

GIBELA

PRASA PROJECT

APPLICABLE FROM TRAINSET 100+ AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

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


APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE							WORK INSTRUCTION	SAFETY ?	
				TC1	M1	M2	M3	TC2					
<input type="checkbox"/>	DTR30225487/3	AAD0001278565	CARBODYSHELL M1 ASSEMBLY	CB1210								PRA.CB1210.DTR30225487/3.V25	YES
<input type="checkbox"/>													

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	2018/12/12
			CHECKER	Nosizo Pindela	2018/12/12
			REVISED BY	Ramokone Motama	2018/12/12
5	22/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	22/01/2019
			CHECKER	Nosizo Pindela	22/01/2019
			REVISED BY	Vanessa Ntuli	22/01/2019
6	13/03/2019	Added D1 and D2 on Self-Inspection	APPROVER	Itumeleng Modiba	13/03/2019
			CHECKER	Nosizo Pindela	13/03/2019
			REVISED BY	Nosizo Pindela	13/03/2019
10	21/08/2019	New Baseline 10.3.5	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	06/08/2020
			REVISED BY	Bongane Masina	06/08/2020
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	19/04/2021
			REVISED BY	Bongane Masina	19/04/2021
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi Collins	17/08/2021
			CHECKER	Mpho Mulaudzi	17/08/2021
			REVISED BY	Mpho Mulaudzi	17/08/2021
25	19/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombi Collins	19/02/2022
			CHECKER	Andani Muthelo	19/02/2022
			REVISED BY	Andani Muthelo	19/02/2022
26	14/04/2023	Addition of welding consumable traceability	APPROVER	Ntuli Vanessa	14/04/2023
			CHECKER	Mohlampe Amogelang	14/04/2023
			REVISED BY	Mohlampe Amogelang	14/04/2023
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Zwane Ntokozo	27/07/2023
			REVISED BY	Mohlampe Amogelang	27/07/2023
28	07/11/2023	Addition of welding traceability	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Andani Muthelo	07/11/2023
			REVISED BY	Ntokozo Zwane	07/11/2023

TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
TS2021	M1	Pontso	08/04/24	SI.CB1210.254.V28	17

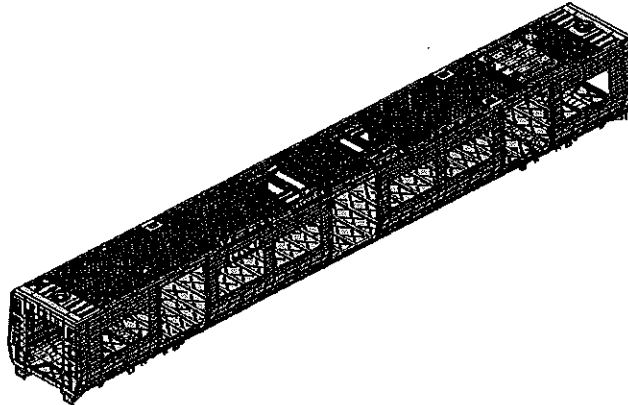
409964

	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

Car: M1	NCR:	Work station: CB1210
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Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
	TC1	M1	M2	M3	M4	TC2						
DTR30225487/3	X						V28		✓		[Signature]	04/12/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process


Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
TUBULAR	32823-2	15/03/25	✓		[Signature]	[Signature]
LASER TAPE	125425924	02/01/25	✓		[Signature]	[Signature]
SON TAPE	91870102	18/11/24	✓		[Signature]	[Signature]

1.3 Consumables


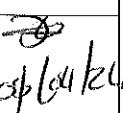
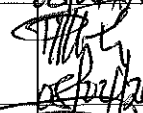
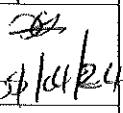
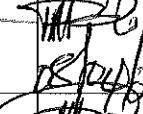
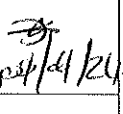
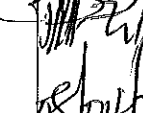
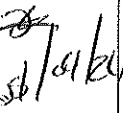


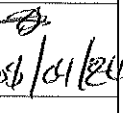
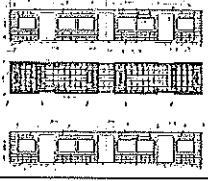
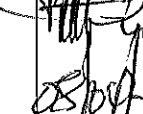
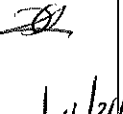

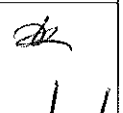
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	314018-74097	MIG	✓		[Signature]	[Signature]
ER 308 L	299687-70522	TIG	✓		[Signature]	[Signature]


GIBELA RAIL TRANSPORT LOGISTICS
 MONTANA KRAPIVISO
 FITTING QUALITY
 2024-03-15
 Signature

	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 26	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

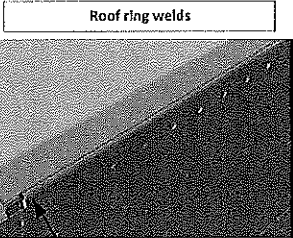
II - Self Inspection - Items to Check

II.1 - Items to check							
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls,Endframes,Roof and Underframe)	DT00000311225	✓		 08/04/24	 08/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓		 08/04/24	 08/04/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 08/04/24	 08/04/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 08/04/24	 08/04/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 08/04/24	 08/04/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓		 08/04/24	 08/04/24
07	N/A	Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓		 08/04/24	 08/04/24

GIBELA RAIL TRANSPORT CONSTRUCTION (PTY) LTD
Mpisana Khanyiso
FITTING QUALITY
2024-03-15
Signature

	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

Welder Traceability

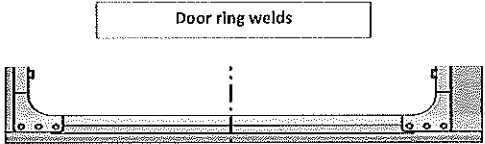


<u>LHS</u>	
Boiler maker (Name & Sign): <u>Lawrence Joliso</u>	Welder (Name & Sign): <u>Ketu K. Moko</u>
<u>RHS</u>	
Boiler maker (Name & Sign): <u>Poniso</u>	Welder (Name & Sign): <u>Thabang Katsi</u>

END 1

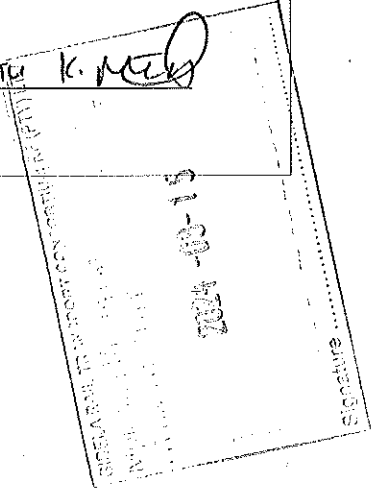
<u>LHS</u>	
Boiler maker (Name & Sign): <u>Lawrence Joliso</u>	Welder (Name & Sign): <u>Ketu K. Moko</u>
<u>RHS</u>	
Boiler maker (Name & Sign): <u>Poniso</u>	Welder (Name & Sign): <u>Thabang Katsi</u>

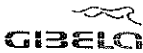
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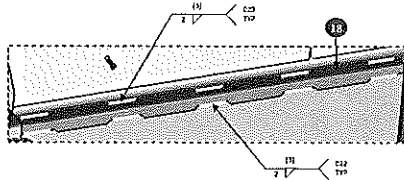
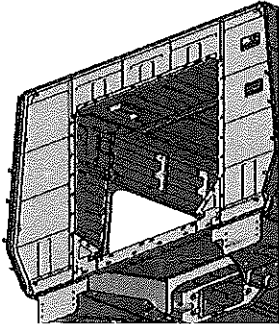
<u>LHS</u>	
Boiler maker (Name & Sign): <u>Poniso</u>	
Welder (Name & Sign): <u>Ketu K. Moko</u>	

<u>RHS</u>	
Boiler maker (Name & Sign): <u>Poniso</u>	
Welder (Name & Sign): <u>Ketu K. Moko</u>	



	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
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EUF Reinforcement Plates

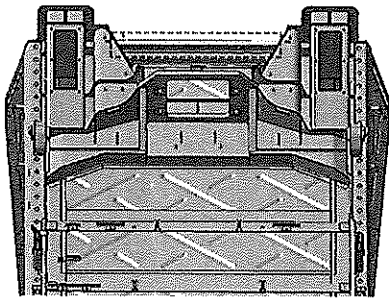


END 1

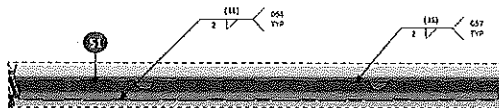
Boiler maker (Name & Sign): Lawrence Jelgou

Welder (Name & Sign): Ketu K. Menon

END 2



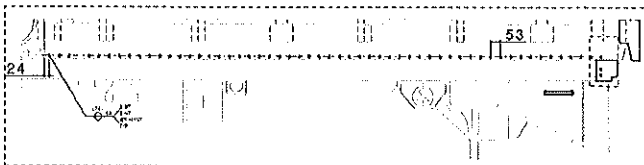
Underneath the CAR



END 2

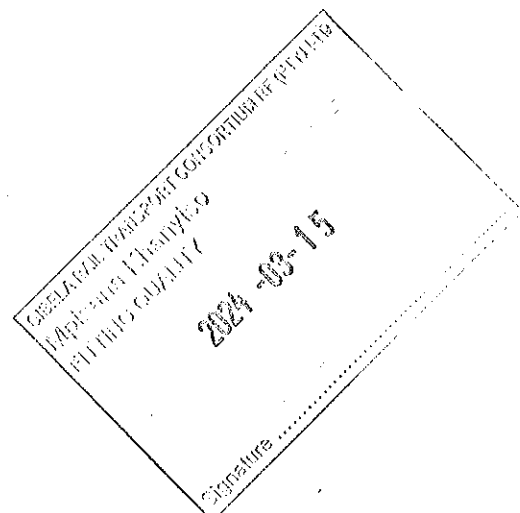
Boiler maker (Name & Sign): Innocent I. M. M.


Welder (Name & Sign): Thabang K. K.

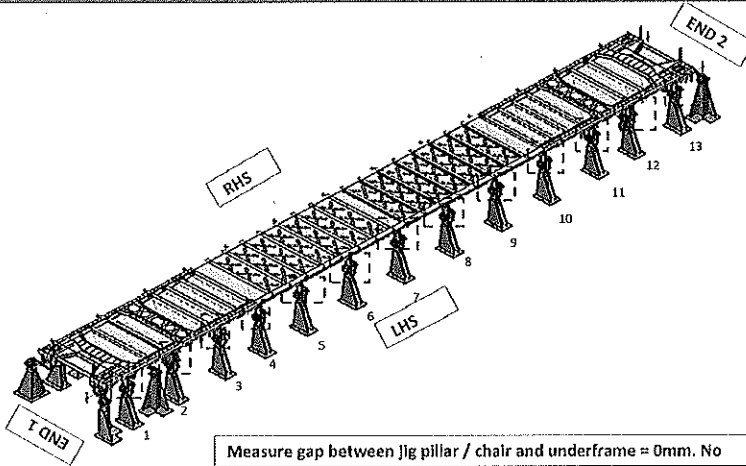


FEDOLI

OPERATOR: Lawrence C. Jelgou



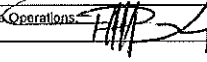
	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	
Specifications of Details for CBS measurement			



After loading and clamping

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

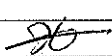
	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0

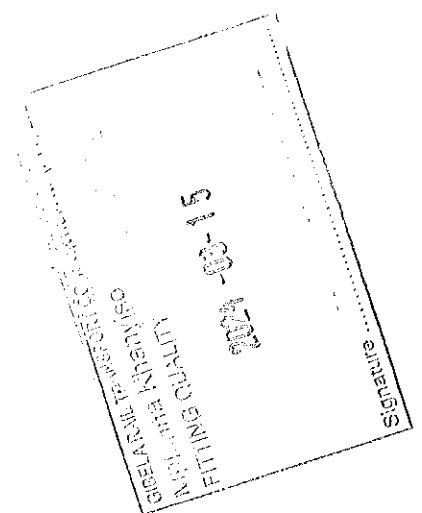
Signature Operations:  Date: 08/12/24

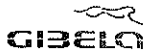
After Welding.

