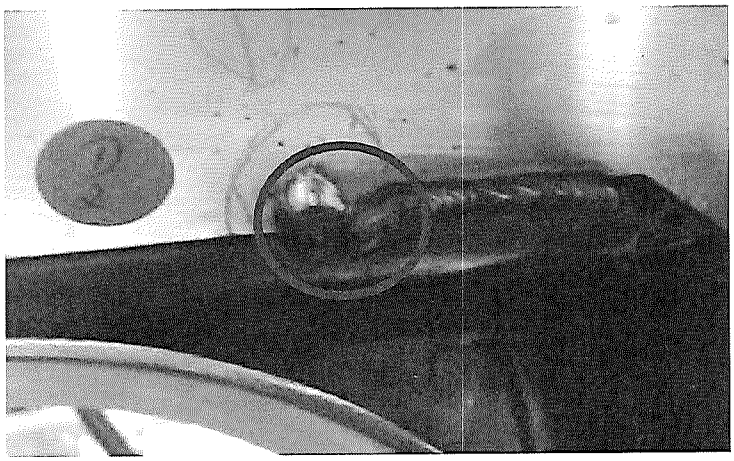
ANNEXURE A: Spot Welding Quality Acceptance Standard





GIBELA
2024 -03- 20
INDUSTRIAL QUALITY
MAINLINE

ANNEXURE B: Arc Welding Quality Acceptance Standard



GIBELA

PRASA PROJECT

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

APPLICATION REFERENCE

	MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE TC1	M1	M2	M2	M3	TC2	WORK INSTRUCTION	SAFETY?
☐	OTR01374497/2	AA00001413328	CARBODYSHELL M2 ASSEMBLY	CB1220				X			PRA.CB1220.OTR31374497/2.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 Matthegu	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	

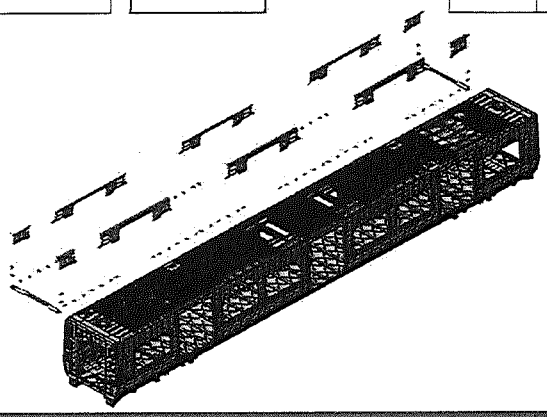
TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
219	M2	Mashudu 410041	21/03/24	SI.CB1220.276.V29	15

GIBELA
2024-03-13
MECHANICAL QUALITY
BASELINE

GIBELA	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 car: T01	M1	M2	M3	M4	T03	Revision	Observation	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR31374497/2			✓						✓	N/A	21/03/24	12/03/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
Measuring tape Tubular	32823-3	15/03/2023	✓		13/3/24	12/3/24

1.3 Consumables

Welding Consumable Control - Used for Special Process

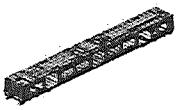
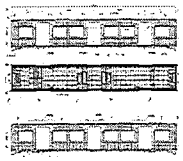
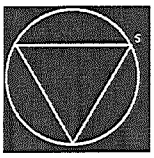
Filler Material	Heat Number	Welding Process	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 1.0mm	E23167	M16	✓			12/03/24

GIBELA
2024 -03- 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

II.1 - Items to check

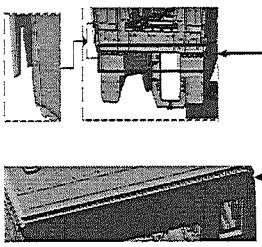
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	KO	Remarks	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB1220. DTR31374497/2 Verification of fitment for all reinforcement brackets.	PRA.CB1220. DTR31374497/2	✓			21/03/24	12/03/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			21/03/24	12/03/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			21/03/24	12/03/24
04		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			21/03/24	12/03/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			21/03/24	12/03/24
06		Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓			21/03/24	12/03/24
07	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (°) Min-Max 10°C - 35°C Relative humidity Min - Max (%) Min-Max 25% - 80%	Sealant Batch No: [illegible] Exp Date: ___ / 03/24 Actuals Temparature: 21 Humidity: 51				2024-03-13	12/03/24
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001413329	✓			21/03/24	12/03/24

GIBELA

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):

M.Vekrezis

Operator (Name & sign):

M.Vekrezis

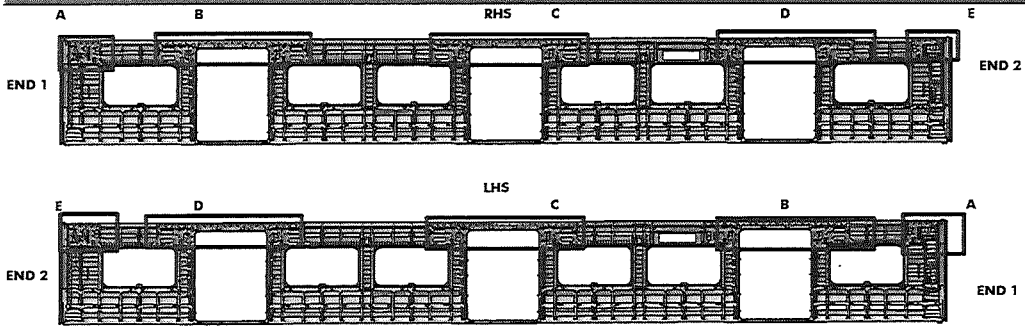
GIBELO

2024 -03- 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



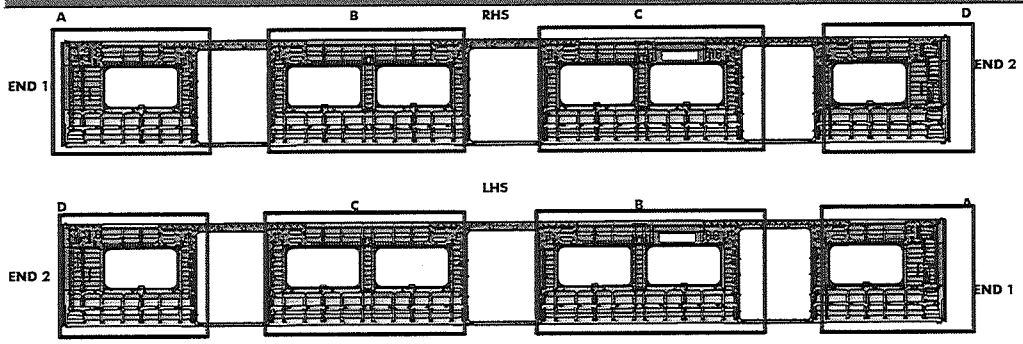
REINFORCEMENT WELDING

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

GIBELA
2024 -03- 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: Asanda

Operator:

