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	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY ?
DTR3022331 9/3	AAD0001241033	Carshell Assembly TC	CB2210	X					X	PRA.CB2210.DTR3022331 9/3.V25	YES

REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	09/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Thanyani Mathegu	06/04/2018
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	2018/06/18	MODIFICATION CONTENT	APPROVER	Itumeleng Modiba	2018/06/18
			CHECKER	Nosizo Pindela	2018/06/18
			REVISED BY	Ramokone Motama	2018/06/18
3	2018/12/12	Additional checkpoints	APPROVER	Itumeleng Modiba	2018/12/12
			CHECKER	Nosizo Pindela	2018/12/12
			REVISED BY	Ramokone Motama	2018/12/12
5	22/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	22/01/2019
			CHECKER	Nosizo Pindela	22/01/2019
			REVISED BY	Vanessa Ntuli	22/01/2019
6	2019/11/03	Record D1 and D2 on Self - Inspection	APPROVER	Itumeleng Modiba	2019/11/03
			CHECKER	Nosizo Pindela	2019/11/03
			REVISED BY	Nosizo Pindela	2019/11/03
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	19/04/2020	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	Mathapo Kelebone	
			REVISED BY	Mohlampe Amogelang	
28	07/11/2023	Addition of welding traceability	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
226	TC2	LAWRENCE 482999	08/05/24	SI.CB2210.322.V28	16

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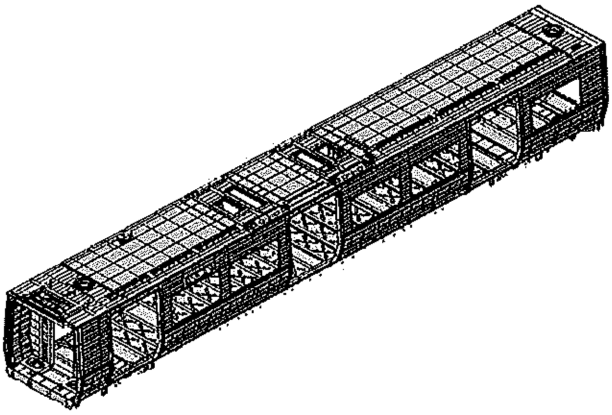
Car: TC1 & TC2

NCR:

Work station: CB2210

Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	TC1	M1	M2	M3	M4	TC2	Revision	Observation	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
	Type of car												
DTR30223319/3						✓	V28		✓		N/A	[signature]	[signature] 08/05/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
LAZER TAPE	1254259921	01/03/2024	✓		[signature] 08/05	
30 M TAPE	GIBTP0049	24/11/2023	✓		[signature] 08/05	[signature] 08/05/24
TUBULAR	32823-3	15/03/2024	✓		[signature] 08/05	

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	✓		[signature] 08/05	
ER 308 L	299687-70322	TIG	✓		[signature] 08/05	[signature] 08/05/24
ER 309 LSI	316283-73957	MIG	✓		[signature] 08/05	

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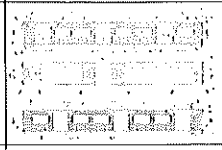
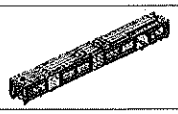
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK			Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls,Endframes,Roof and Underframe)	DT00000284980	✓			08/05/24	08/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓			08/05/24	08/05/24
03		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			08/05/24	08/05/24
04	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	**IND-SAL-WMS-016 e DTD0000210675**	✓			08/05/24	08/05/24
05	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			08/05/24	08/05/24
06		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			08/05/24	08/05/24
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.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658	✓			08/05/24	08/05/24

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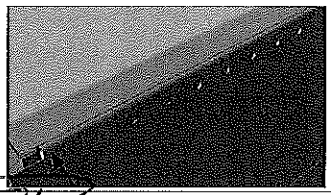
Welder traceability

Roof ring welds



LHS

Boiler maker (Name & Sign): _____ Welder (Name & Sign): _____

RHS

Boiler maker (Name & Sign): _____ Welder (Name & Sign): _____

END 1

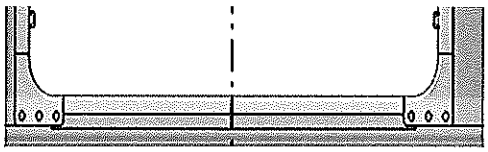
LHS

Boiler maker (Name & Sign): _____ Welder (Name & Sign): _____

RHS

Boiler maker (Name & Sign): _____ Welder (Name & Sign): _____

END 2



LHS

Boiler maker (Name & Sign): _____

Welder (Name & Sign): _____

RHS

Boiler maker (Name & Sign): _____

Welder (Name & Sign): _____

GIBELO	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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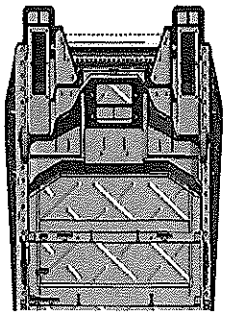
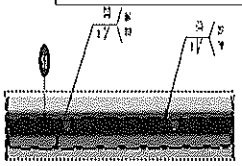
EUF Reinforcement Plates

END 2



Underneath the CAR



END 2

Boiler maker (Name & Sign): _____

Welder (Name & Sign): _____

FEDOLI

Operator:

GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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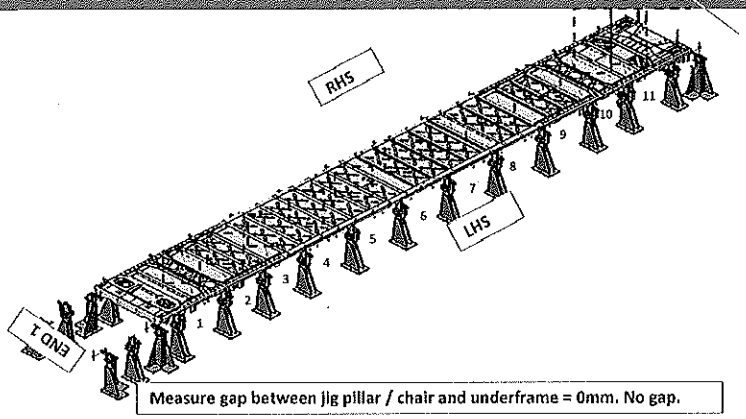
Specifications of Details for CBS measurement



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

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

After Loading Underframe and Clamping.

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

Signature Operations: Date: 08/05/24

After Welding.

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

Signature Industrial Quality: Date:

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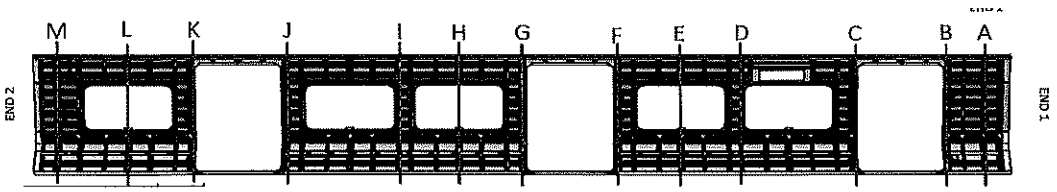
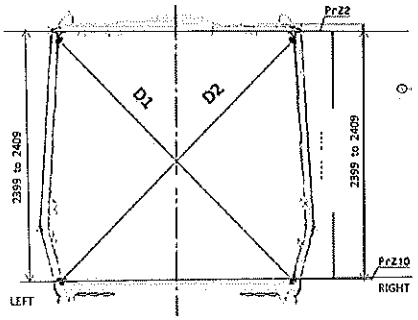
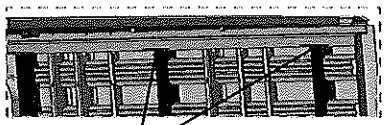
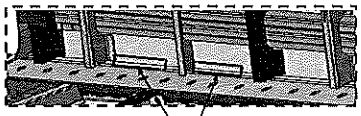
Specifications of Details for CBS measurement



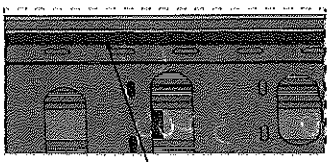




Measurement positions on roof rail and sidewall omega corner.



Measurement positions on sidewall and side sill corner.



Reinforcement area measurement positions on roof reinforcement area.

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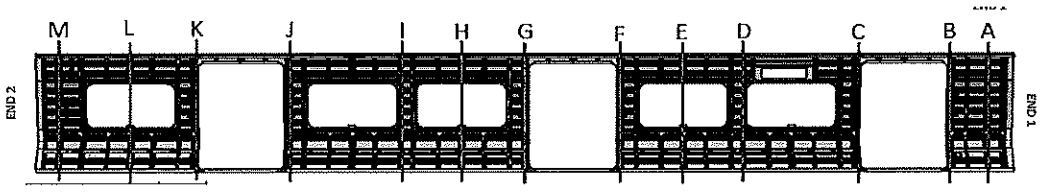
Specifications of Details for CBS measurement

BEFORE WELDING



PME: 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	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3767	3768	1	2404	2405	1
B	3768	3768	0	2404	2404	0
C	3765	3765	0	2405	2406	1
D	3767	3767	0	2404	2404	0
E	3765	3766	1	2406	2406	0
F	3766	3766	0	2404	2405	1
G	3767	3767	0	2405	2405	0
H	3766	3766	0	2404	2404	0
I	3766	3768	2	2405	2406	1
J	3767	3768	1	2405	2405	0
K	3767	3766	1	2404	2404	0
L	3766	3767	1	2405	2404	1
M	3767	3767	0	2404	2404	0

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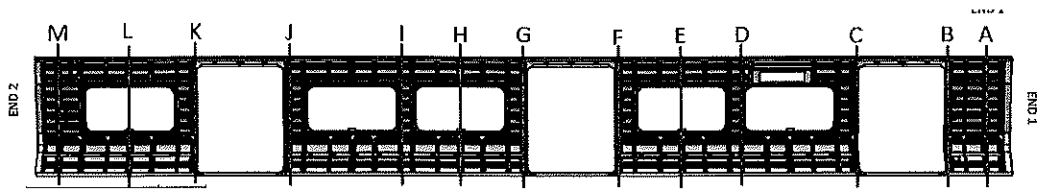
Specifications of Details for CBS measurement

AFTER WELDING



PME: 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	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3767	3768	1	2404	2405	1
B	3292	3293	1	2404	2404	0
C	3292	3292	0	2405	2406	1
D	3767	3767	0	2404	2404	0
E	3765	3766	1	2406	2406	0
F	3294	3293	1	2404	2405	1
G	3293	3293	0	2405	2405	0
H	3766	3766	0	2404	2404	0
I	3766	3768	2	2405	2406	1
J	3294	3293	1	2405	2405	0
K	3292	3292	0	2404	2404	0
L	3766	3767	1	2405	2404	1
M	3292	3292	0	2404	2404	0