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

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

Signature Industrial Quality:  Date: 08/12/24



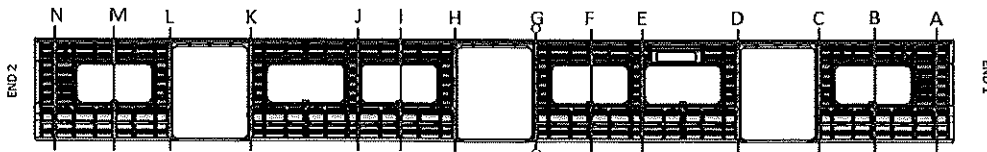


CARBODYSHELL M1 ASSEMBLY DTR30226487/3

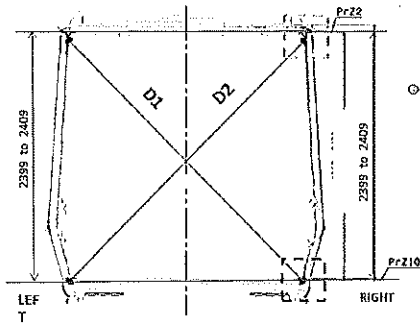
Rev.
28
Date
07/11/2023

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SI.CB1210.254.V28

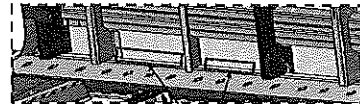
Specifications of Details for CBS measurement



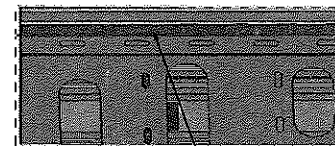
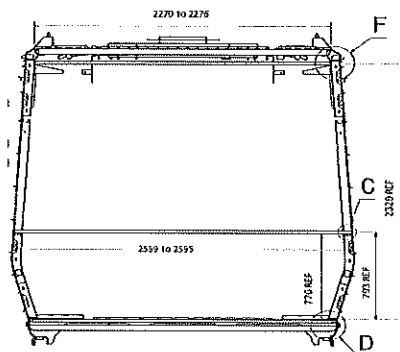
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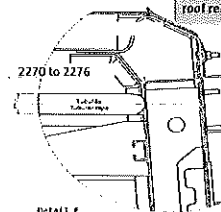
Measurement positions on roof rail and sidewall omega corner.



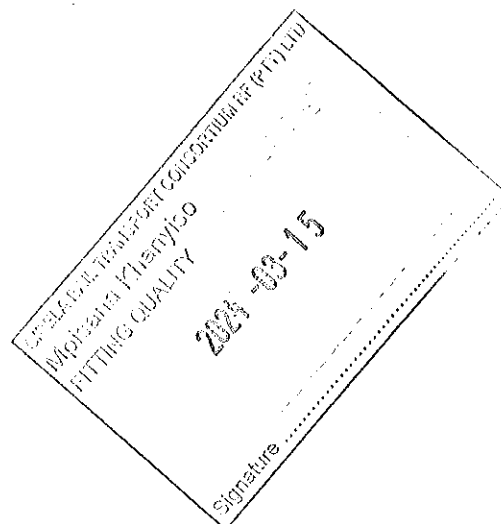
Measurement positions on sidewall and side sill corner.



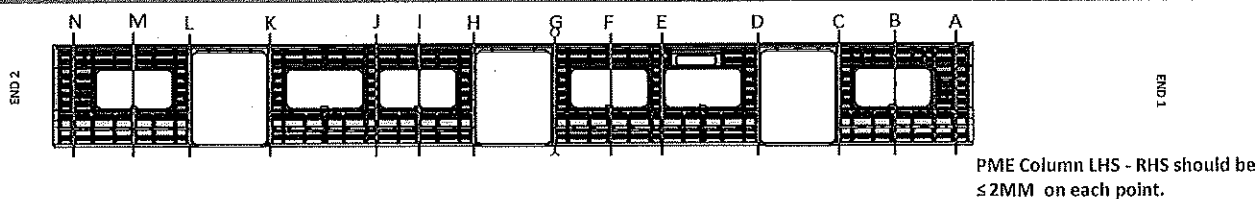
Reinforcement area measurement positions on roof reinforcement area.



Detail #
On the side of the reinforcement

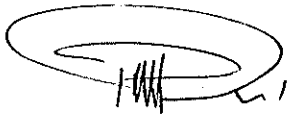


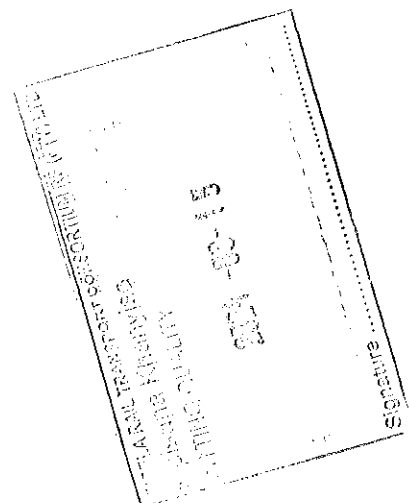
Specifications of Details for CBS measurement



BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3069	3069	0	2404	2404	0
B	3071	3070	1	2405	2406	1
C	3066	3070	4	2406	2404	2
D	3070	3071	1	2405	2405	0
E	3069	3068	1	2404	2404	0
F	3067	3067	0	2405	2406	1
G	3069	3070	3	2404	2404	0
H	3068	3069	1	2406	2404	2
I	3069	3068	1	2404	2404	0
J	3068	3068	0	2405	2404	1
K	3069	3068	1	2406	2405	1
L	3068	3070	2	2404	2405	1
M	3070	3071	1	2404	2404	0
N	3069	3066	5	2404	2406	2


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 08/04/24





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Rev.

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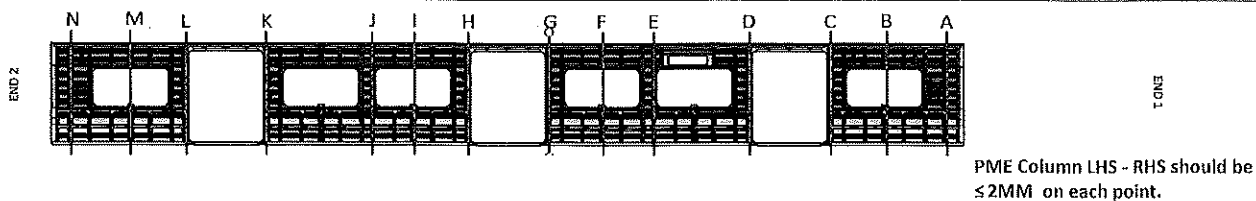
Date

07/11/2023

Project: PRASA

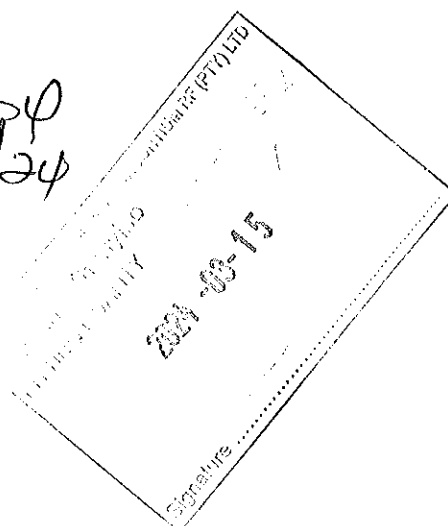
SI.CB1210.254.V28

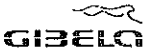
Specifications of Details for GBS measurement



AFTER WELDING

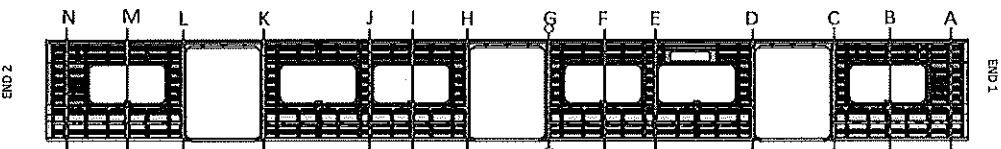
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3296	3298	2	2404	2405	1
B	3269	3269	0	2406	2404	2
C	3298	3299	1	2404	2404	0
D	3296	3298	2	2404	2406	2
E	3269	3270	1	2404	2405	1
F	3270	3270	0	2406	2404	2
G	3296	3299	1	2405	2404	1
H	3298	3299	1	2403	2404	1
I	3268	3268	0	2405	2405	0
J	3269	3269	2	2404	2406	2
K	3296	3299	1	2404	2405	1
L	3296	3296	0	2406	2404	2
M	3270	3271	1	2405	2404	1
N	3295	3295	0	2404	2404	0

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	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

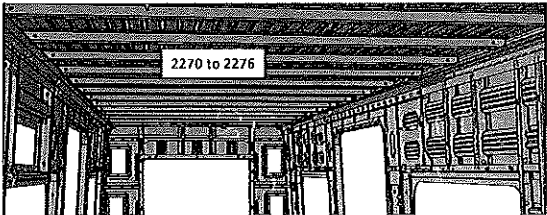
CBS measurement

BEFORE WELDING

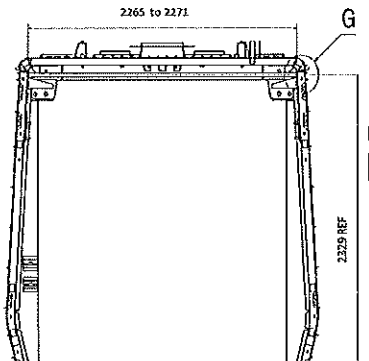


	2270 to 2276
A	2276
B	2274
C	2275
D	2273
E	2276
F	2275
G	2272
H	2274
I	2276
J	2276
K	2274
L	2273
M	2274
N	2274

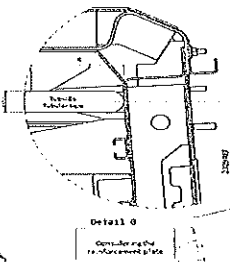
1990 to



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

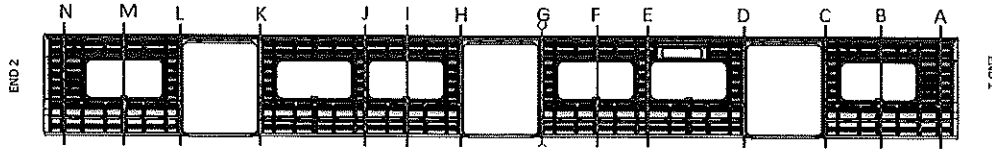


Handwritten notes: 408760, 08/04/24

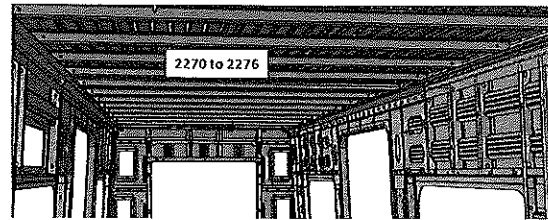


Signature
2024-03-15
FITTING QUALITY
Khalid Khayyat
GIBELQ TRANSPORTATION SYSTEMS LTD.