DOOR MECHANISMS: Operator: Mthokozisi

Operator:

TAPPING PADS Operator: J.J. Mkize

Operator:

INSTALLATION & VERIFICATION

SEAT & LUGGAGE BRACKETS: Operator:

Operator:

SEAT BRACKETS VERIFICATION: Operator: Mthokozisi

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): Sibiya	Sibiya
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): Sibiya	
D (Seat brackets)	: Operator (Name&sign):	
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): Sibiya	

ENDS

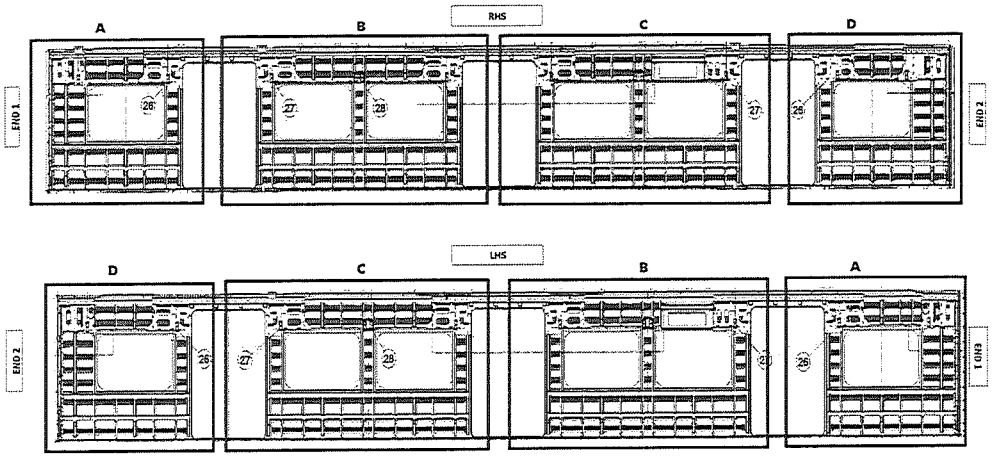
END 1 TAPPING PADS WELDING: Operator (Name&sign):

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

GIBELA
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

GIBELA	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	8	✓	
	B	8	✓	
	C	8	✓	
	D	2	✓	
SEAT BRACKETS	A	13	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	2	✓	
	B	4	✓	
	C	5	✓	
	D	3	✓	

ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: Mashudu

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	✓	

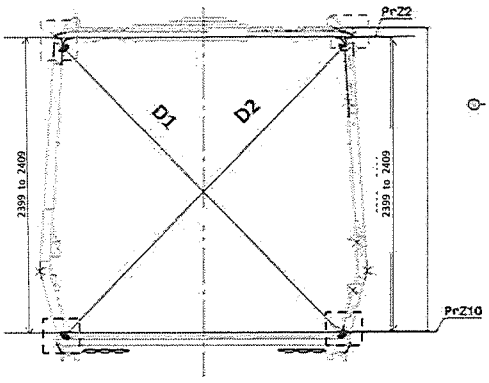
ROOF ENDS:

CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

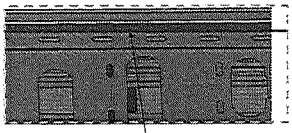
VERIFICATION BY: Mashudu

GIBELA
2024-03-13
INDUSTRIAL QUALITY
MAINLINE

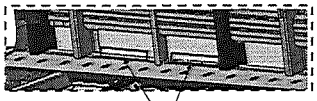
GIBELA	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29



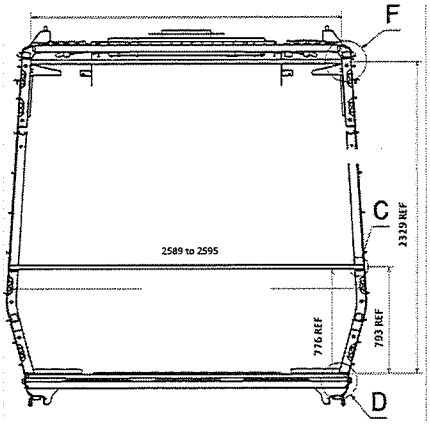
Measurement positions on roof rail and sidewall omega corner.



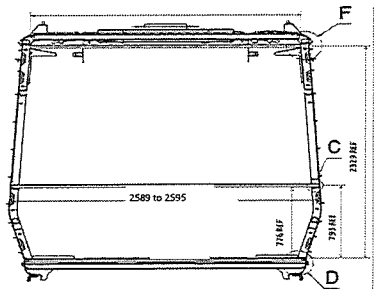
Reinforcement area measurement positions on roof reinforcement area.

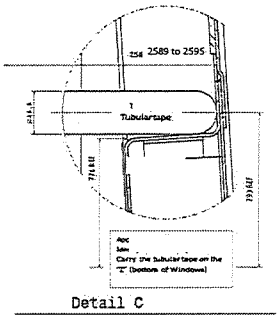


Measurement positions on sidewall and side sill corner.