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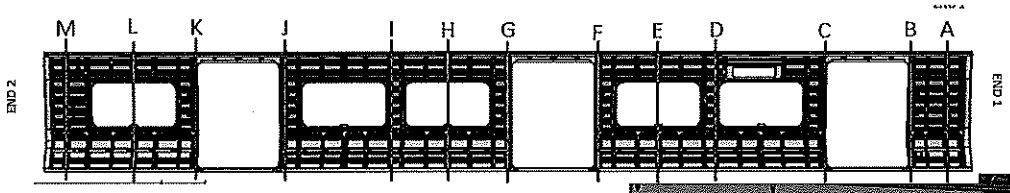
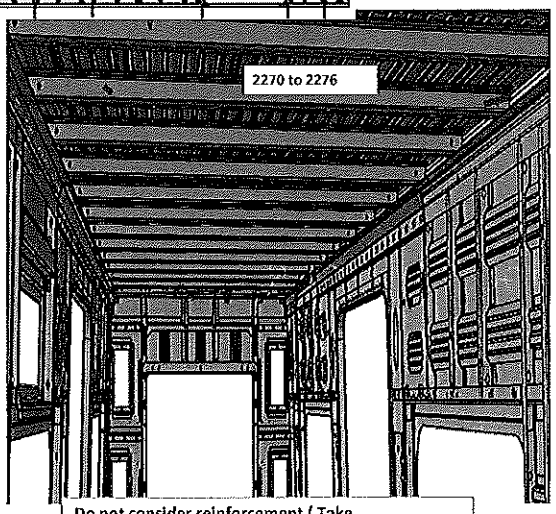
CBS measurement

BEFORE WELDING



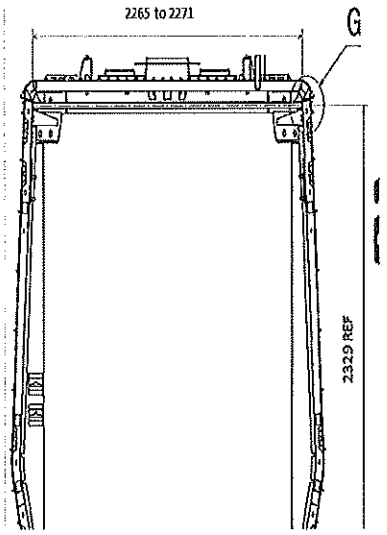


Do not consider reinforcement (Take measurements top area of zee profile

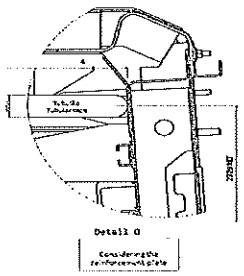
2270 to 2276

2268 a 2274

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



2265 to 2271



GIBELA	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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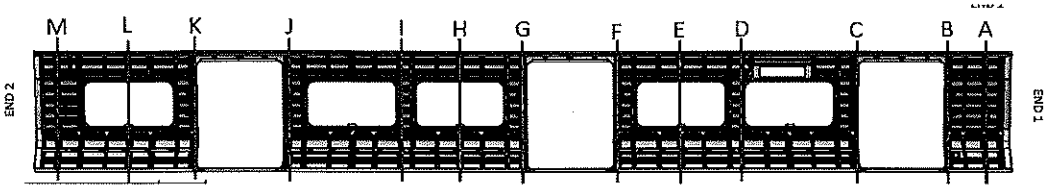
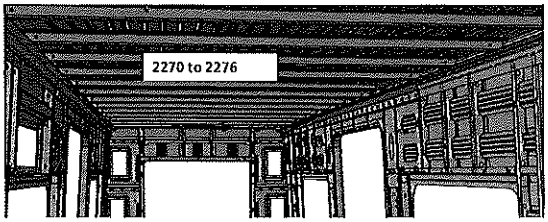
Specifications of Details for CBS measurement

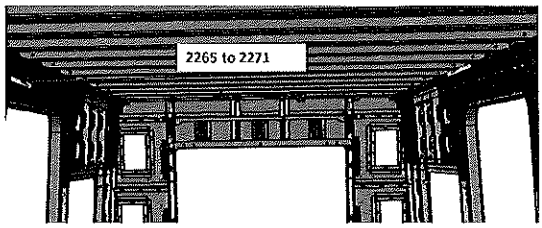
AFTER WELDING



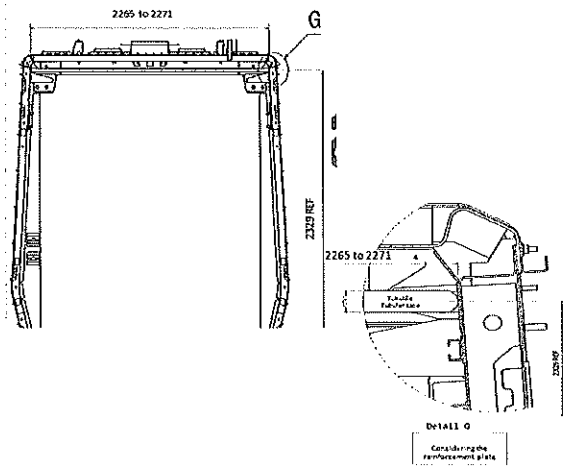
	2265 to 2271	2270 to 2276
A	N/A	2271
B	2267	N/A
C	2266	N/A
D	N/A	2273
E	N/A	2274
F	2270	N/A
G	2269	N/A
H	N/A	2270
I	N/A	2275
J	2270	N/A
K	2267	N/A
L	N/A	2270
M	2268	N/A



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



Take measurement close to radius (considering reinforcement)



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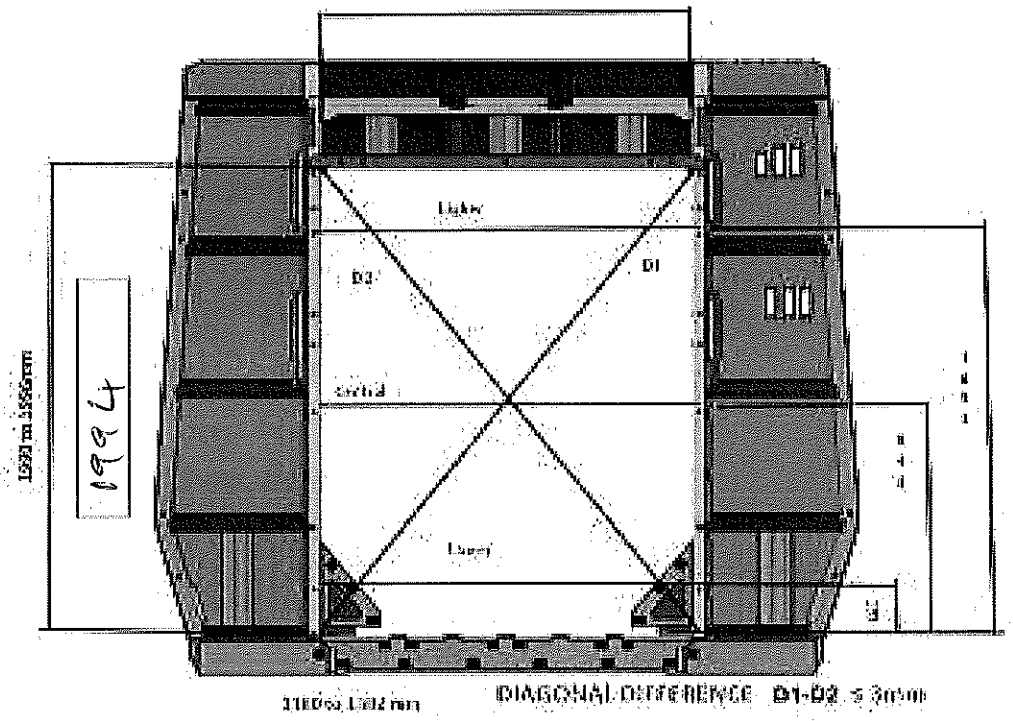
Specifications of Details for CBS measurement

Endframe 2



DIAGONAL DIFFERENCE D1-D2 ≤ 3(mm)

Higher Diameter	1380
Central Diameter	1381
Lower Diameter	1380

D1	2415
D2	2415
D1-D2	0

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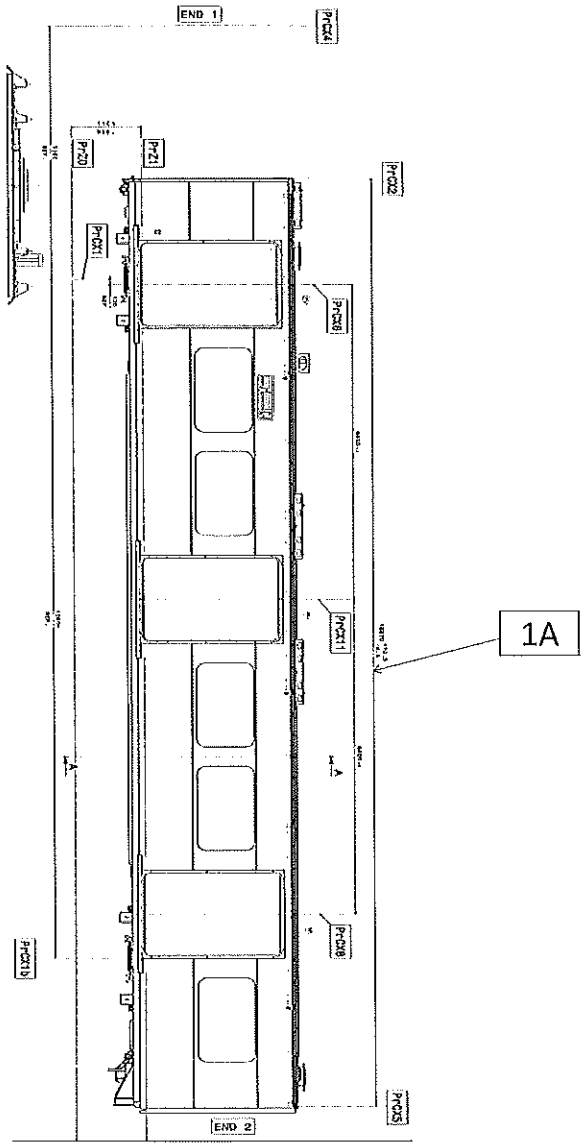
Specifications of Details for CBS measurement



	LEFT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	18870 +10.5 -4.5	18872

	RIGHT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	18870 +10.5 -4.5	18872

Dye penetrant test

Dye-penetration test to be performed by quality personnel

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

II.2 - Check List REX

Check List Items

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

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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!	08/05/24	LAWRENCE Operations	
			Every auto inspection performed conforms to specification or In case of discrepancy the same is approved by the competent party.)	08/05/24	Richmond 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)		Quality	