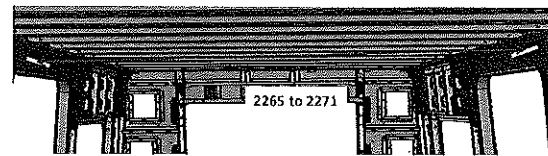
AFTER WELDING



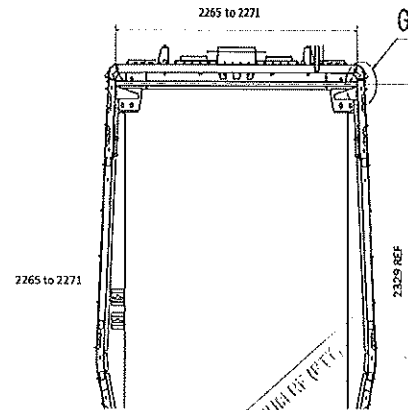
	2265 to 2271	2270 to 2276
A	2269	N/A
B	N/A	2274
C	2265	N/A
D	2268	N/A
E	N/A	2276
F	N/A	2275
G	2265	N/A
H	2267	N/A
I	N/A	2271
J	N/A	2275
K	2268	N/A
L	2269	N/A
M	N/A	2275
N	2269	N/A



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

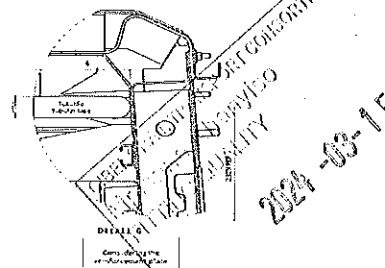


Take measurement close to radius (considering reinforcement)



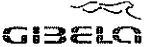
2265 to 2271

409964
0810404

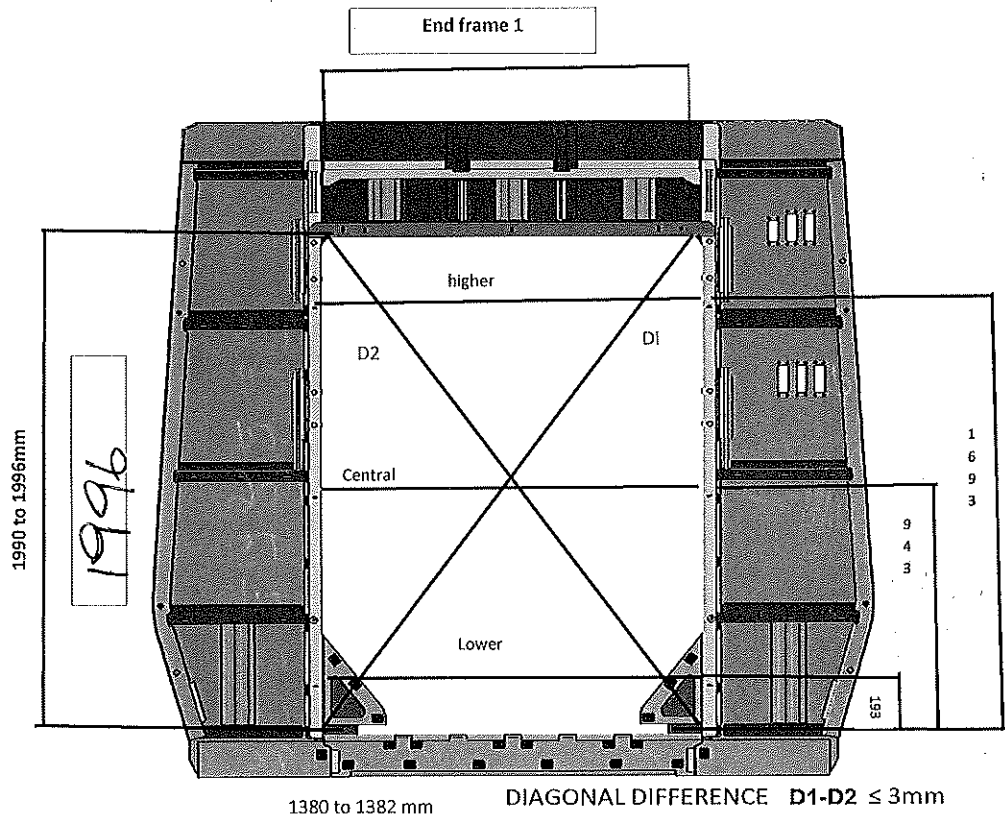


2024-03-15

Signature

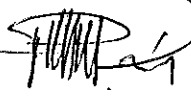
	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	

Specifications of Details for CBS measurement



DIAGONAL DIFFERENCE $D1-D2 \leq 3mm$

Higher Dimension	<div>1382</div>	D1	<div>2416</div>
Central Dimension	<div>1382</div>	D2	<div>2416</div>
Lower Dimension	<div>1381</div>	D1-D2	<div>0</div>


 409964
 08/04/24

GIBEL Technology
 Myanmar Khemlo
 FITTING QUALITY
 2024-02-15
 Signature

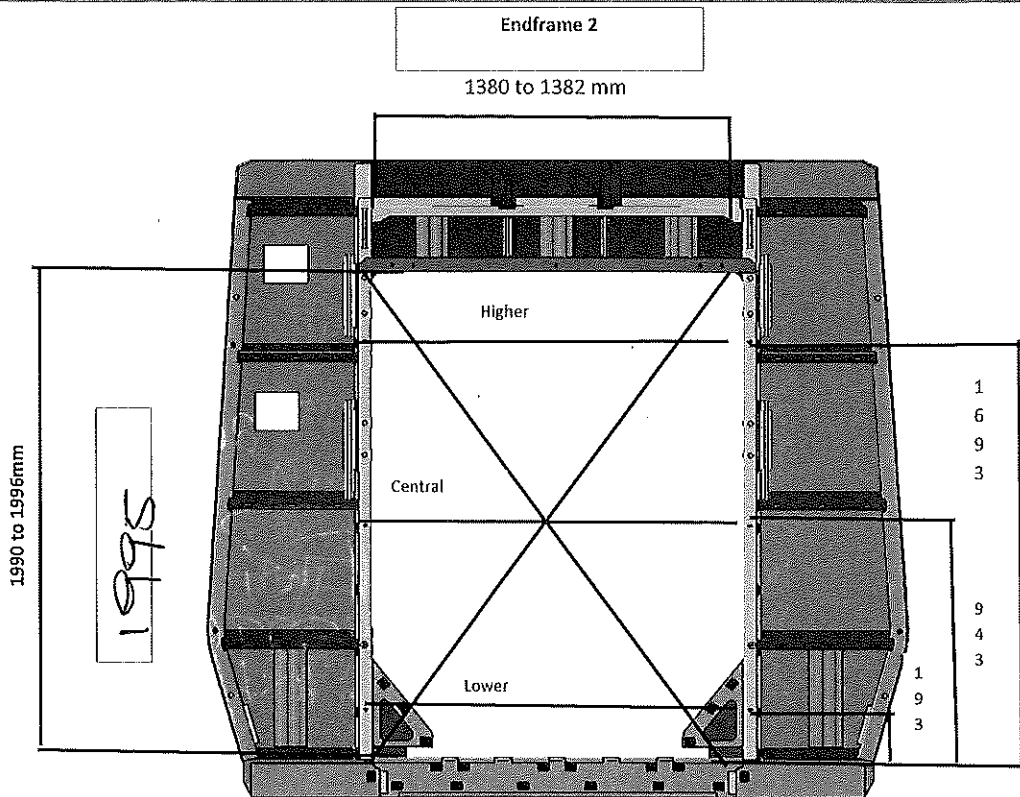


CARBODYSHELL M1 ASSEMBLY DTR30226487/3

Rev.
28
Date
07/11/2023

Project: PRASA
SI.CB1210.254.V28

Specifications of Details for CBS measurement



1380 to 1382 mm

DIAGONAL DIFFERENCE $D1-D2 \leq 3mm$

Higher Dimension

1380

D1

2015

Central Dimension

1381

D2

2046

Lower Dimension

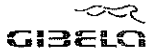
1380

D1-D2

1

407964
08/04/24

PRASA CONSORCIO DE INVESTIGACAO E DESENVOLVIMENTO
em Engenharia e Qualidade
2024-03-15
Signature



CARBODYSHELL M1 ASSEMBLY DTR30226487/3

Rev.

28

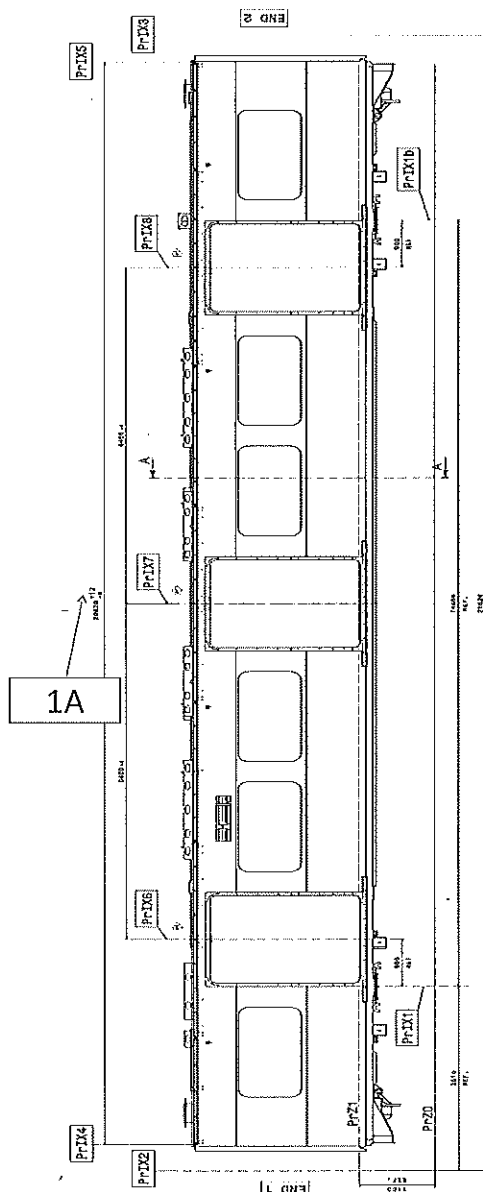
Date

07/11/2023

Project: PRASA

SI.CB1210.254.V28

Specifications of Details for CBS measurement



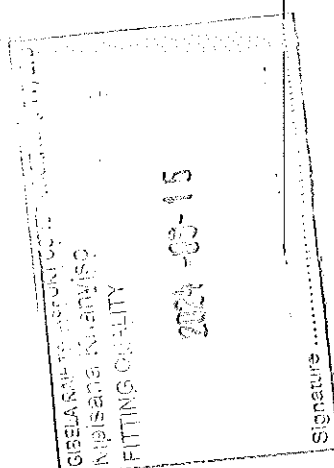
LEFT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20615