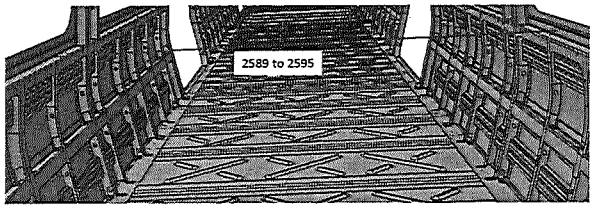


GIBELO	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

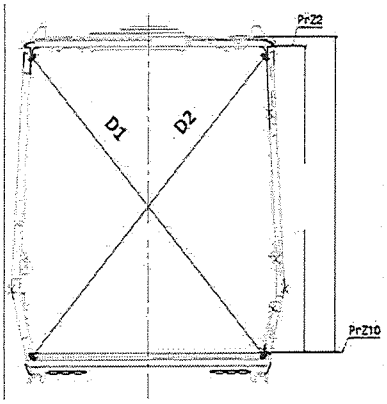


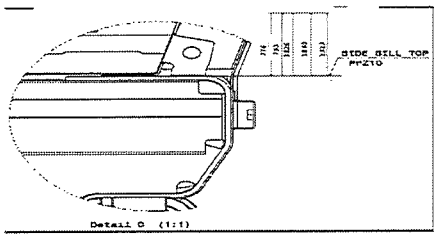


Detail C



Take measurement close to radius

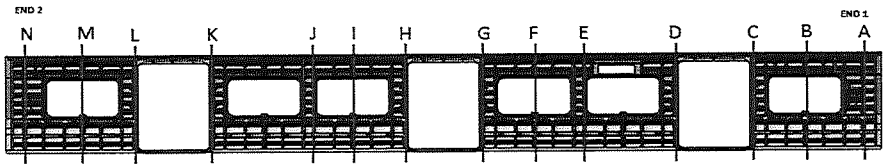




GIBELO
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

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

CBS measurement



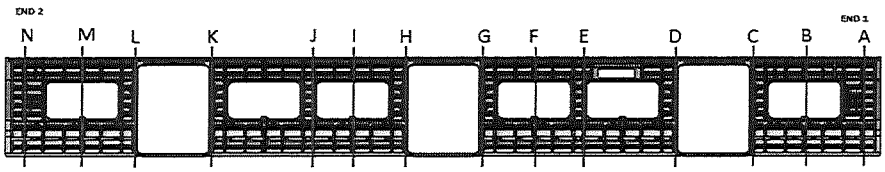
BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3297	3295	2	—
B	3264	3264	0	—
C	3295	3296	1	—
D	3296	3295	1	—
E	3264	3264	0	—
F	3263	3268	3	—
G	3297	3297	0	—
H	3298	3294	4	—
I	3264	3264	0	—
J	3264	3264	0	—
K	3296	3299	3	—
L	3298	3296	2	—
M	3265	3265	0	—
N	3295	3296	1	—

GIBELA
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

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

CBS measurement



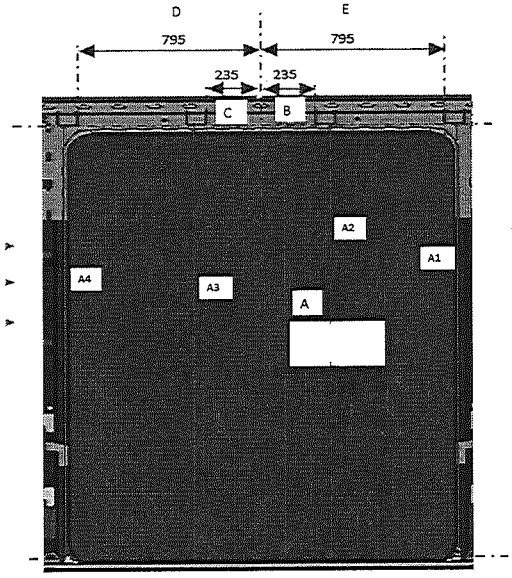
AFTER WELDING

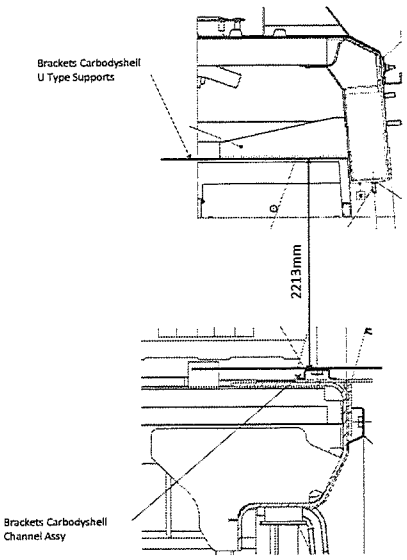
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3294	3296	2	2595
B	3265	3265	0	2590
C	3294	3295	1	2590
D	3295	3295	0	2595
E	3263	3265	2	2590
F	3268	3265	3	2589
G	3296	3296	0	2592
H	3294	3297	3	2595
I	3266	3265	1	2594
J	3267	3266	1	2595
K	3296	3299	3	2595
L	3295	3295	0	2590
M	3266	3267	1	2590
N	3296	3296	0	2595

GIBELA
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

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





DOOR 1 - LHS

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

DOOR 2 - LHS

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

DOOR 3 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	2232
A2	2230 to 2232	2231
A3	2230 to 2232	2231
A4	2230 to 2232	2231
B	234 to 236	233
C	234 to 236	234
D	794 to 796	796
E	794 to 796	796

DOOR 1 - RHS

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

DOOR 2 - RHS

	VALUE	ACTUAL
A1	2230 to 2232	2233
A2	2230 to 2232	2231
A3	2230 to 2232	2231
A4	2230 to 2232	2232
B	234 to 236	235
C	234 to 236	234
D	794 to 796	796
E	794 to 796	795