In case of "NO GO", describe blocking problems

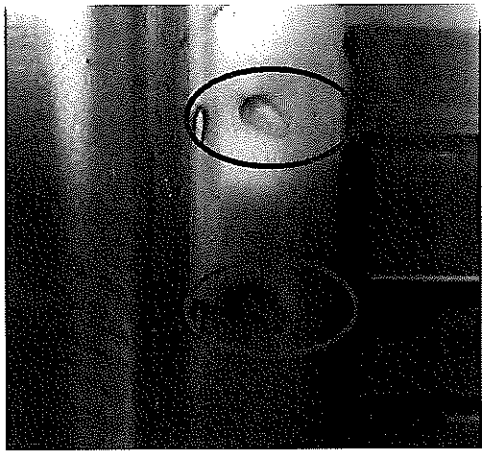
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

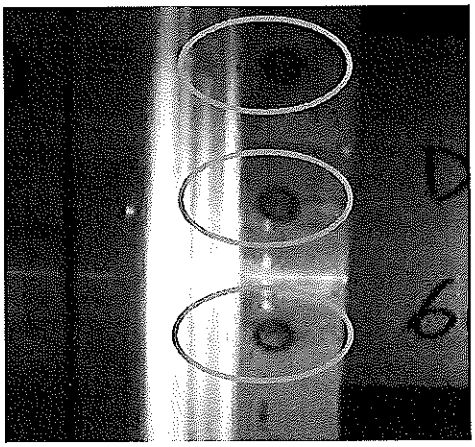
Item	Description	Action	Responsible	Due date	Status

Operations

Quality

ANNEXURE A: Spot 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	M6	M1	M2	M3	TC2	WORK INSTRUCTION	SAFETY !
DTR3022331/2	AADX0031241033	Corshell Assembly TC	CB2220	X					X	PRA.CB2220.DTR3022 3319/2.V20	YES

REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	09/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Thanyani Mathegu	06/04/2018
1	23/05/2018	Team leader and Quality Technician to sign final signature from PME Manager to Quality manager Change	APPROVER	Itumeleng Modiba	23/05/2018
			CHECKER	Nosizo Pindela	23/05/2018
			REVISED BY	Ramokone Motama	23/05/2018
2	05/07/2018	Certain dimensional checks added and others moved to CB1210 and CB1230	APPROVER	Itumeleng Modiba	05/07/2018
			CHECKER	Nosizo Pindela	05/07/2018
			COMPILER	Ramokone Motama	05/07/2018
3	2018/06/12	Certain dimensional checks added and others moved to CB1210 and CB1230	APPROVER	Itumeleng Modiba	2018/06/12
			CHECKER	Nosizo Pindela	2018/06/12
			COMPILER	Ramokone Motama	2018/06/12
5	24/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	24/01/2019
			CHECKER	Nosizo Pindela	24/01/2019
			COMPILER	Vanessa Ntuli	24/01/2019
6	13/03/2019	Added D1 and D2 on Self - Inspection length measurements Remove	APPROVER	Itumeleng Modiba	13/03/2019
			CHECKER	Nosizo Pindela	13/03/2019
			COMPILER	Nosizo Pindela	13/03/2019
7	20/05/2019	Removed roof width	APPROVER	Itumeleng Modiba	20/05/2019
			CHECKER	Nosizo Pindela	20/05/2019
			REVISED BY	Nosizo Pindela	20/05/2019
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 10.2.6	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	Mulaudzi Mpho	
			REVISED BY	Mulaudzi Mpho	
25	20/02/2022	New Baseline 10.2.6	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	NtokozoZwane	
			REVISED BY	Amegelang Mohlampe	
28	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokozo Zwane	
			REVISED BY	Amegelang Mohlampe	

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
226	TC2	Mashudu 410041	09/05/24	SI.CB2220.323.V28	17

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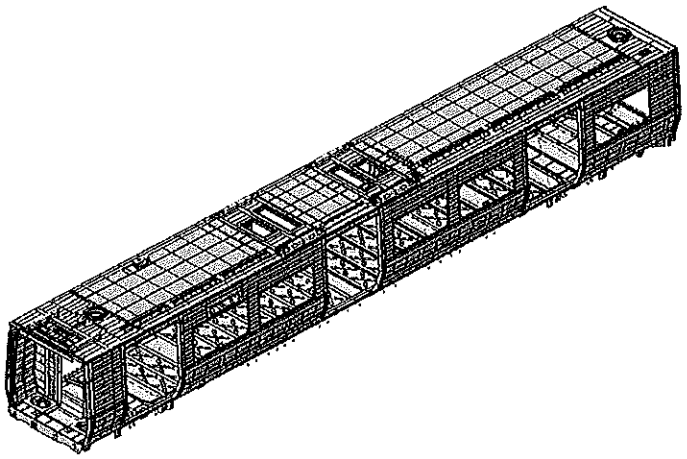
Carro Car: TC1, TC2	NCR:	Work station: CB2220

Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car TC1	M1	M2	M3	M4	TC2	Revision	Observation	OK	N.A.	Comm.	Signature/Date (Manufacturing)	Signature/Date (Quality)
DTR30223319/2						✓			✓		N/A	[redacted] 09/01/24	09/01/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK	N.A.	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular	3283-2	15/03/2025	✓		[redacted]	09/01/24
Measuring tape	GIBTM428	2026/04/17	✓		[redacted]	

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	373773	M16	✓		[redacted]	09/01/24

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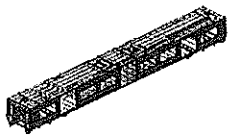
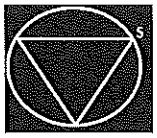
II - Control Activities of Prodution

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	N/A	Remark	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB2220.DTR30225407/2 Verification of fitment for all reinforcement brackets.	DTR30223319/2	✓			09/05/24	09/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓			09/05/24	09/05/24
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	**IND-SAL-WMS-016 e DTD0000210675**	✓			09/05/24	09/05/24
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	**IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000**	✓			09/05/24	09/05/24
05		Cleaning of all Stainless Steel Surface	**According TO GIB-WEL - PROC-0002**	✓			09/05/24	09/05/24
06	N/A	Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			09/05/24	09/05/24
07		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	✓			09/05/24	09/05/24
08	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 (I) : Min-Max 10°C - 35°C; Relative humidity Min - Max (I) : Min-Max 25% - 60%	Sealant Batch No: 18/10/05 Exp Date: 09/06/24 Actuals Temperature: 25°C Humidity: 45%	✓			09/05/24	09/05/24

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09	NA	Verification of sealant application in certain regions in the drawing.	AAD0001241033	✓			09/05/24	09/05/24
10	NA	Verification of sealant application on the roof and sidewall finishers	Sealant must be: -Applied straight and even (1.5mm) -Free of gaps,cracks,damage and debris (flashes, dirt, dust) **Refer to Annexure B**	✓			09/05/24	09/05/24

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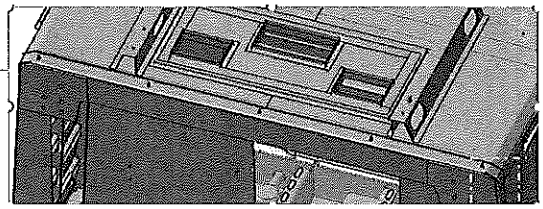
END 1
SEALANT

OPERATOR
(Name & sign): Priscilla

OPERATOR
(Name & sign): Priscilla



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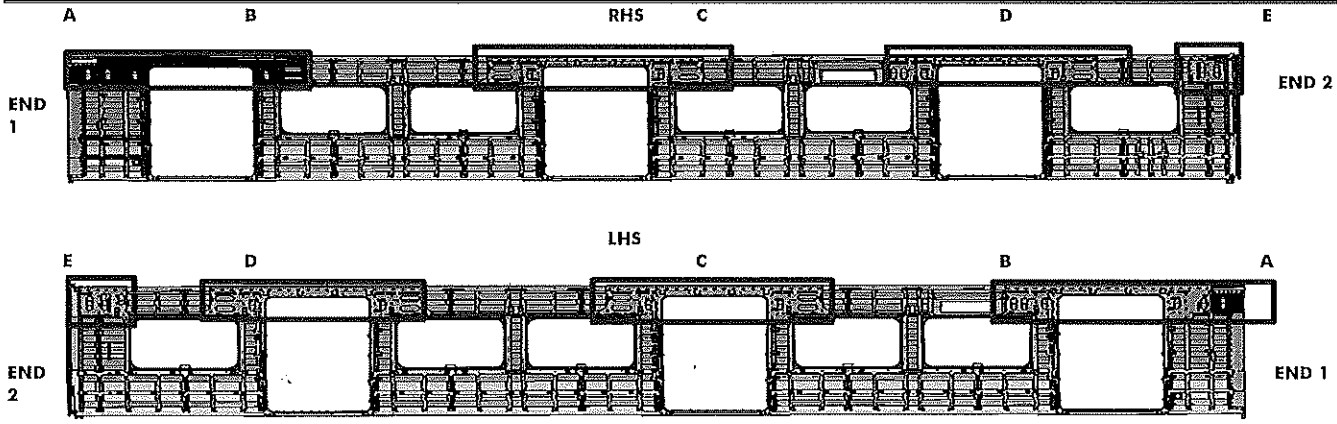

REINFORCEMENT WELDING

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

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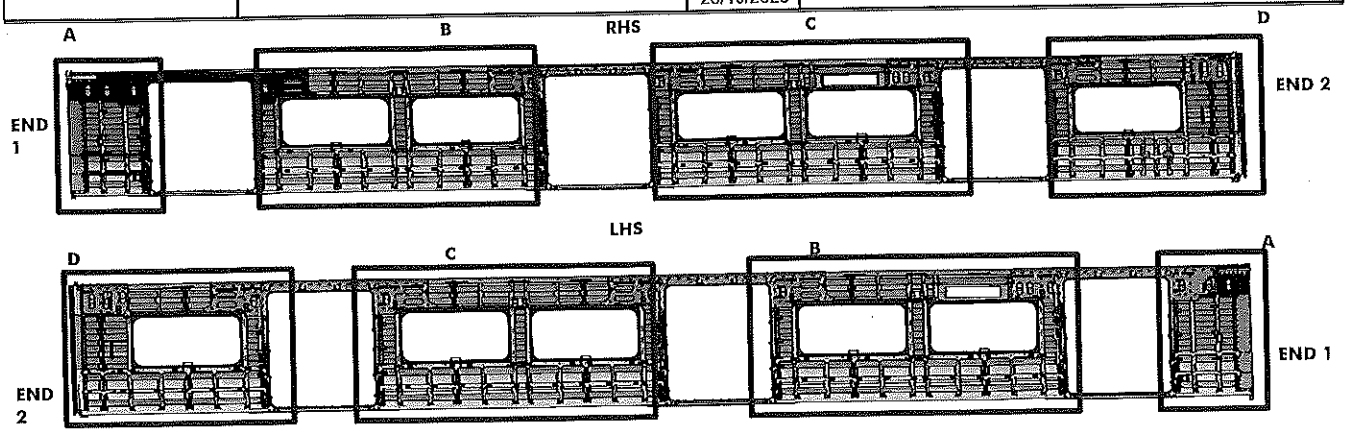