RIGHT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20615

Handwritten signature and date: 409964, 08/04/24



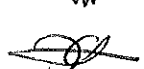
Dye penetrant test

Dye-penetration test to be performed by quality personnel



		CARBODYSHELL M1 ASSEMBLY DTR30226487/3		Rev. 28	Project: PRASA SI.CB1210.254.V28		
				Date 07/11/2023			
Item	Description of the Issue			OK	Signature/Date (Manufacturing)		Signature/Date (Quality)
II.2 - Check List REX							
Check List Items							
Item	Picture/Drawing	Description	Criteria /Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX				

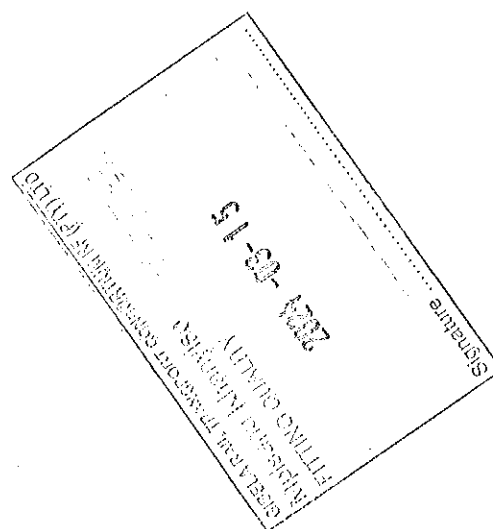
INDIA RAIL TRANSPORT CONSORTIUM LTD
RECEIVED LIBRARY/DO
LIBRARY QUALITY
2024-03-15
Signature

		CARBODYSHELL M1 ASSEMBLY DTR30225487/3		Rev. 28	Project: PRASA SI.CB1210.254.V28
				Date 07/11/2023	
Self Inspection - Final Result					
			DATE	NAME	SIGNATURE
HOLD POINT		GO	(if activities are not complete, the missing activities must not impact the next stage)	08/04/24 Pontsoo	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	08/04/24 Andani	
	NO GO	There are activities pending 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

9



	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29	Project: PRASA SI.CB1220.250.V29		
		Date 28/10/2023			
Car: M1,M3&M4		NCR:		Work station:	CB1220

Safety Related

I - Documentation and Instruments Control

1.1 - Documentation Control


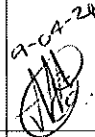
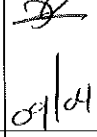
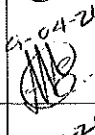
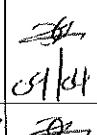
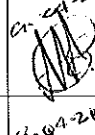
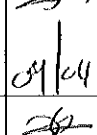
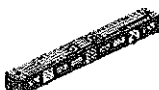
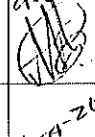
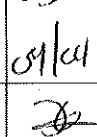
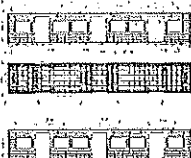

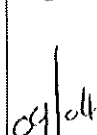

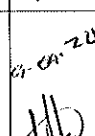
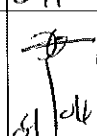
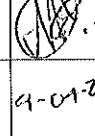
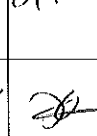
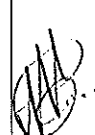



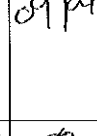
Document	Type of car						Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)	
	T1	M1	M2	M3	M4	T2						
DTR30225487/2	X						29	28-10-2023	X	N/A	 03-09-24	 01/04/24


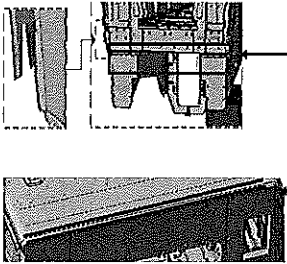


1.2 - Instruments Control

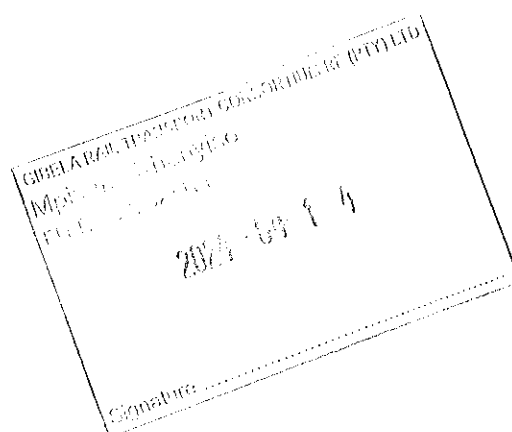
Monitoring and Measuring Instrument Control - Used for Special Process						
Instruments	Serial number	Calibration or Verification Validation Date		OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular	22316	07/02/2023		X	 07-07-24	 01/04/24
measuring tape	SIBTA0231	10/04/2023		X	 07-07-24	 01/04/24


1.3 Consumables

Welding Consumable Control - Used for Special Process						
Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)	
308	273471	MIG	X	 07-07-24	 01/04/24	

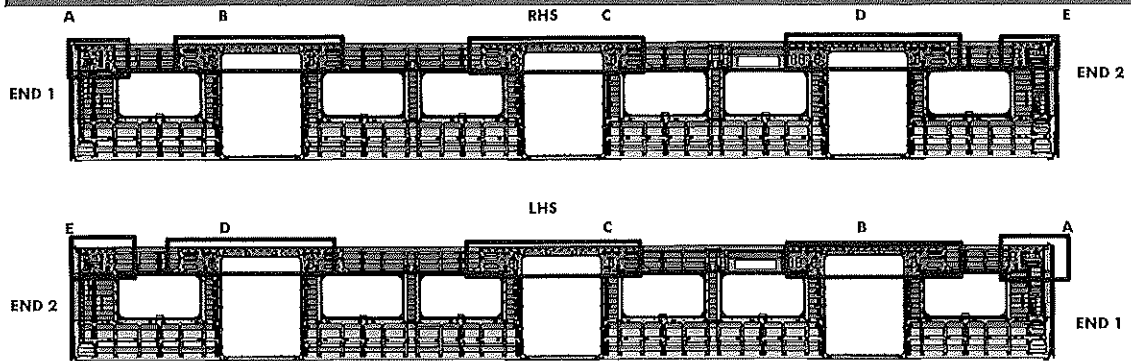
	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29	Project: PRASA SI.CB1220.250.V29			
		Date 28/10/2023				
II - Self Inspection - Items to Check						
II.1 - Items to check						
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB1220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	PRA.CB1220.DTR30225487/2	✓	 09-04-24	 09/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓	 09-04-24	 09/04/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓	 09-04-24	 09/04/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓	 09-04-24	 09/04/24
05		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓	 09-04-24	 09/04/24
06		Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓	 09-04-24	 09/04/24
07	N/A	<p>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:</p> <p>Temperature Min - Max (°C) Min-Max 10°C - 35°C</p> <p>Relative humidity Min - Max (%) Min-Max 25% - 60%</p>	<p>Sealant Batch No: <u>70-03</u></p> <p>Exp Date: <u>04/24</u></p> <p>Actuals</p> <p>Temperature: <u>16°C</u></p> <p>Humidity: <u>47%</u></p>	✓	 09-04-24	 09/04/24
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001278566	✓	 09-04-24	 09/04/24
09		Verification of safety welds	Approved according to DTD000210658 reference and Self inspection	✓	 09-04-24	 09/04/24

	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA SI.CB1220.250.V29
		29	
		Date	
		28/10/2023	
II - Self Inspection - Items to Check			
SEALANT APPLICATION			
		<div style="border: 1px solid black; padding: 5px;"> AREA 1 & 2 END 1 Operator (Name & sign): M. Theodorou  Operator (Name & sign): M. Theodorou  </div>	



	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA
		29	
		Date	
		28/10/2023	SI.CB1220.250.V29


II - Self Inspection - Items to Check



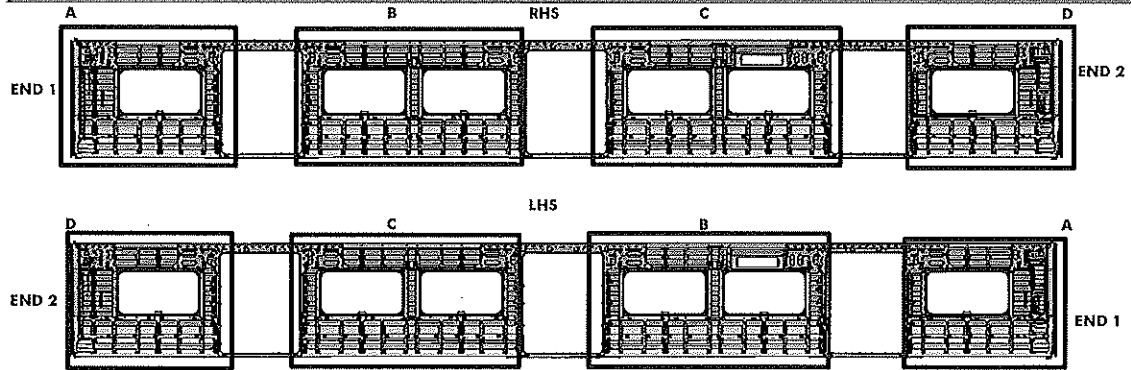
REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>Nokulunga Doria</u>	<u>[Signature]</u>
B	Operator (Name&sign): <u>Nokulunga Doria</u>	<u>[Signature]</u>
C	Operator (Name&sign): <u>[Signature]</u>	<u>[Signature]</u>
D	Operator (Name&sign): <u>Sibiga</u>	<u>THULANI</u>
E	Operator (Name&sign): <u>[Signature]</u>	<u>THULANI</u>

1. Check reinforcement layout
 2. Check reinforcement welding
 3. Check reinforcement cover
 4. Check reinforcement spacing
 5. Check reinforcement diameter
 6. Check reinforcement lap length
 7. Check reinforcement bending
 8. Check reinforcement cutting
 9. Check reinforcement tying
 10. Check reinforcement cleaning


	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRASA
		29	
		Date	
		28/10/2023	SI.CB1220.250.V29