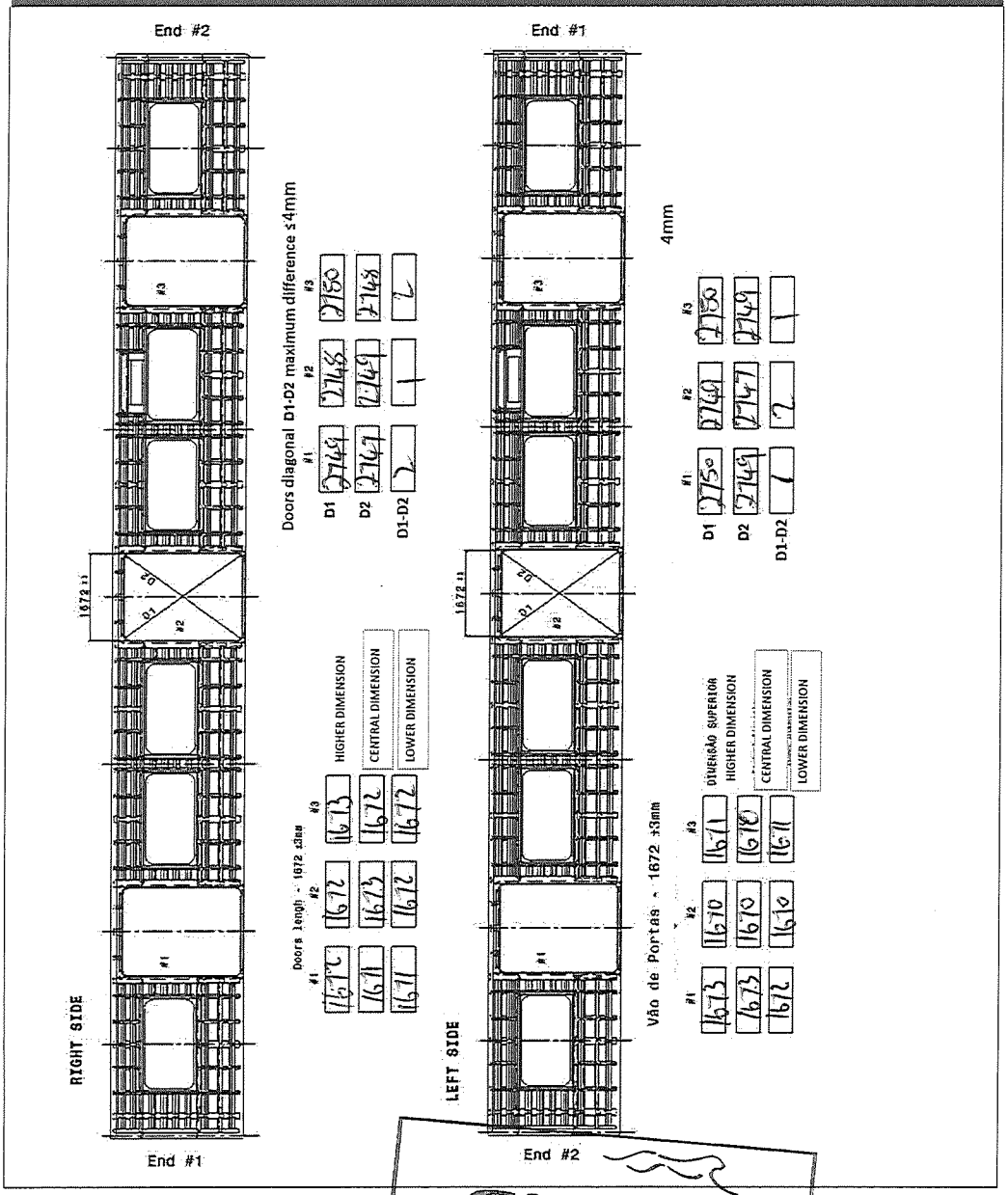
DOOR 3 - RHS

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

GIBELA
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

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

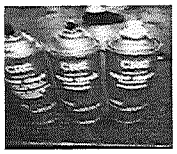


GIBELG	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA
		Date 28/10/2023	SI.CB1220.276.V29

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

GIBELG
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

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 f activities are not complete, the missing activities must not impact the next stage!	21/03/24	Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	21/03/24	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

Missing welds on reinforcement floor bracket : closed

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

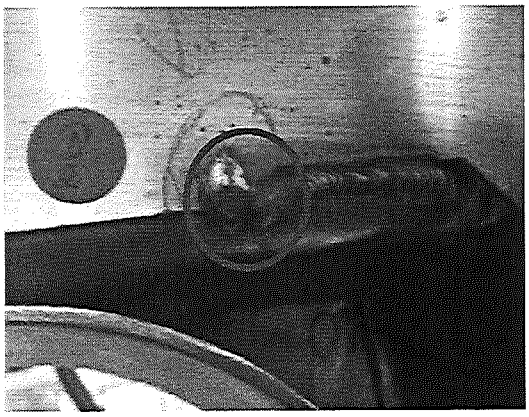
Item	Description		Responsible	Due date	Status

Operations

Quality

GIBELA
2024 -03- 13
INDUSTRIAL QUALITY
MAINLINE

ANNEXURE A: Arc Welding Quality Acceptance Standard



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		
☐ 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	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokozo Zwane	
			REVISED BY	Amogelang Mohlampe	
30	06/11/2023	Added traceabilty on thresholds for boiler makers and welders	APPROVER	Ngobeni Tyson	06/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	

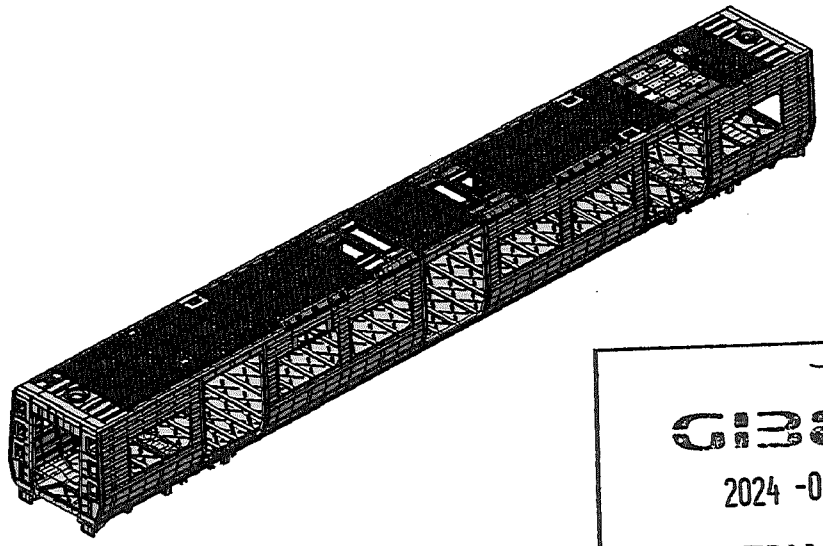
TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
29	M02	MMathapelo 418300	22/03/24	SI.CB1230.277.V29	11

GIBELA
2024 -02- 22
INDUSTRIAL QUALITY
MAINLINE

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

Car:	NCR:	Work station: CB1230

Safety Related



GIBELA
2024 -02- 22
INDUSTRIAL QUALITY
MAINLINE

I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car TC1	M1	M2	M3	M4	TC2	Revision	Obsevation	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
PRA.CB1230.AA00001374497			✓						✓		N/A	22/03/24	22/03/24