BRACKETING

		INSTALLATION
C-RAILS:	Operator:	Tetelo
	Operator:	
DOOR MECHANISMS:	Operator:	Leah
	Operator:	
TAPPING PADS	Operator:	Priscilla
	Operator:	

		INSTALLATION & VERIFICATION
SEAT & LUGGAGE BRACKETS:	Operator:	
	Operator:	
SEAT BRACKETS VERIFICATION:	Operator:	
	Operator:	

WELDING

AREA		LHS	RHS
A	(~~Seat~~ brackets) : Operator (Name&sign):	LINDA	LINDA
	(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):	Thulani	THULANI
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):		
D	(Seat brackets) Operator (Name&sign):	Sibiya	THULANI
	(C-rails, Luggage and earth bushes) : Operator (Name&sign):	Sbiya	

GIBELA	DTR30223319/2 Carsheli Assembly TC	Rev. 29	Project: PRASA
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ENDS

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

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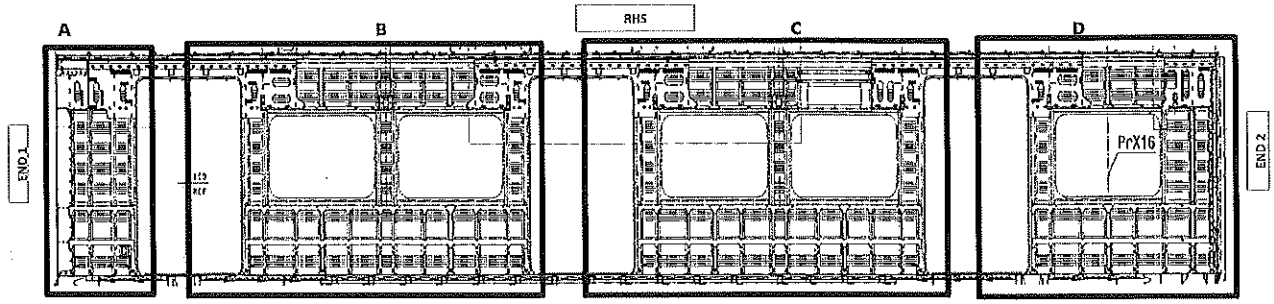
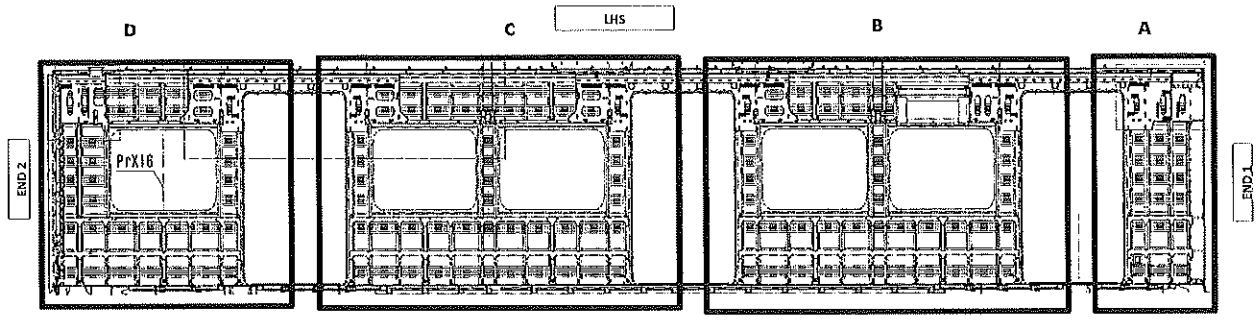
TC BRACKET INSTALLATION

RHS



LHS



QUANTITIES (TC)

RHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	4	✓	
	B	4	✓	
	C	8	✓	
	D	12	✓	
SEAT BRACKETS	A	0	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	1	✓	
	B	4	✓	
	C	5	✓	
	D	4	✓	

ROOF ENDS:

CRAILS 2 OFF END 2
EARTH BUSH 4 OFF END 2

VERIFICATION BY: Tetelo

LHS

	SECTION	QUANTITY	OK	NOK
C-RAILS	A	4	✓	
	B	8	✓	
	C	4	✓	
	D	6	✓	
SEAT BRACKETS	A	0	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	1	✓	
	B	4	✓	
	C	4	✓	
	D	2	✓	

ROOF ENDS:

CRAILS 2 OFF END 2
EARTH BUSH 4 OFF END 2

VERIFICATION BY: Tetelo

GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
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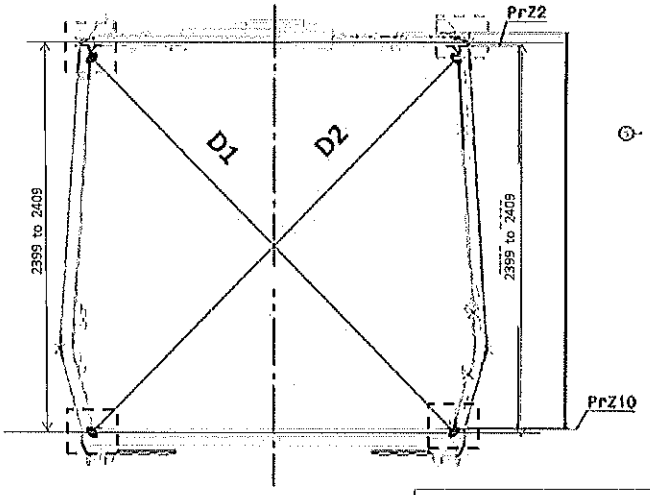
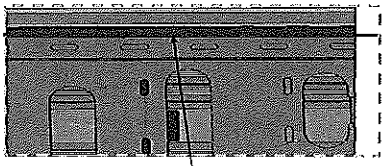
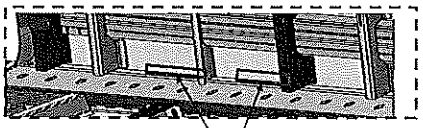


Take measurement close to radius

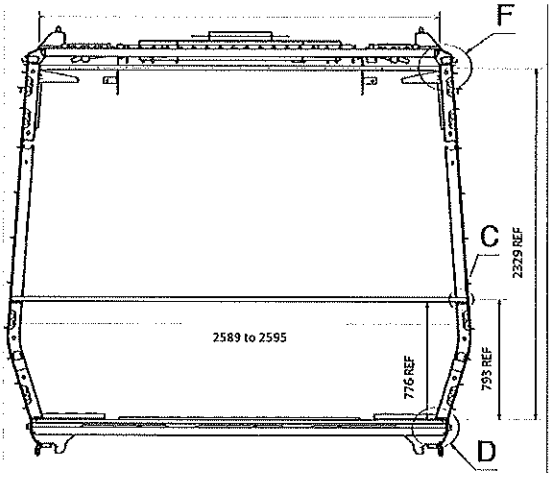
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.



Measurement positions on sidewall and side sill corner.



Take measurement close to radius

GIBELO	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
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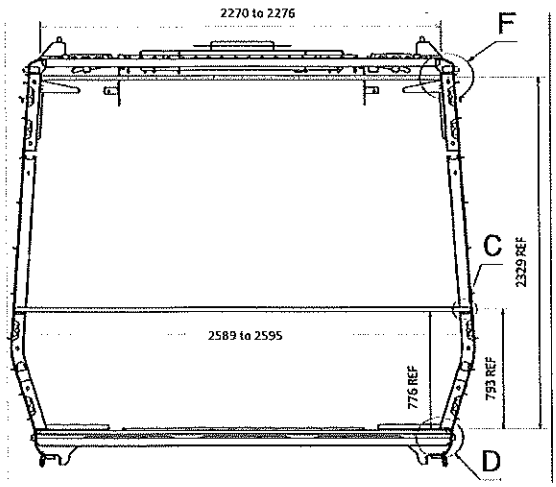
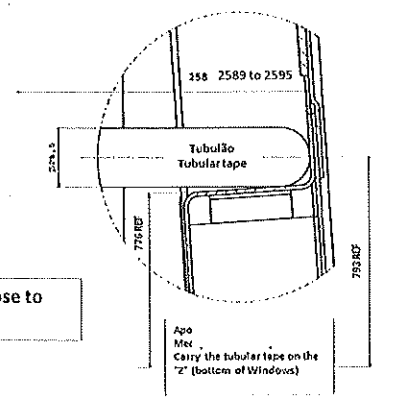
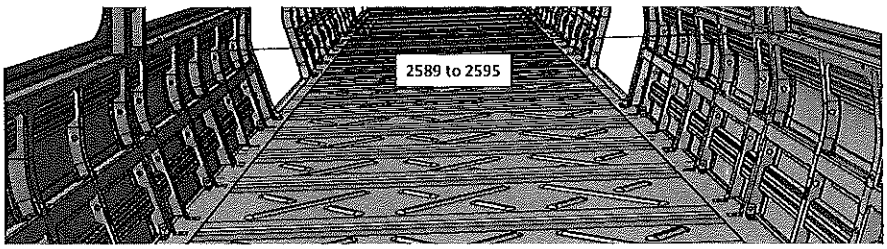
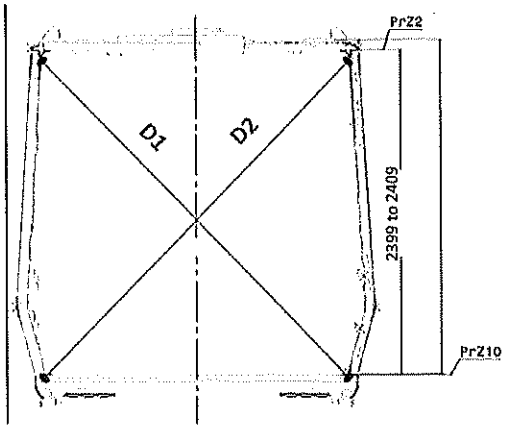


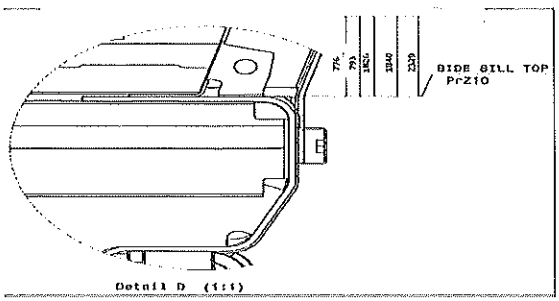
Take measurement close to radius



Detail C







GIBELA	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA
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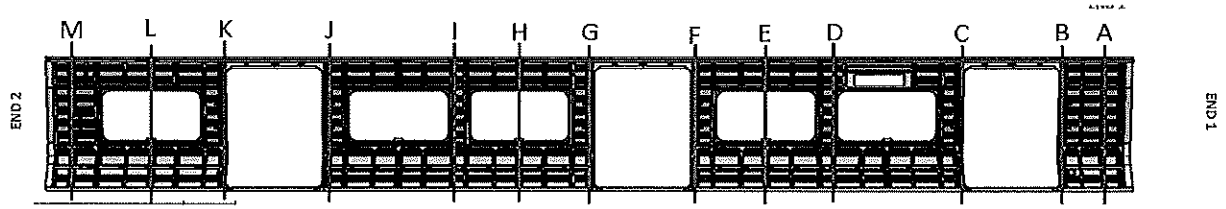

BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3267	3265	2	
B	3297	3296	1	
C	3299	3300	1	
D	3267	3266	1	
E	3265	3267	2	
F	3300	3297	3	
G	3298	3296	2	
H	3269	3267	2	
I	3266	3268	2	
J	3297	3299	2	
K	3298	3296	2	
L	3265	3267	2	
M	3295	3297	2	

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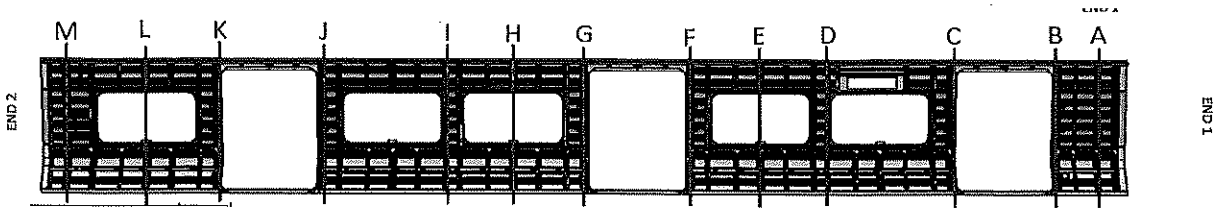

AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3268	3266	2	2590
B	3299	3297	2	2591
C	3297	3300	3	2592
D	3266	3268	2	2591
E	3267	3266	1	2592
F	3295	3296	1	2593
G	3294	3296	2	2594
H	3268	3269	1	2592
I	3265	3266	1	2593
J	3299	3298	1	2592
K	3296	3297	1	2593
L	3266	3267	1	2592
M	3297	3298	1	2593

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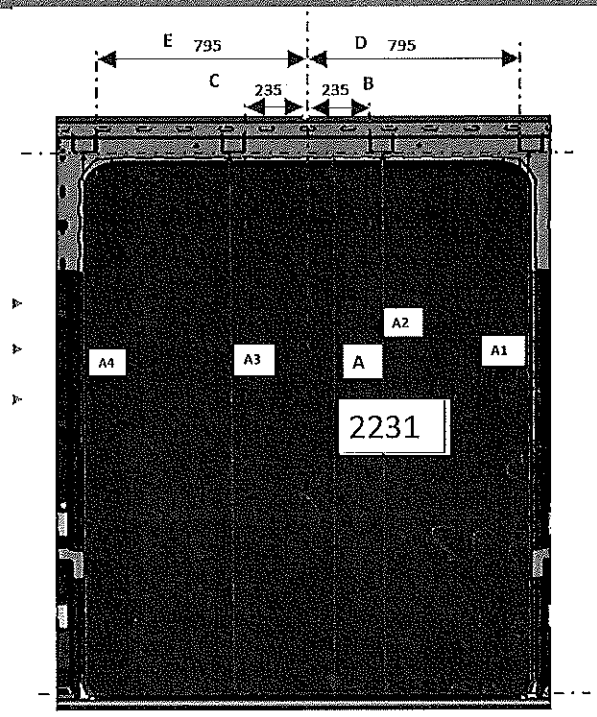
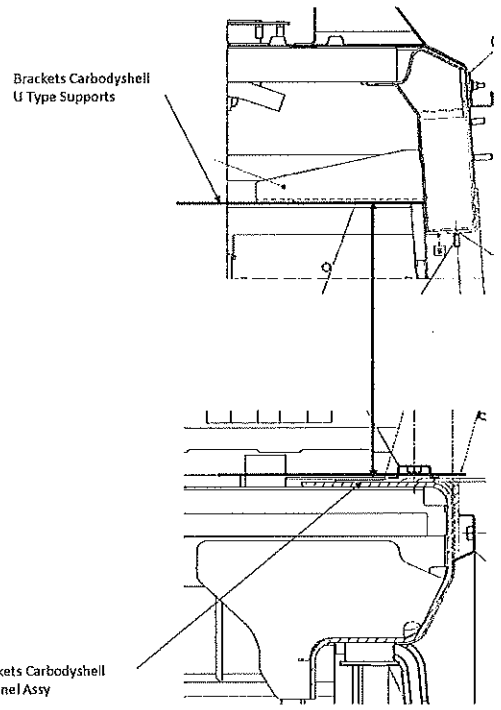
Specifications of Details for CBS measurement





DOOR 1 - LHS

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

DOOR 2 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	2232
A2	2230 to 2232	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	794

DOOR 3 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	2234
A2	2230 to 2232	2233
A3	2230 to 2232	2233
A4	2230 to 2232	2233
B	234 to 236	235
C	234 to 236	234
D	794 to 796	796
E	794 to 796	795

DOOR 1 - RHS

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

DOOR 3 - RHS

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

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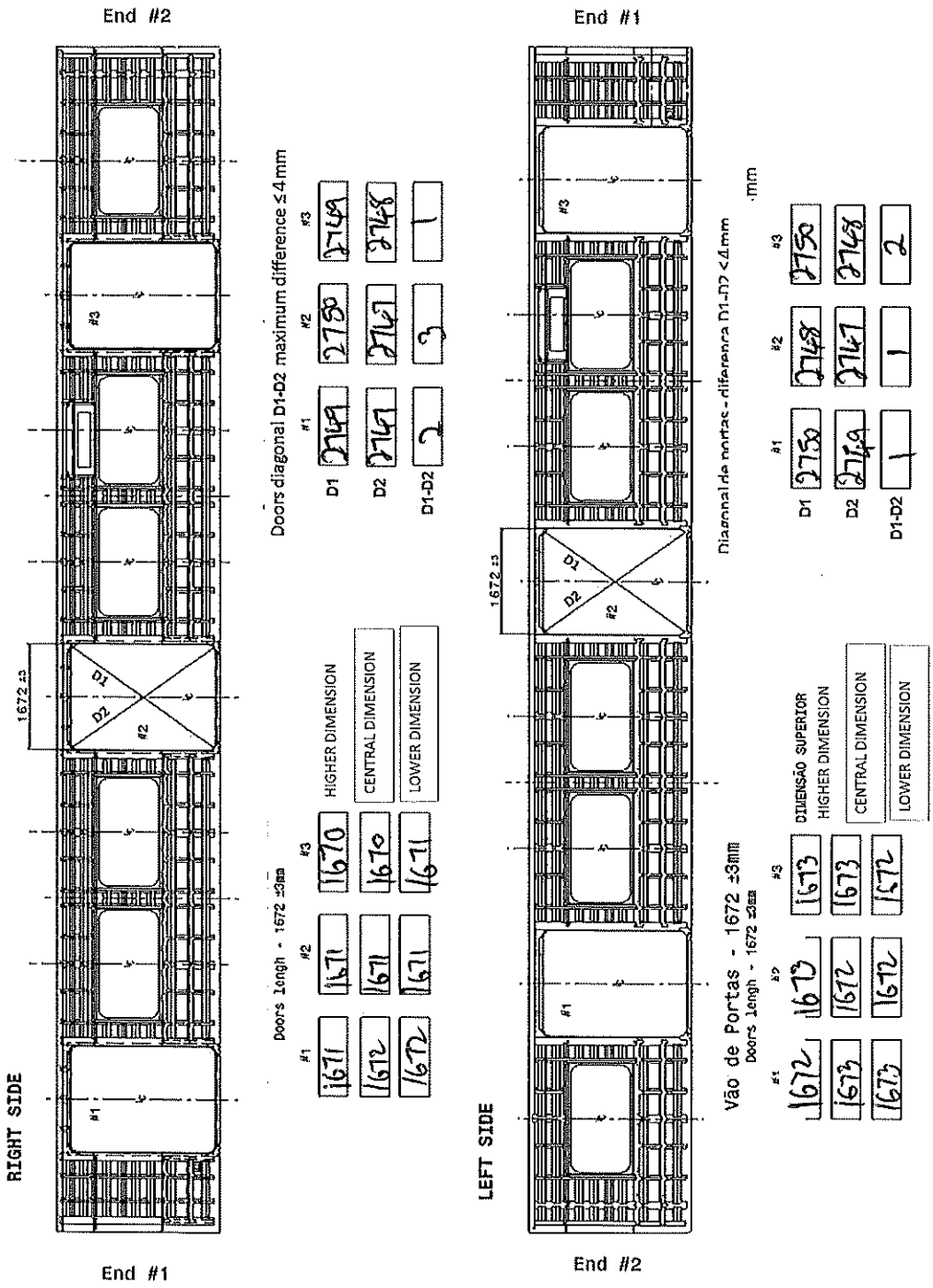
Specifications of Details for CBS measurement



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Specifications of Details for CBS measurement

Dye penetrant test

Dye-penetration test to be performed by quality personnel

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

II.2 - Check List REX

Check List Items

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

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		Date- 28/10/2023	SI.CB2220.323.V29

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!	09/05/24	Mashudu Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	09/05/24	Matshaya Kelebone 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

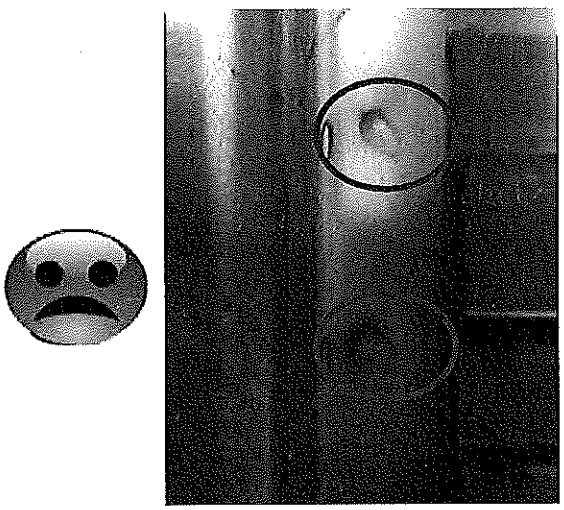
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