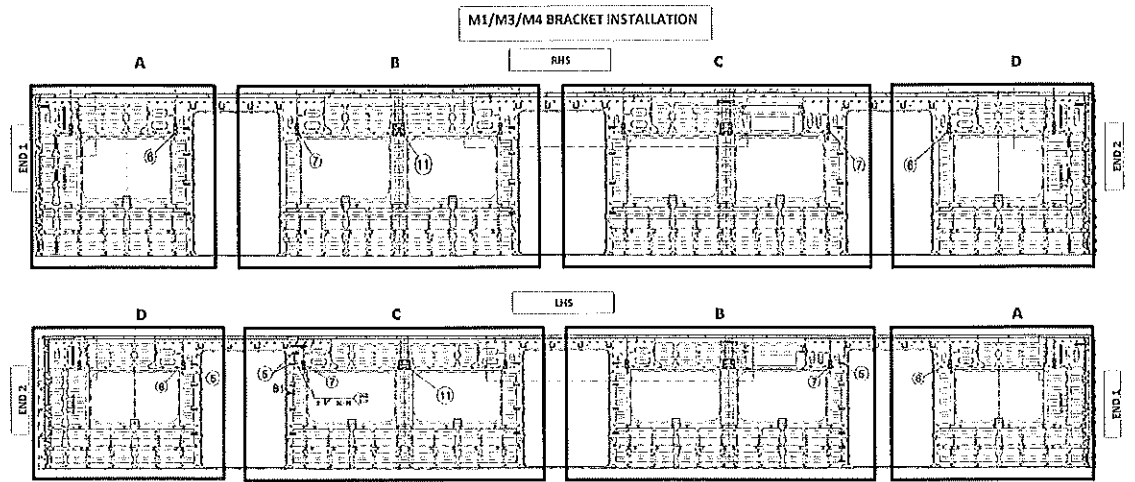
II - Self Inspection - Items to Check



BRACKETING


INSTALLATION		
C-RAILS:	Operator: <u>Mthekwa</u>	
	Operator: _____	
DOOR MECHANISMS:	Operator: <u>Tobelo</u>	
	Operator: _____	
TAPPING PADS	Operator: <u>Puzilla</u>	
	Operator: _____	
INSTALLATION & VERIFICATION		
SEAT & LUGGAGE BRACKETS:	Operator: <u>Aganda</u>	
	Operator: _____	
SEAT BRACKETS VERIFICATION:	Operator: <u>N/A</u>	
	Operator: _____	
WELDING		
AREA	LHS	RHS
A (Seat brackets)	: Operator (Name&sign): <u>Nobungwe</u>	: Operator (Name&sign): <u>Nobungwe</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>LINDO</u>	: Operator (Name&sign): <u>LINDO</u>
B (Seat brackets)	: Operator (Name&sign): <u>Masala</u>	: Operator (Name&sign): <u>Masala</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>LINDO</u>	: Operator (Name&sign): <u>LINDO</u>
C (Seat brackets)	: Operator (Name&sign): <u>THULANI</u>	: Operator (Name&sign): <u>THULANI</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>THULANI</u>	: Operator (Name&sign): <u>THULANI</u>
D (Seat brackets)	Operator (Name&sign): <u>Sibiga</u>	Operator (Name&sign): <u>Sibiga</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>Mmasheko</u>	: Operator (Name&sign): <u>Mmasheko</u>
ENDS		
END 1 TAPPING PADS WELDING:	Operator (Name&sign): <u>LINDO</u>	
END 2 TAPPING PADS WELDING:	Operator (Name&sign): <u>Mmasheko</u>	


	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA SI.CB1220.250.V29
		29	
		Date	
		28/10/2023	
II - Self Inspection - Items to Check			



QUANTITIES (M3/M4)				
RHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	7		
	B	4		
	C	8		
	D	6		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	5		
	C	4		
	D	3		
ROOF ENDS: CRAILS 2 OFF EACH END EARTH BUSH 6 OFF EACH END VERIFICATION BY: _____				

LHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	2		
	B	8		
	C	11		
	D	8		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	5		
	C	6		
	D	2		
ROOF ENDS: CRAILS 2 OFF EACH END EARTH BUSH 6 OFF EACH END VERIFICATION BY: _____				

QUANTITIES (M1)				
RHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	7		
	B	9		
	C	8		
	D	8		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	2		
	B	4		
	C	5		
	D	3		
ROOF ENDS: CRAILS 2 OFF EACH END EARTH BUSH 6 OFF EACH END VERIFICATION BY: <u>ASANDIA</u> 				

LHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	2		
	B	10		
	C	11		
	D	9		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	7		
	C	6		
	D	2		
ROOF ENDS: CRAILS 2 OFF EACH END EARTH BUSH 6 OFF EACH END VERIFICATION BY: <u>ASANDIA</u> 				

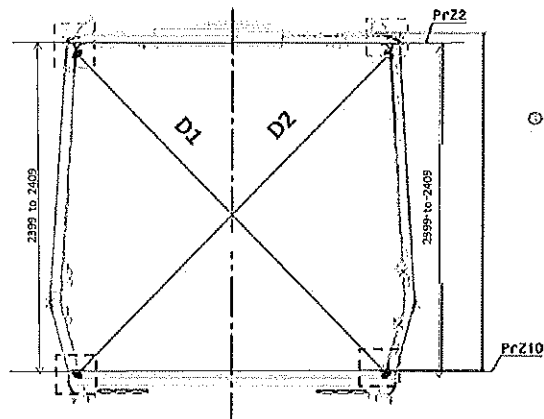


CARBODYSHELL M1,M3,M4 ASSEMBLY
DTR30226487/2

Rev.
29
Date
28/10/2023

Project: PRA5A
SI.CB1220.250.V29

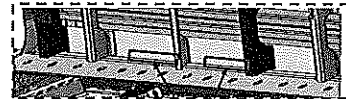
Specifications of Details for CBS measurement



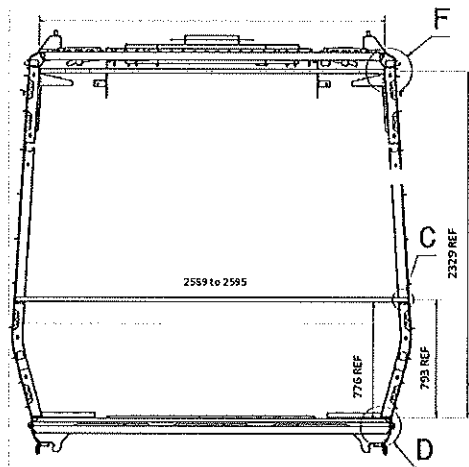
Measurement positions on roof rail and sidewall omega corner.



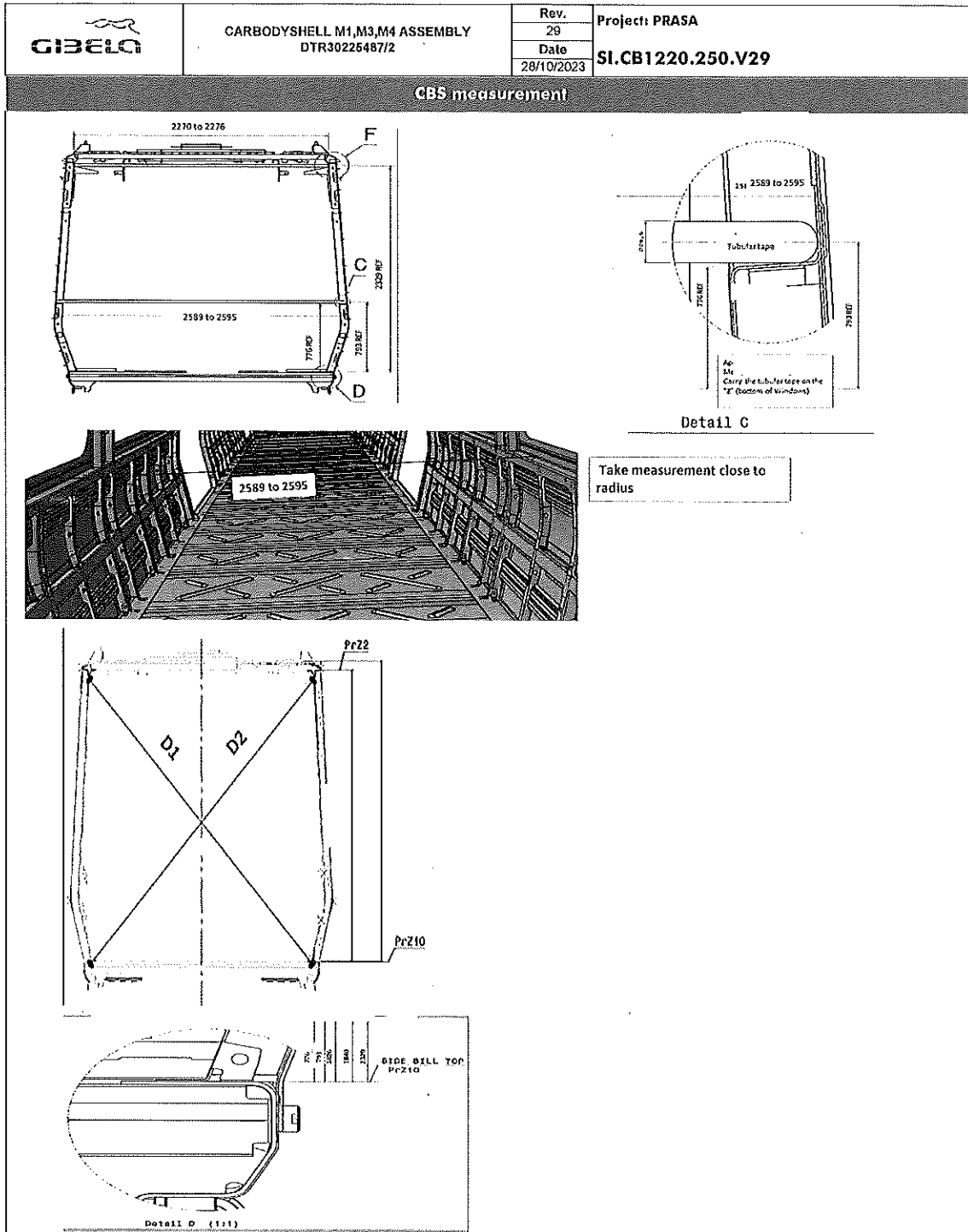
Reinforcement area measurement positions on roof reinforcement area.




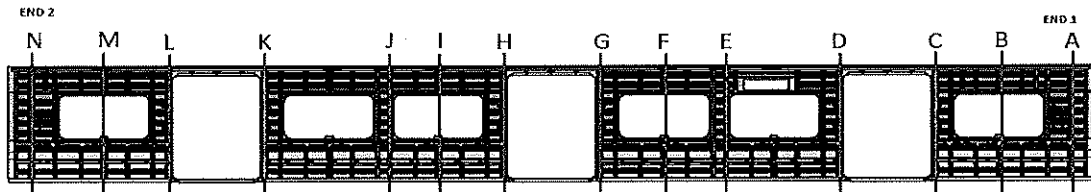
Measurement positions on sidewall and side sill corner.