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)
Tape	12062-2	2024/02/19	✓		22/03/24	22/03/24
Combination square	GIBCS0140	2024/04/26	✓		22/03/24	
measuring tape	GIBTA0396	2024/04/06	✓		22/03/24	

1.3 Consumables

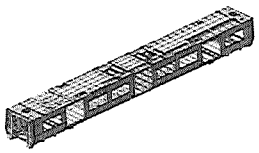
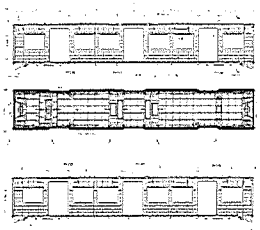
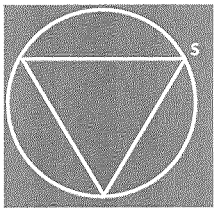
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 LSi	E231067	MIG	✓		22/03/24	22/03/24

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

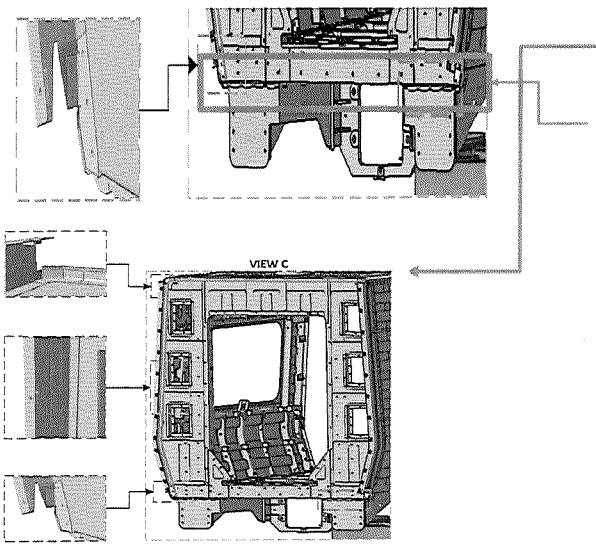
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.AA00001374497 Verification of fitment for all brackets.	PRA.CB1230.AA00001374497	✓			22/03/24	22/03/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			22/03/24	22/03/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			22/03/24	22/03/24
04		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			22/03/24	22/03/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			22/03/24	22/03/24
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 s... described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓			22/03/24	22/03/24
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: 2001943BP Exp Date: ____ / 03 / 2024 Actuals Temparature: 19°C Humidity: 75 %	✓			22/03/24	22/03/24
08	N/A	Verificotion of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	✓			22/03/24	22/03/24