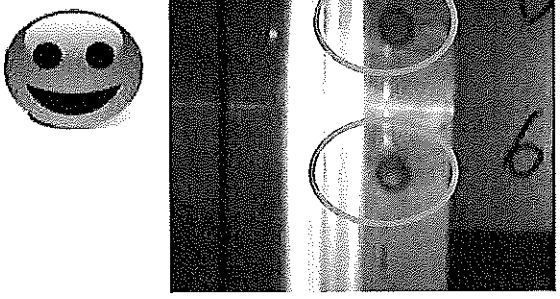
Item	Description	Action	Responsible	Due date	Status

Operations

Quality

ANNEXURE A: Spot 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	M1	M2	M2	TC2	WORK INSTRUCTION	SAFETY?
DT00000223319	AAD0001238963	DT00000223319 Carshell Assembly TC	CB2230	X					X	PRA.CB2230.DT000001 223319.V20	YES

REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	06/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILER	Thanyani Mathegu	06/04/2018
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	05/07/2018	Certain dimensional checks moved to CB1220	APPROVER	Itumeleng Modiba	05/07/2018
			CHECKER	Nosizo Pindela	05/07/2018
			COMPILER	Ramokone Motama	05/07/2018
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
			COMPILER	Nosizo Pindela	13/03/2019
7	17/09/2019	Added Cab Fire Barrier Flatness Measurements	APPROVER	Itumeleng Modiba	17/09/2019
			CHECKER	Nosizo Pindela	17/09/2019
			COMPILER	Nosizo Pindela	17/09/2019
10	20/09/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	20/09/2019
			CHECKER	Nosizo Pindela	20/09/2019
			COMPILER	Nosizo Pindela	20/09/2019
15	28/01/2021	New Baseline 10.2.6	APPROVER	Timothy Maimela	28/01/2021
			CHECKER	Bongane Masina	28/01/2021
			COMPILER	Bongane Masina	28/01/2021
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	19/04/2021
			COMPILER	Bongane Masina	19/04/2021
25	20/04/2022	New Baseline change 10.3.1	APPROVER	Collins Mbhombhi	20/02/2022
			CHECKER	Andani Muthelo	20/02/2022
			COMPILER	Andani Muthelo	20/02/2022
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Collins Mbhombhi	14/06/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
27	27/07/2022	Threashold measurements addition	APPROVER	Collins Mbhombhi	26/07/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
28	19/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mbhombhi	19/10/2022
			CHECKER	Ntokozo Zwane	
			COMPILER	Amogelang Mohlampe	
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokozo Zwane	
			COMPILER	Amogelang Mohlampe	

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
226	TC2	Sihle 426955	13/05/24	SI.CB2230.324.V29	12

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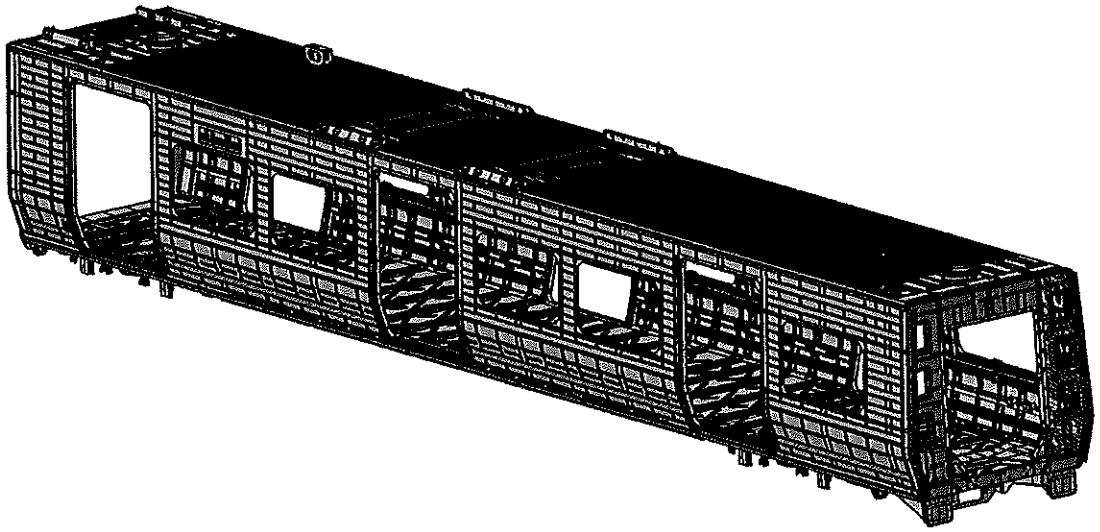
Carro / Car:	NCR:	Work station:	CB2230

Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car TC1	M1	M2	M3	M4	TC2	Revision	Observation	OK	NOK	Remarks	Signature/Date (Operations)	Signature/Date (Quality)
DT00000223319						X	24		OK		N/A	13/05/24	13/05/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Tubular	22713	26/04/24	OK		13/05/24	13/05/24
Measuring Tape	GIB 0794	25/04/24	OK		13/05/24	13/05/24
Combination Square	GIB 0072	27/07/24	OK		13/05/24	13/05/24

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308LSi	314018	Mig Welding	OK		13/05/24	13/05/24
ER 308 L	2277704	Tig Welding	OK		13/05/24	13/05/24

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II - Control Activities of Prodution

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Rej.	Comm.	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº DT00000223319	DT00000223319	OK			13/05/24	13/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	OK			13/05/24	13/05/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 DTD0000210675	OK			13/05/24	13/05/24
04	N/A	Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	OK			13/05/24	13/05/24
05	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	OK			13/05/24	13/05/24
06	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: ISR 70-03 Exp Date: ____ / 06 / 24 Actuals Temparature: 29°C Humidity: 51%	OK			13/05/24	13/05/24
07	N/A	Verification of sealant application in regions of roof and sideframe finishers.	Sealant must be: -Applied straight and even (1.5mm) -Free of gaps,cracks,damage and debris (flashes, dirt, dust) Refer to Annexure B	OK			13/05/24	13/05/24

GIBELA	DT00000223319 Carshell Assembly TC	Rev. 29	Project: PRASA
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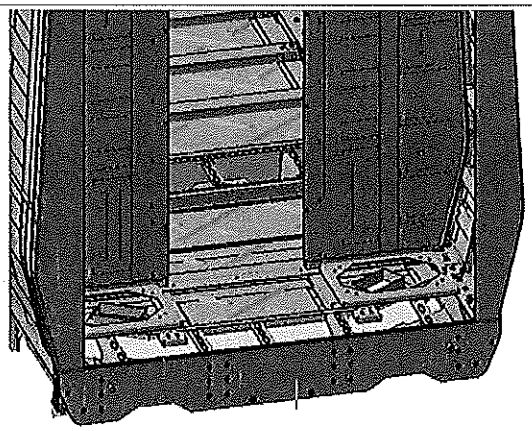
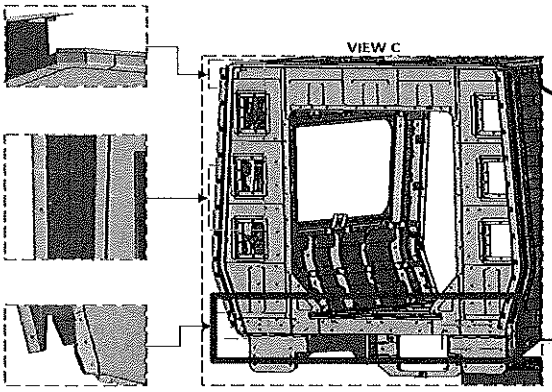
VIEW A



END 1 SEALANT

OPERATOR (Name & sign): Siwle

OPERATOR (Name & sign): Tshewolo Siwle

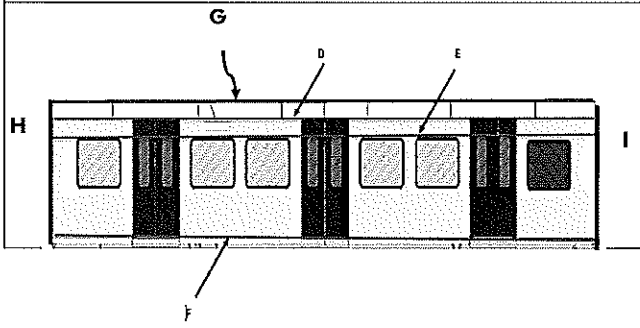


END 2 SEALANT (VIEW C)

OPERATOR (Name & sign): LEROY

OPERATOR (Name & sign): LEROY

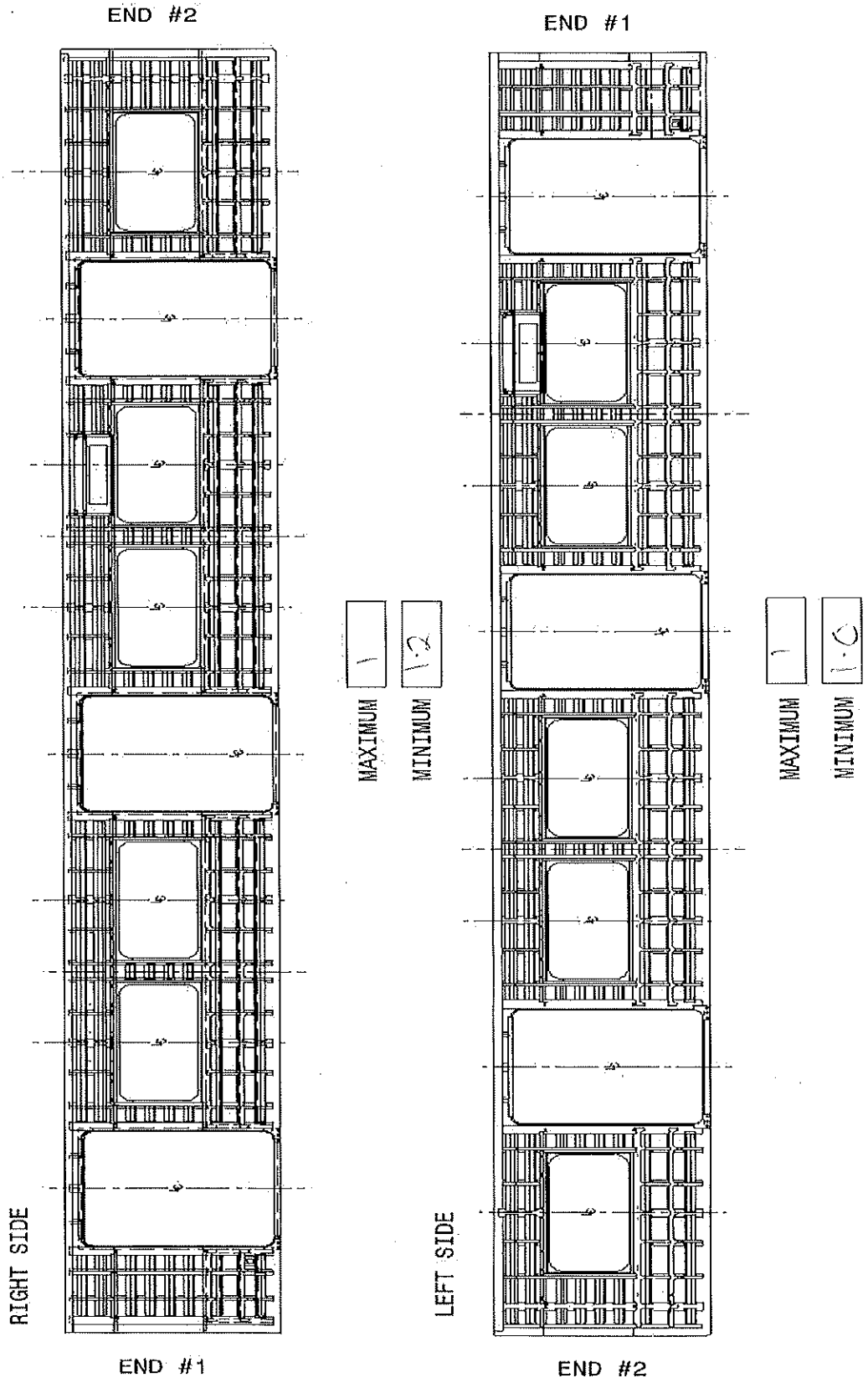
OPERATOR (Name & sign): LEROY



Area D,E,F,G,H,I	LHS	RHS
Operator(Name & sign) :	D.E.F.G.H.I	D.E.F.G
Operator (Name & sign) :	Siwle	Lerato
Operator (Name & sign) :		Buhle
Operator (Name & sign) :	Tshewolo	(H I)
Operator (Name & sign) :	Tmotal	Siwle
Operator (Name & sign) :	/	