Handwritten note: 2023-10-28 14:00:00
2023-10-28 14:00:00
2023-10-28 14:00:00




	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA SI.CB1220.250.V29
		29	
		Date	
		28/10/2023	
CBS measurement			


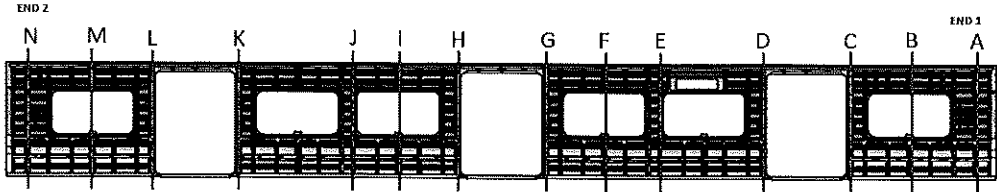


BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3293	3295	2	—
B	3263	3264	1	—
C	3296	3297	1	—
D	3295	3299	5	—
E	3265	3262	3	—
F	3260	3262	2	—
G	3297	3295	2	—
H	3295	3294	1	—
I	3261	3261	0	—
J	3264	3264	0	—
K	3294	3296	2	—
L	3297	3297	0	—
M	3260	3265	5	—
N	3297	3295	2	—


9-04-24

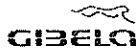

10-10-24

	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRASA
		29	
		Date	
		28/10/2023	
			SI.CB1220.250.V29
CBS measurement			
			

AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3297	3296	1	2595
B	3264	3265	1	2587
C	3300	3296	4	2590
D	3297	3296	1	2593
E	3264	3263	1	2595
F	3263	3260	3	2595
G	3299	3298	1	2595
H	3293	3295	2	2594
I	3263	3260	3	2593
J	3262	3266	4	2595
K	3300	3296	4	2594
L	3299	3296	3	2593
M	3260	3266	6	2589
N	3295	3300	5	2595


9-0424

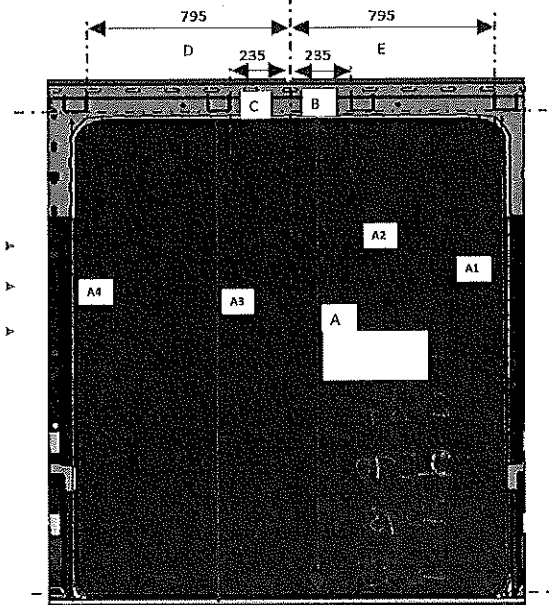


CARBODYSHELL M1,M3,M4 ASSEMBLY
DTR30225487/2

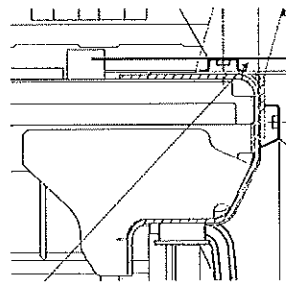
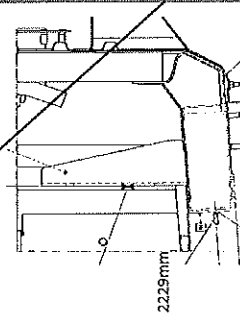
Rev.
29
Date
28/10/2023

Project: PRASA
SI.CB1220.250.V29

Specifications of Details for CBS measurement CB1220



Brackets Carbodysell
U Type Supports



Brackets Carbodysell
Channel Assy

DOOR 1 - 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	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	794

DOOR 2 - LHS

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

DOOR 2 - RHS

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

DOOR 1 - RHS

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

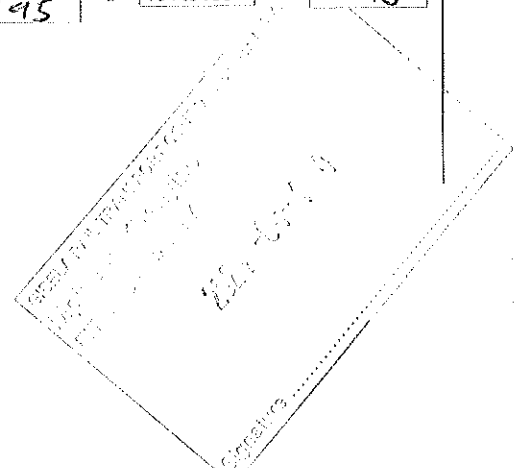
DOOR 2 - RHS

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

DOOR 3 - RHS

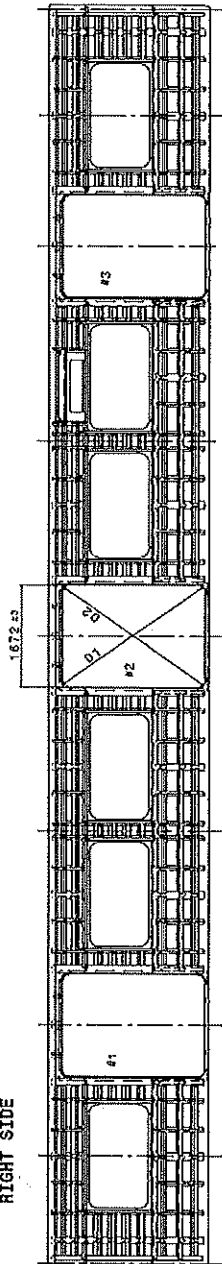
	VALUE	ACTUAL
A1	2230 to 2232	2231
A2	2230 to 2232	2232
A3	2230 to 2232	2231
A4	2230 to 2232	2232
B	234 to 236	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795

9-04-24



Specifications of Details for CBS measurement CB1220

End #2



RIGHT SIDE

End #1

Doors diagonal D1-D2 maximum difference ≤4mm

	#1	#2	#3
D1	2748	2747	2746
D2	2746	2745	2745
D1-D2	2	1	1

HIGHER DIMENSION

CENTRAL DIMENSION

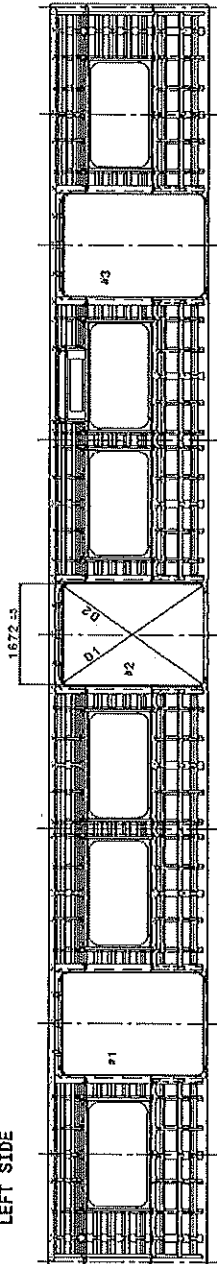
LOWER DIMENSION

Doors Length - 1672 ±3mm

	#1	#2	#3
HIGHER DIMENSION	1674	1673	1673
CENTRAL DIMENSION	1673	1672	1672
LOWER DIMENSION	1672	1672	1671

LEFT SIDE

End #1



End #2

Doors diagonal D1-D2 maximum difference ≤4mm

	#1	#2	#3
D1	2747	2744	2748
D2	2746	2745	2745
D1-D2	1	1	3

HIGHER DIMENSION



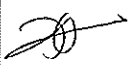
CENTRAL DIMENSION

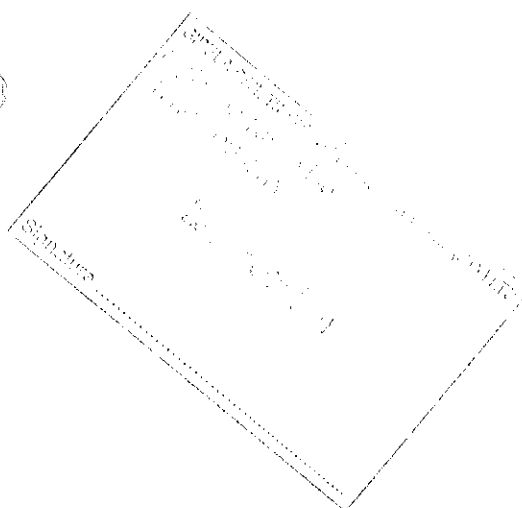
LOWER DIMENSION


Doors Length - 1672 ±3mm

	#1	#2	#3
HIGHER DIMENSION	1672	1673	1674
CENTRAL DIMENSION	1672	1673	1672
LOWER DIMENSION	1672	1671	1671

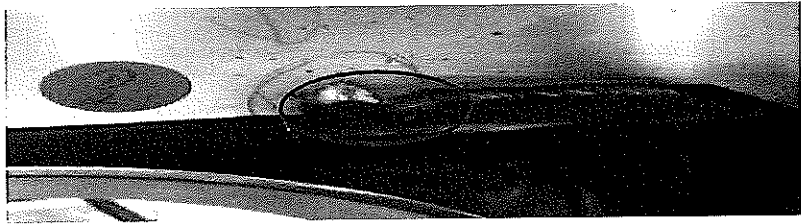
9-04-24

	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRASA SI.CB1220.250.V29		
		29			
		Date			
		28/10/2023			
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)	09-09-24	Asanida Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party)	09/09/24	Andani Industrial Quality	
		There are activities pendings that impact/stop the activities of the next process Obs: (To describe problems below)		Operations	
		There are non-conformities impact the quality of the product and there is no corrective action defined yet)		Industrial Quality	
In case of "NO GO", describe blocking problems					
In case of "NO GO", the operations manager must define below action plan to ensure "GO":					
Item	Description	Responsible	Due date	Status	
		<div style="display: flex; justify-content: space-around;"> <div> Operations </div> <div> Quality </div> </div>			

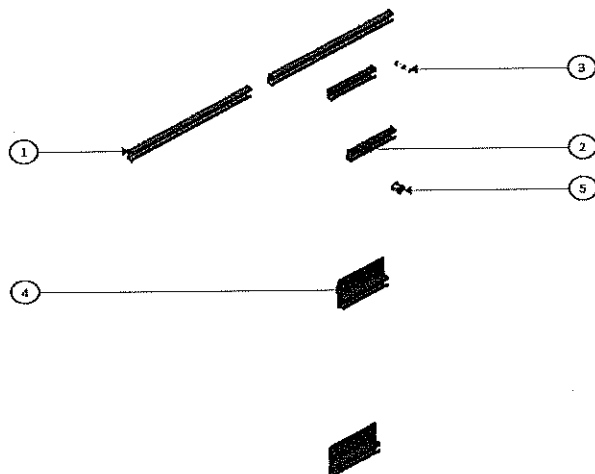


	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRASA SI.CB1220.250.V29
		29	
		Date	
		28/10/2023	

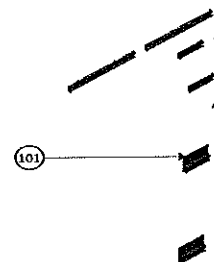
ANNEXURE A: Arc Welding Quality Acceptance Standard



Station: CB1220-004- U108 & U107



PART NO.	ITEM NO.	QTY	DESCRIPTION	MASS (KG)
07F0002074038	5	6	EARTH STUD 6	0.036
A00001201843	4	6	ASSEMBLY SUPPORT	0.271
07F0000943305	3	12	WELDING STUD ISO13918 PT-M3X20-SS1	0.007
A00001180424	2	12	ASSEMBLY SUPPORT	0.193
A00001184418	1	14	ASSEMBLY SUPPORT	0.522
A00001161000	101	6	CARBODYSHELL BRACKETS CARBODYSHELL M1/M3/M4 CAR[SIDE FRAME MODULE END - OPP]	12.132