GIBELA 2024 -02- 22 INDUSTRIAL QUALITY MAINLINE

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

END 2 SEALANT

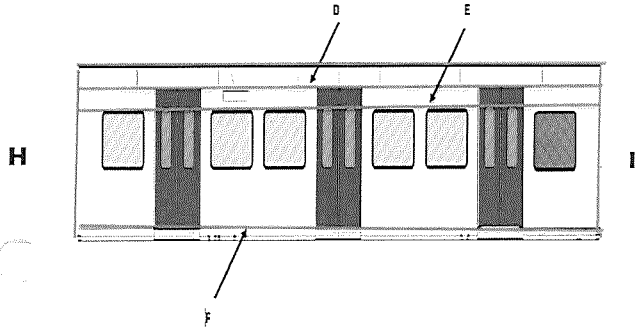
AREA 1



OPERATOR (Name & sign): Baitumelo

OPERATOR (Name & sign): Baitumelo

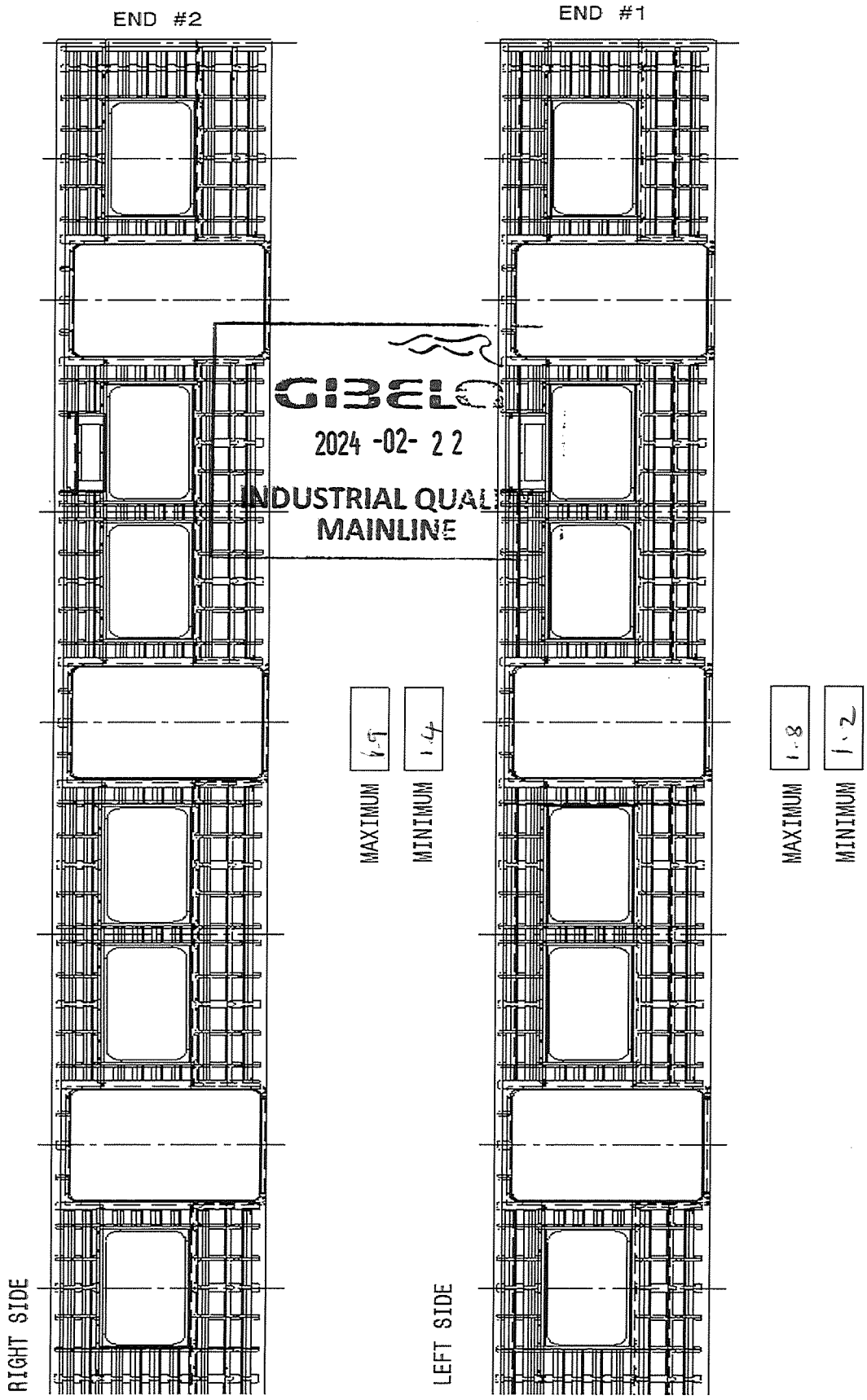
OPERATOR (Name & sign): Baitumelo

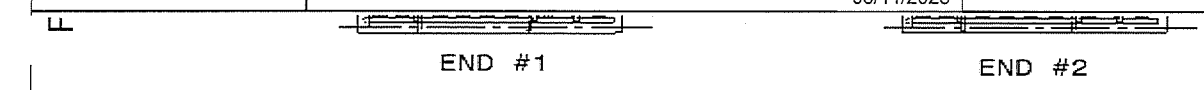


Area D,E,F,G,H,I	LHS	RHS
Operator (Name & sign) :	D,E,F,G,H,I	D,E,F,G,H,I
Operator (Name & sign) :	Lerato	Lerato
Operator (Name & sign) :	Bunle	Bunle
Operator (Name & sign) :		
Operator (Name & sign) :		
Operator (Name & sign) :		

GIBELA
2024 -02- 22
INDUSTRIAL QUALITY
MAINLINE

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.



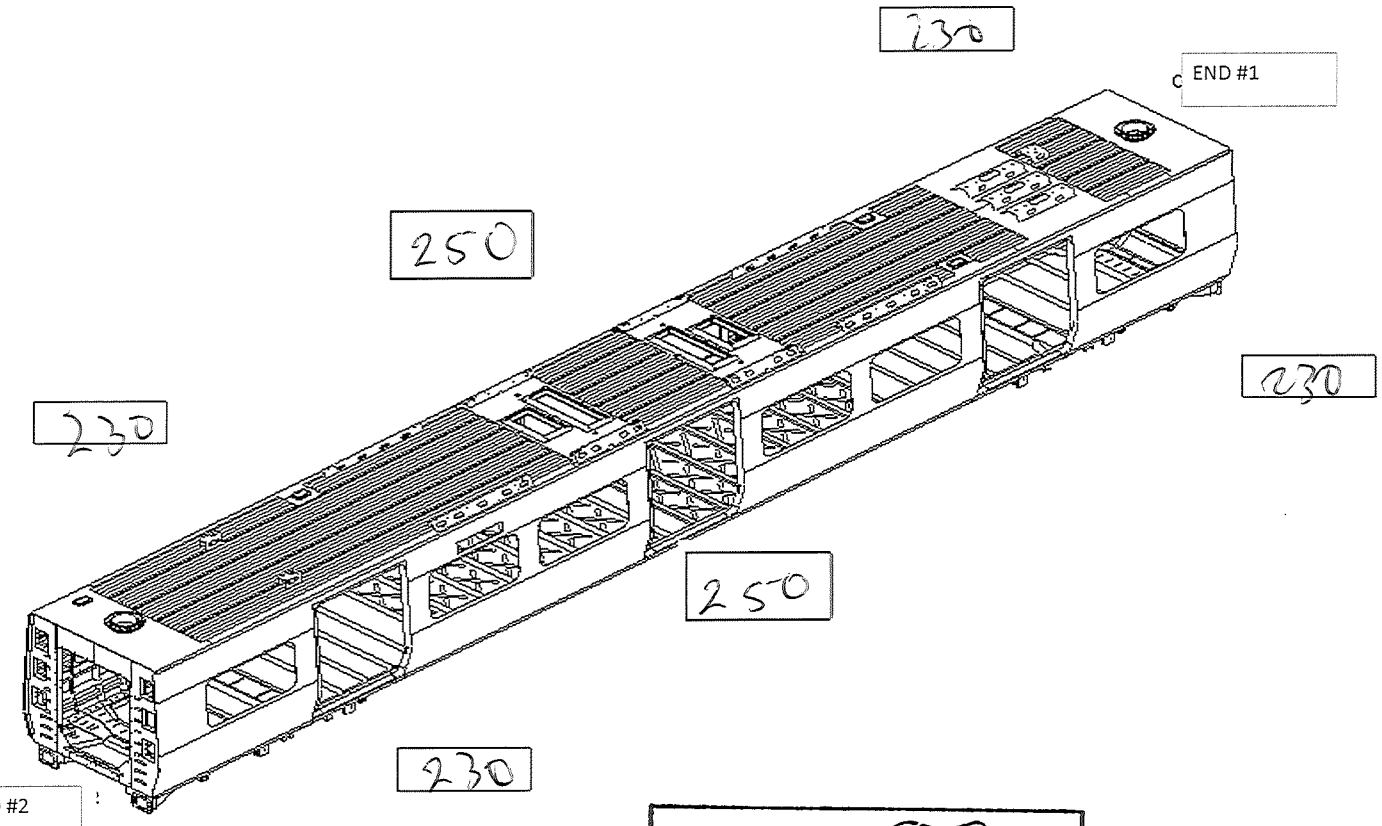

END #1
END #2


GIBELO
2024 -02- 22
INDUSTRIAL QUALITY
MAINLINE

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)