Specifications of Details for CBS measurement CB2230

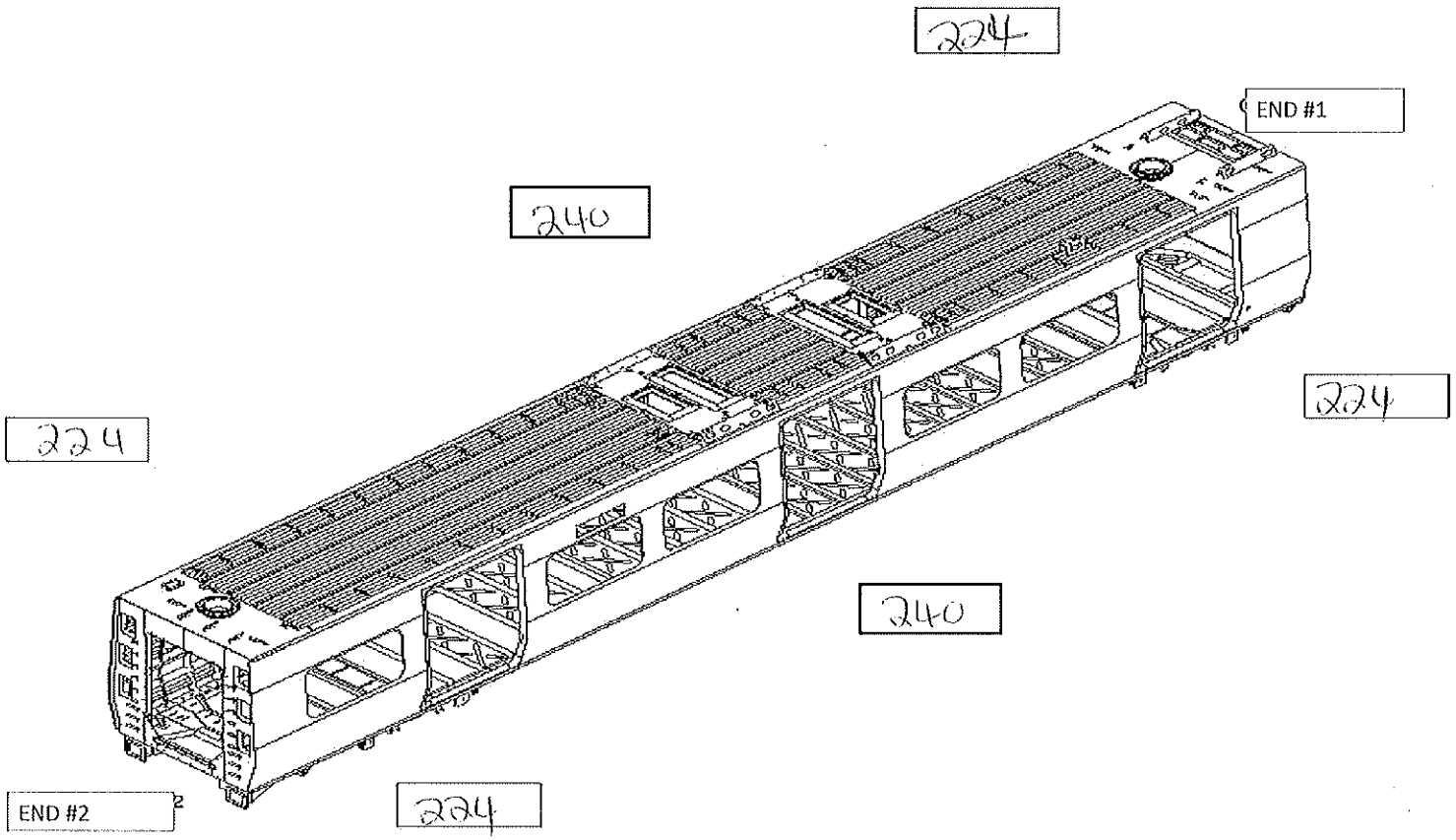
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm.
Recod the maximum and minimum value foundand indicate the corresponding region.



GIBELA	DT00000223319 Carshell Assembly TC	Rev. 29 Date- 14/04/2023	Project: PRASA SI.CB2230.324.V29

Specifications of Details for CBS measurement CB2230

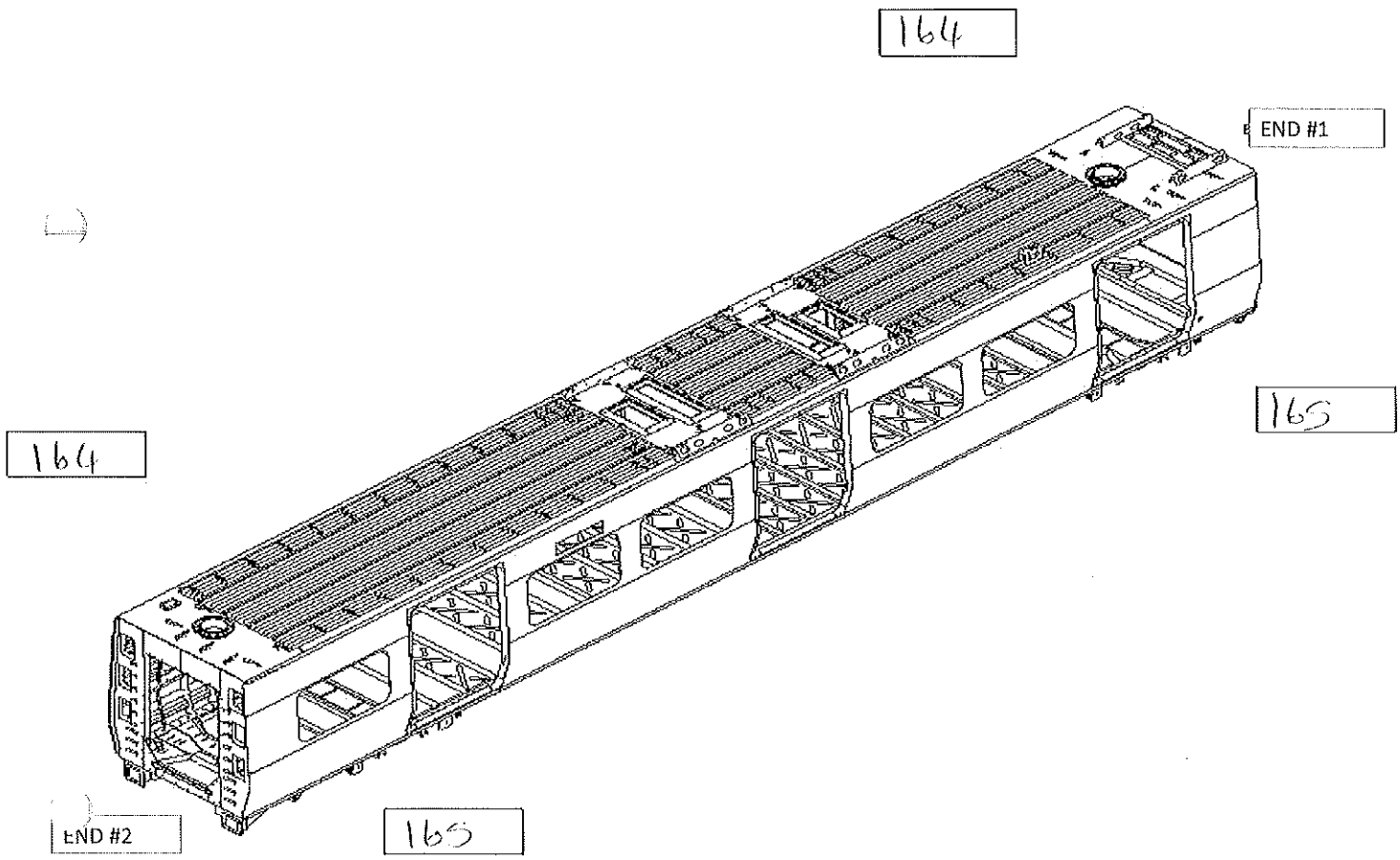
Specified Camber for car out of jig is 16mm (-0mm + 2mm)



MEASURED CAMBER VALUES	
RIGHT	16
LEFT	16

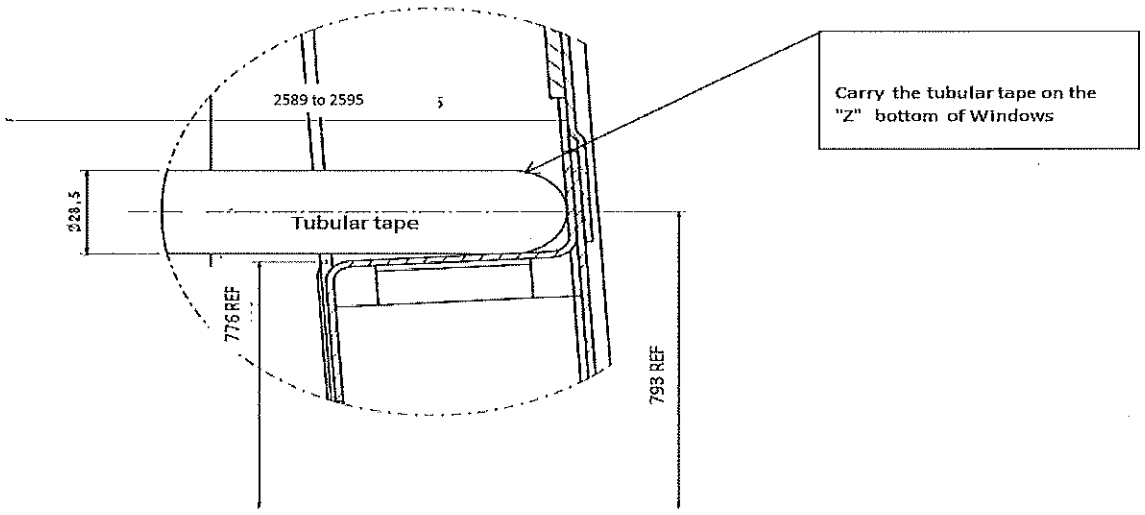
Specifications of Details for CBS measurement CB2230

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.