GIBELA

PRASA PROJECT


APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

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

APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ? 	
				TC1	M4	M1	M2	M3	TC2			
<input type="checkbox"/> DT00000225487	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB1230		X	X			X		PRA.CB1230.DT000002 25487.V20	YES
<input type="checkbox"/>												
<input type="checkbox"/>												
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE							
0	2018/08/02	GIBELA NEW CREATION	APPROVER	Philippe 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	Ramkone Motama	2018/05/07							
5	24/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	24/01/2019							
			CHECKER	Nosizo Pindela	24/01/2019							
			REVISED BY	Vanessa Ntuli	24/01/2019							
6	13/03/2019	Added Twist and Door Bracket Measurements Remove Door Measurements	APPROVER	Itumeleng Modiba	13/03/2019							
			CHECKER	Nosizo Pindela	13/03/2019							
			REVISED BY	Nosizo Pindela	13/03/2019							
10	23/08/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	23/08/2019							
			CHECKER	Nosizo Pindela	23/08/2019							
			REVISED BY	Nosizo Pindela	23/08/2019							
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020							
			CHECKER	Bongane Masina								
			REVISED BY	Bongane Masina								
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021							
			CHECKER	Bongane Masina								
			REVISED BY	Bongane Masina								
25	20/02/2022	New Baseline change 10.3.1	APPROVER	Collins Mbhombhi	20/02/2022							
			CHECKER	Andani Muthelo								
			REVISED BY	Andani Muthelo								
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Collins Mbhombhi	14/06/2022							
			CHECKER	Andani Muthelo								
			REVISED BY	Andani Muthelo								
27	19/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mbhombhi	19/10/2022							
			CHECKER	Ntokozo Zwane								
			REVISED BY	Amogelang Mohlampe								
28	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023							
			CHECKER	Ntokozo Zwane								
			REVISED BY	Amogelang Mohlampe								
29	06/11/2023	Added thresholds traceability for boiler makers and welders	APPROVER	Tyson Ngobeni	06/11/2023							
			CHECKER	Andani Muthelo								
			REVISED BY	Ntokozo Zwane								
TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES							
221	M1	Zonele 482774	10/04/24	SI.CB1230.256.V28	11							



CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
29

Date

06/11/2023

Project: PRASA

SI.CB1230.256.V28

Car:

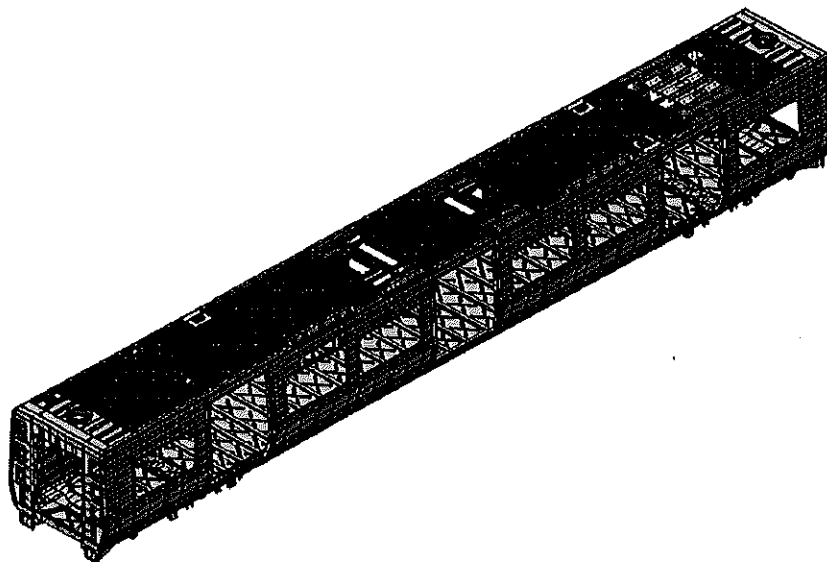
NCR:

Work station:

CB1230



Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	NOK	Revoke	Signature/Date (Operations)	Signature/Date (Quality)
	M1	M2	M3	M4	TC2							
PRA.CB1230.DT00000225487	X					29		X		N/A	10/04/24	10/04/24

I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Ti Jular	22615	2024/10/11	X		10/04/24	10/04/24
Combination Square	GIBCS0137	2024/10/11	X		10/04/24	10/04/24
Tape measurement	GIBTA0394	2024/09/05	X		10/04/24	10/04/24







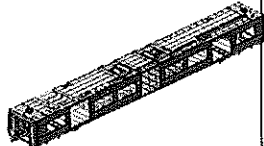


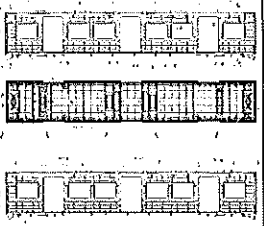

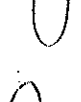
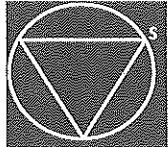






1.3 Consumables

Welding Consumable Control - Used for Special Process

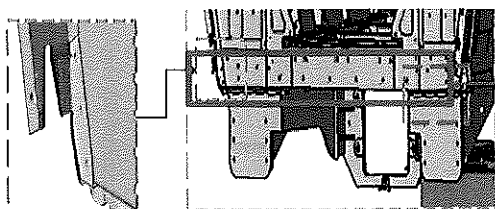
Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 LSi	E231067	Mig	X		10/04/24	10/04/24

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 n° PRA.CB1230.DT00000225487 Verification of fitment for all brackets.	PRA.CB1230.DT00000225487	X			 10/04/24	 10/04/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	X			 10/04/24	 10/04/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	X			 10/04/24	 10/04/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	X			 10/04/24	 10/04/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	X			 10/04/24	 10/04/24
06		Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	X			 10/04/24	 10/04/24
07	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (1) Min-Max 10°C - 35°C Relative humidity Min - Max (1) Min-Max 25% - 80%	Sealant Batch No: 2001945P Exp Date: 05/24 Actuals Temperature: 20°C Humidity: 35%	X			 10/04/24	 10/04/24
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	X			 10/04/24	 10/04/24

AREA 1



END 2 SEALANT

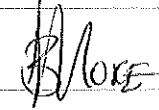
OPERATOR
(Name & sign):

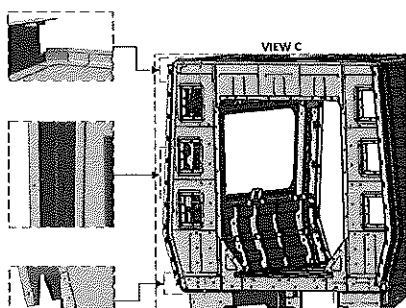
Boity 

OPERATOR
(Name & sign):

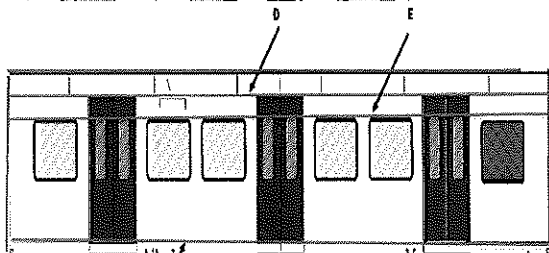
Boity 

OPERATOR
(Name & sign):

Boity 



VIEW C



H

Area D,E,F,G,H,I

Operator (Name & sign) :

LHS
D,E,F, G,H,I

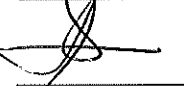
RHS
D,E,F, G, H, I

Operator (Name & sign) :

Sule

LIRILO

Operator (Name & sign) :

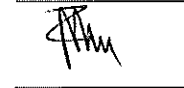




Operator (Name & sign) :

Zenzele

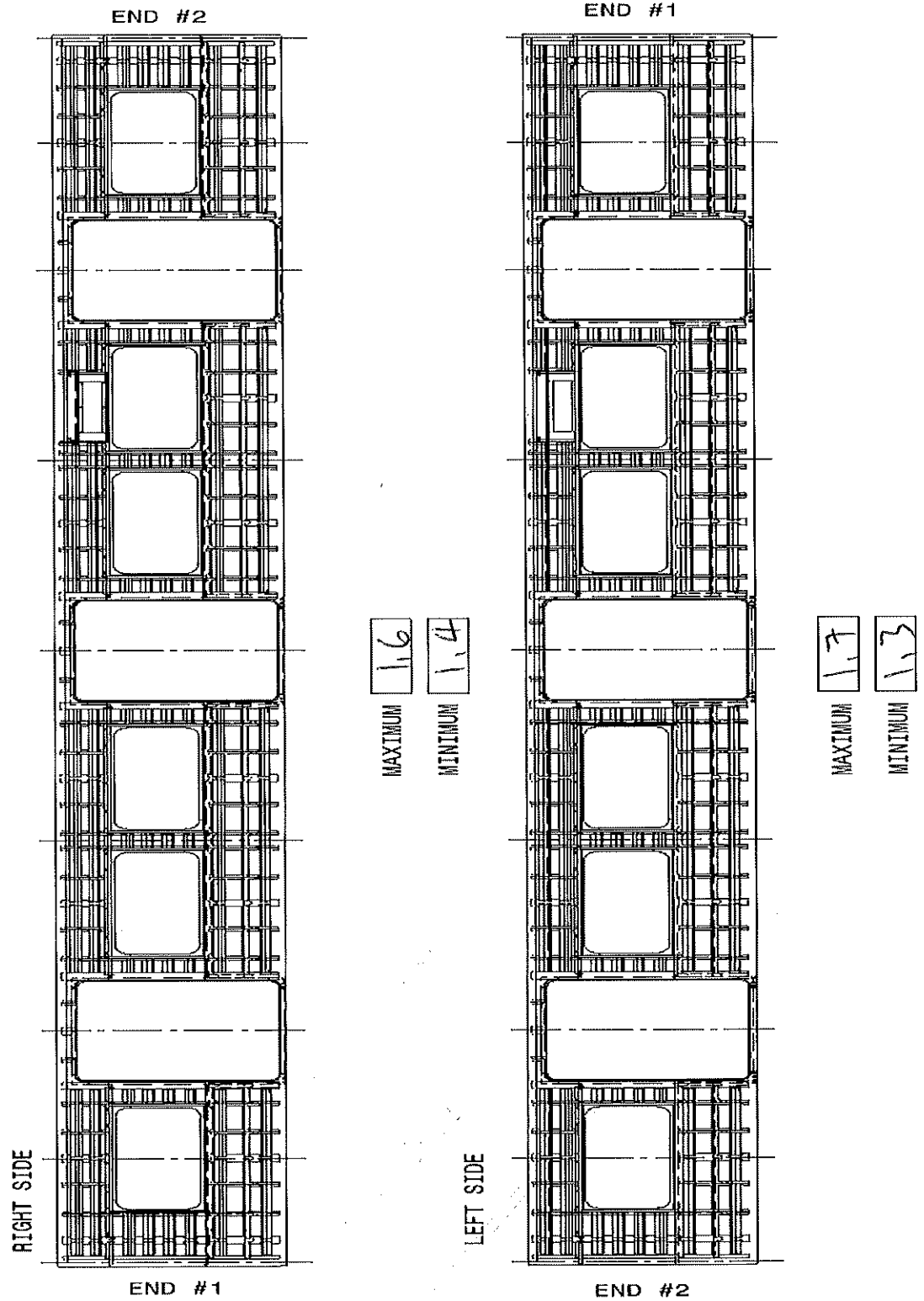
Operator (Name & sign) :



Operator (Name & sign) :