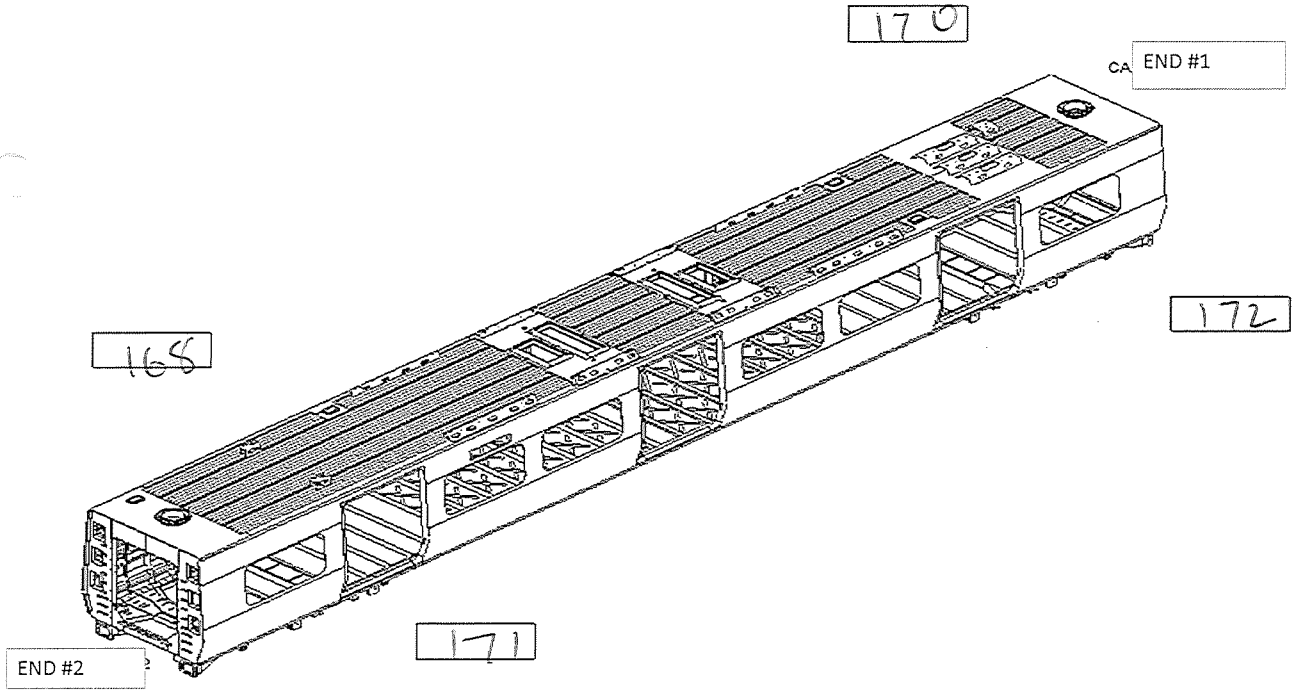
CAMBER	
RIGHT	20
LEFT	20

GIBELA
2024 -02- 22
E
INDUSTRIAL QUALITY
MAINLINE

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

Specifications of Details for CBS measurement CB1230

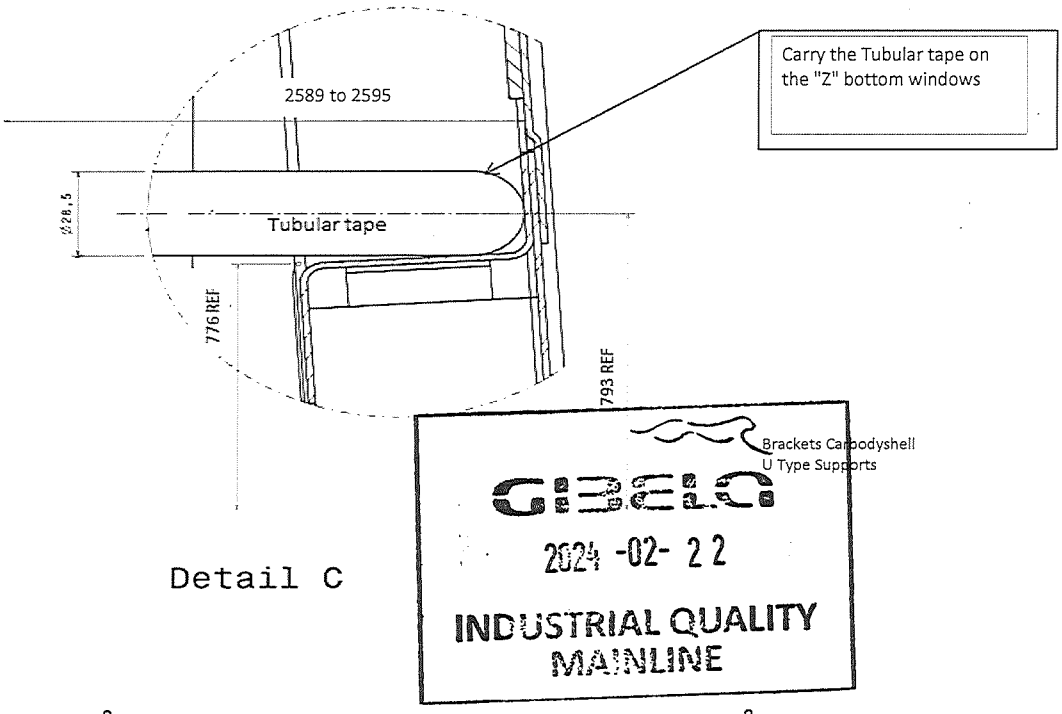
Twist measured in transversal and longitudinal = Maximum 3mm. Measure twist on air spring plates (LHS and RHS), both End 1 and End 2 folllowing twist measurement document.