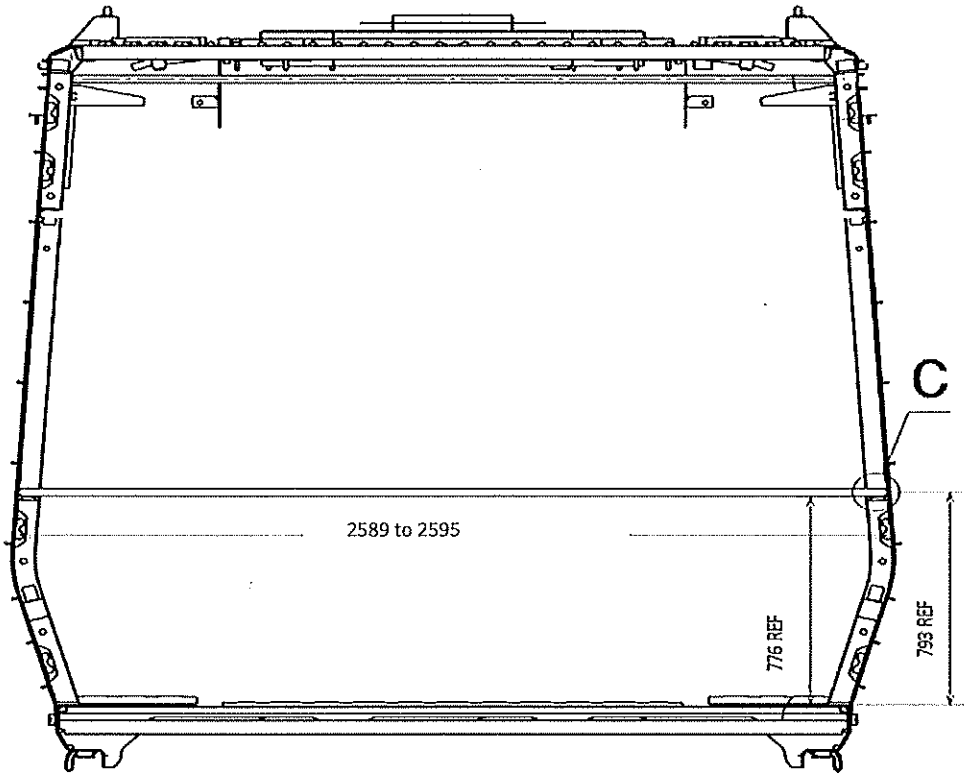


MEASURED TWIST VALUES END 1		MEASURED TWIST VALUES END 2	
LATERAL	1	LATERAL	1
LONGITUDINAL	0	LONGITUDINAL	0

Details for measuring on the CB1230 stage, after completion of activities

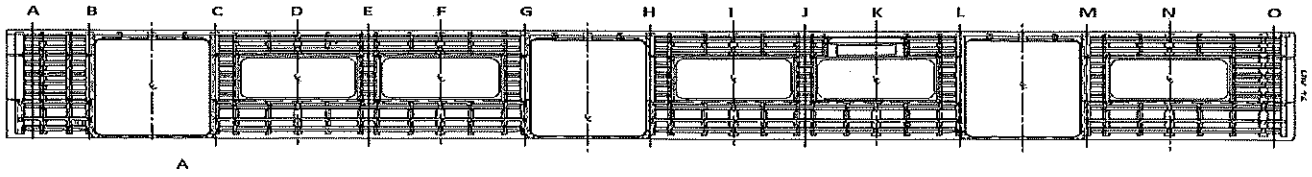


Detail C



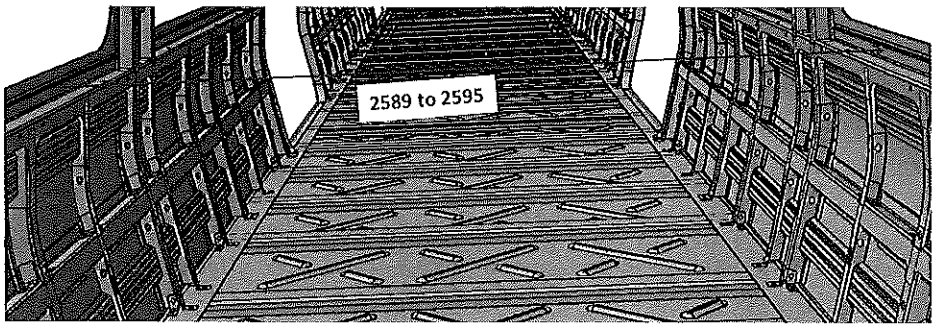
GIBELA	DT00000223319 Carshell Assembly TC	Rev. 29	Project: PRASA
		Date- 14/04/2023	SI.CB2230.324.V29

Specifications of Details for CBS measurement



2589 to 2595mm

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



Threashold verification

Nominal value :38

Door 1		Door 2		Door 3	
L	R	L	R	L	R
38	38	39	38	37	38
Door 4		**Door 5**		**Door 6**	
L	R	L	R	L	R
38	39	38	38	39	39

Boiler Maker : MMAthabelo

Welder : Zonele

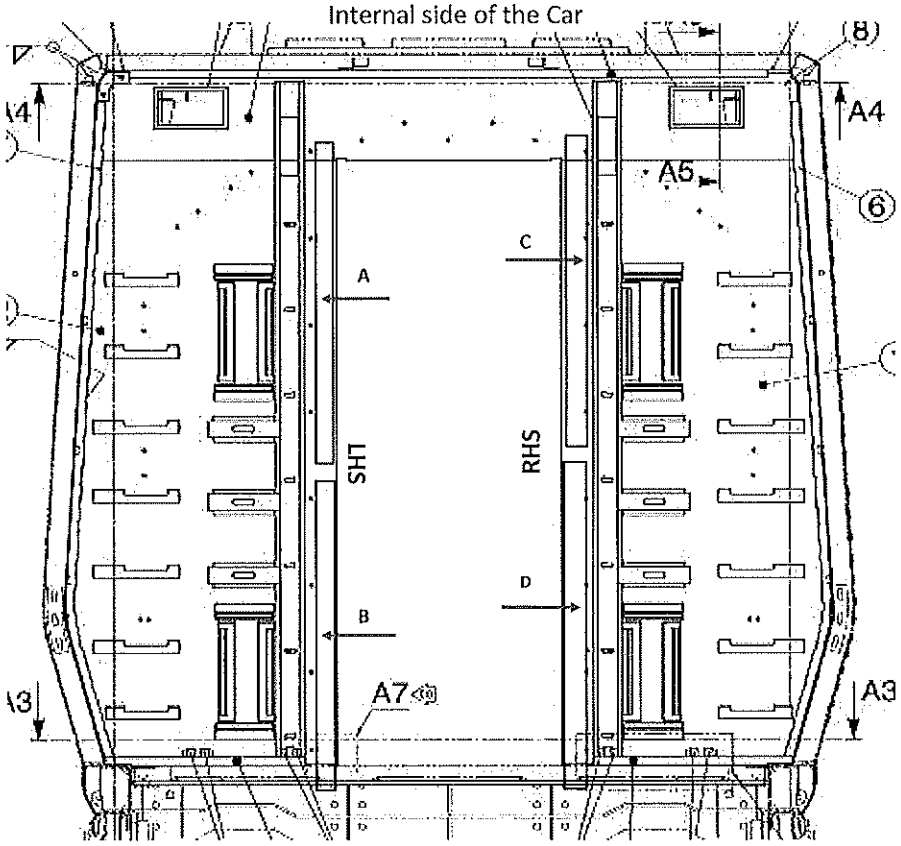
GIBELA	DT00000223319 Carshell Assembly TC	Rev. 29	Project: PRASA
		Date- 14/04/2023	SI.CB2230.324.V29

Specifications of Details for CBS measurement

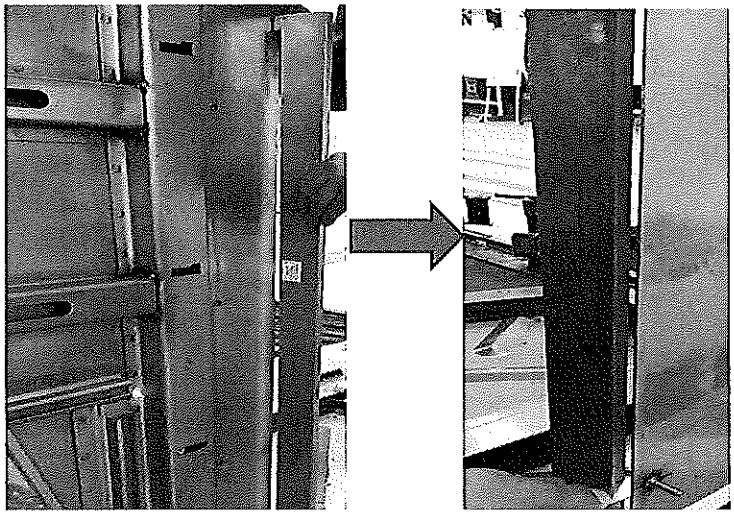
Measure the flatness on the Cab Fire Barrier after installation and welding. Measure positions A, B,C and D using 1000mm flatness ruler and taper gauge.

Specified Maximum Flatness deviation on Cab Fire Barrier = 2mm

Internal side of the Car



	Measured Values		
	Minimum	Maximum	Deviation
A	9.1	10.2	1.2
B	10.3	10.9	0.6
C	11.1	11.6	0.5
D	11.6	11.9	0.3



GIBELA	DT00000223319 Carshell Assembly TC	Rev. 29	Project: PRASA
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Dye penetrant test

Dye-penetration test to be performed by quality personnel

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

GIBELA	DT00000223319 Carshell Assembly TC	Rev. 29	Project: PRASA
		Date- 14/04/2023	SI.CB2230.324.V29

Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations Manager and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT		GO	If activities are not complete, the missing activities must not impact the next stage!	13/05/24	Silvie Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	13/05/2024	Andrini 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	Action	Responsible	Due date	Status

Operations

Quality