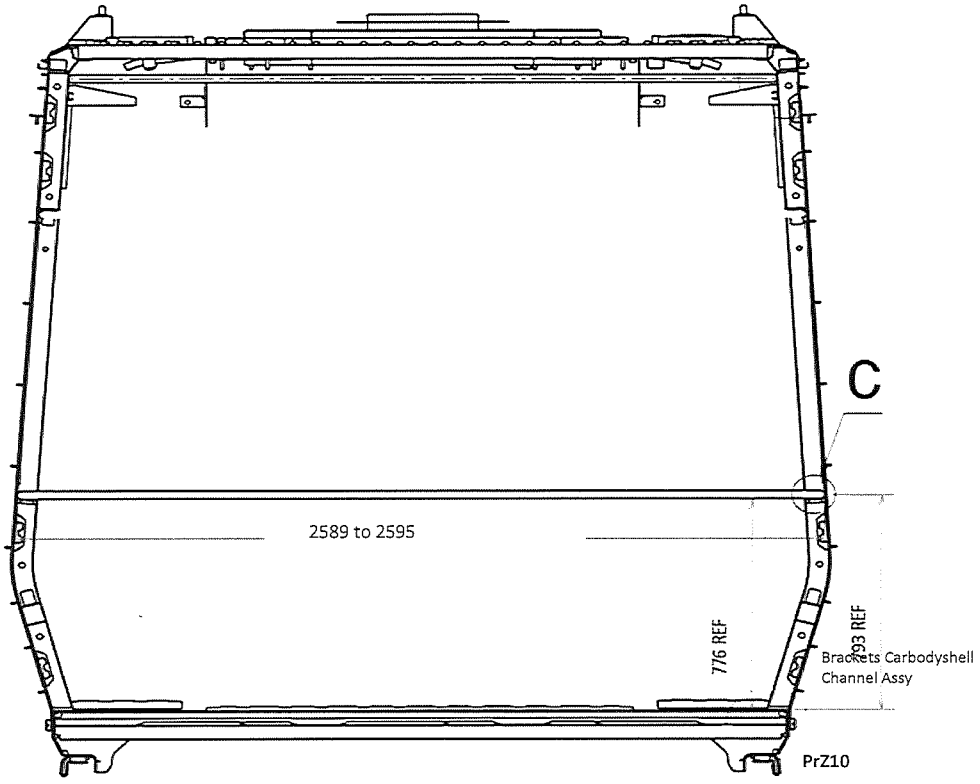


TWIST FOUND ON END 1	
TRANVERSE	3
LONGITUDINAL	2

TWIST FOUND ON END 2	
TRANVERSE	2
LONGITUDINAL	1

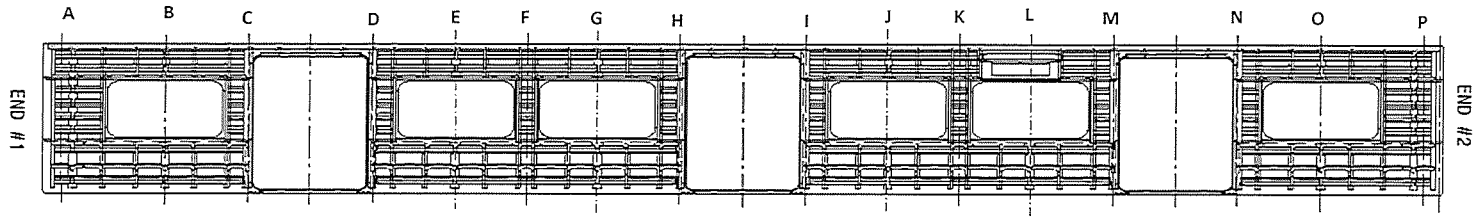
GIBELA
2024 -02- 22
INDUSTRIAL QUALITY
MAINLINE


2589 to 2595
Carry the Tubular tape on the "Z" bottom windows
Ø28,5
Tubular tape
776 REF
793 REF
Brackets Carbodyshell U Type Supports
Detail C
GIBELA
2024 -02- 22
INDUSTRIAL QUALITY
MAINLINE


C
2589 to 2595
776 REF
793 REF
Brackets Carbodyshell Channel Assy
PrZ10

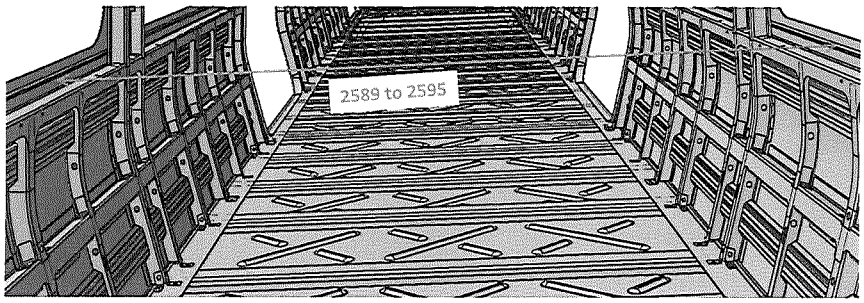
GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	SI.CB1230.277.V29

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

A	2595
B	2590
C	2588
D	2592
E	2590
F	2590
G	2588
H	2589
I	2593
J	2595
K	2596
L	2593
M	2595
N	2594
O	2590
P	2596



GIBELA
2024 -02- 22
INDUSTRIAL QUALITY
MAINLINE

Threashold verification

Nominal value :38

Door 1		Door 2		Door 3	
L	R	L	R	L	R
38	38	37	38	39	37

Door 4		Door 5		Door 6	
L	R	L	R	L	R
38	37	39	38	39	38

BOILER MAKER: Nonhlanhla

WELDER: Zanele

GIBELA
2024 -02- 22
INDUSTRIAL QUALITY
MAINLINE

Dye penetrant test

Dye-penetration test to be performed by quality personnel

GIBELA
2024 -02- 22
INDUSTRIAL QUALITY
MAINLINE

GIBELA	CARBODYSHELL M2 ASSEMBLY AA00001374497	Rev. 30	Project: PRASA
		Date 06/11/2023	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 -02- 22
INDUSTRIAL QUALITY
MAINLINE

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!	22/03/24	mmathapelo Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	22/03/24	Angelang 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

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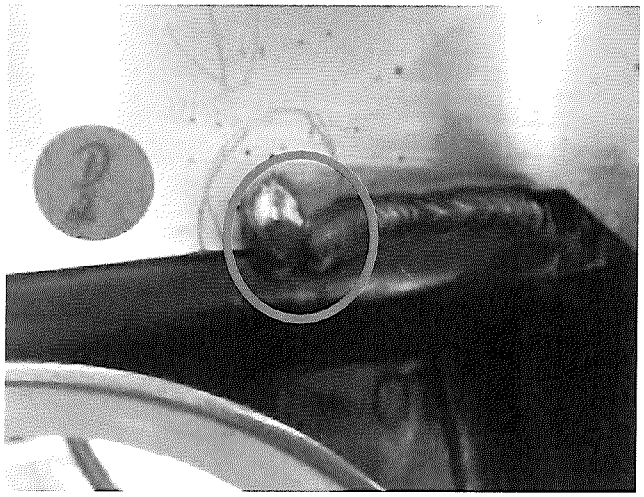
MAINLINE

ANNEXURE A: Arc Welding Quality Acceptance Standard



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