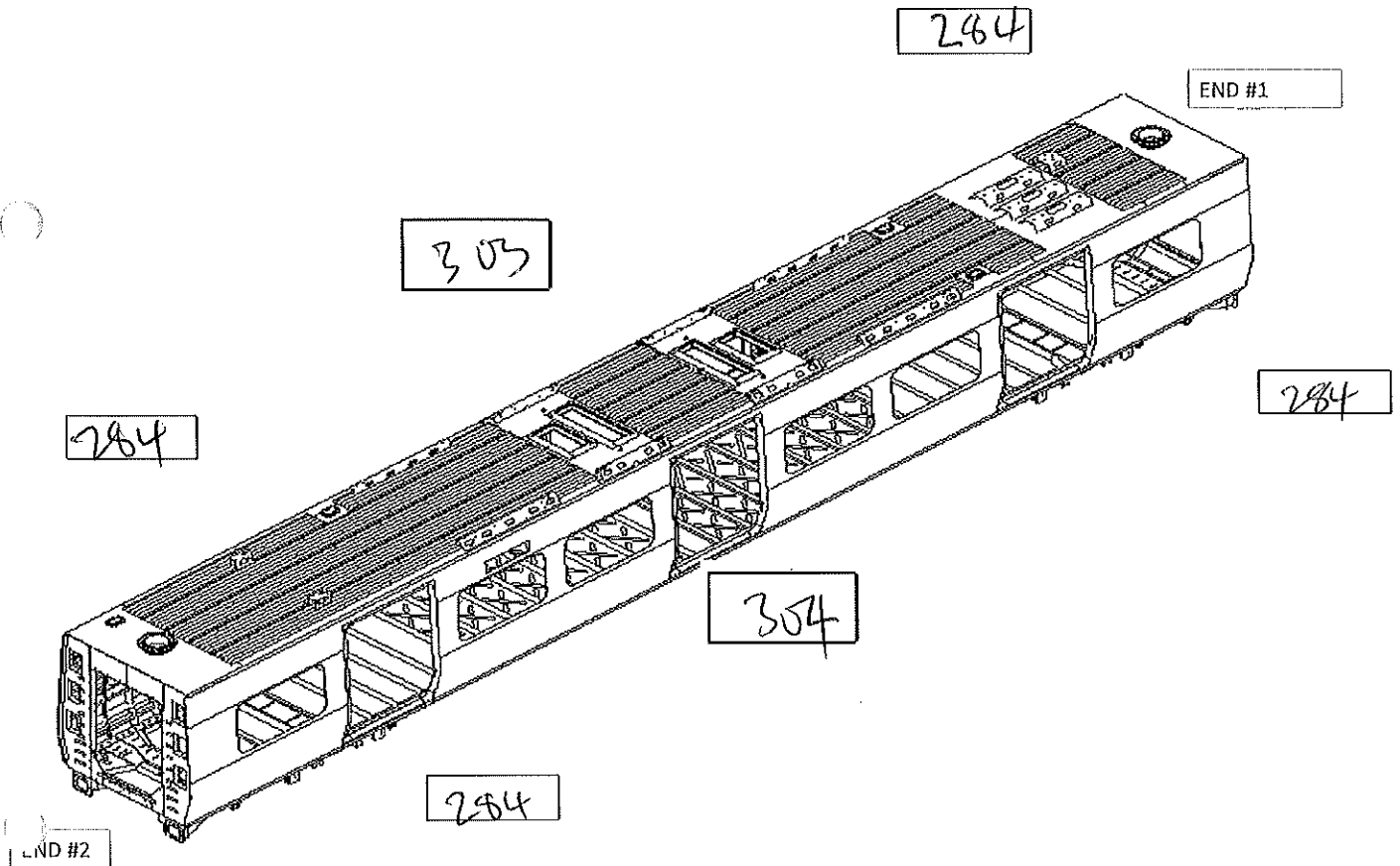
Specifications of Details for CBS measurement CB1230

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



Specifications of Details for CBS measurement CB1230

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



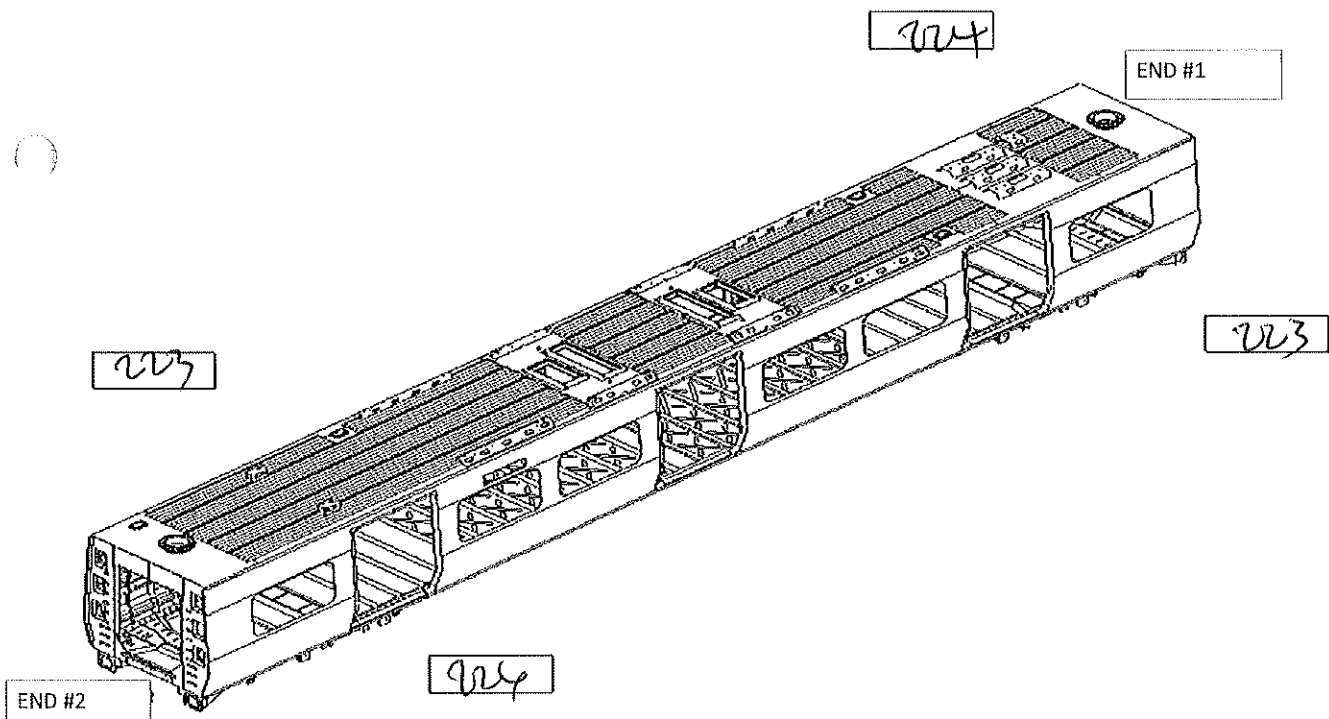
MEASURED CAMBER VALUES

RIGHT ¹ 20

LEFT ^{a1} 19

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 following twist measurement document.



TWIST FOUND ON END 1

TRANVERS

3

LONGITUDIN

1

TWIST FOUND ON END 2

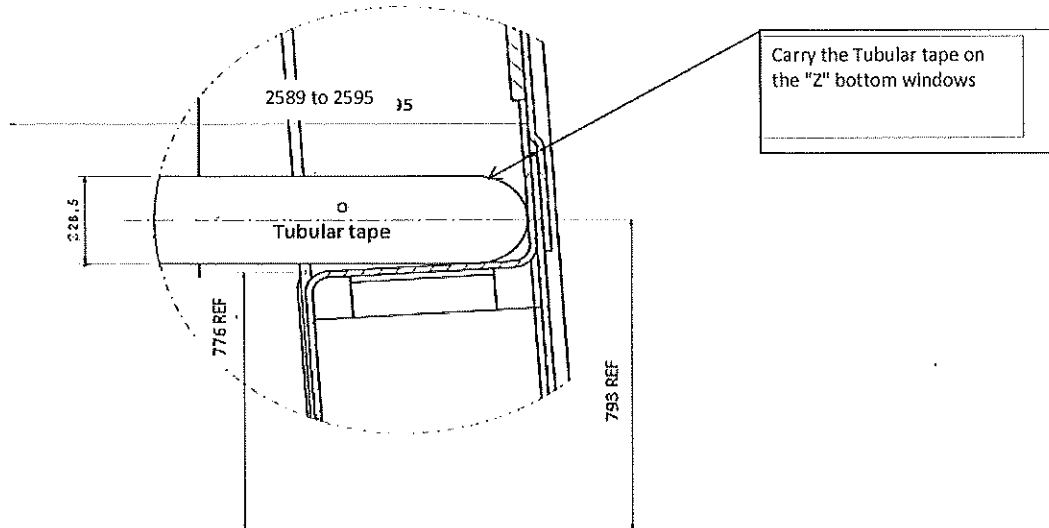
TRANVERSE

1

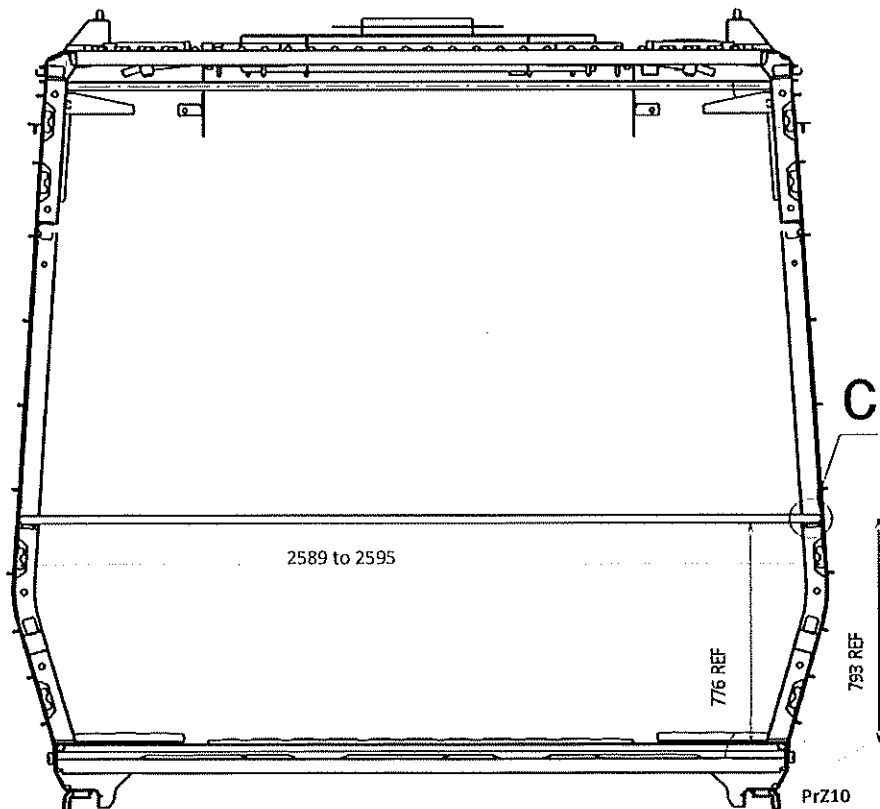
LONGITUDINAL

3

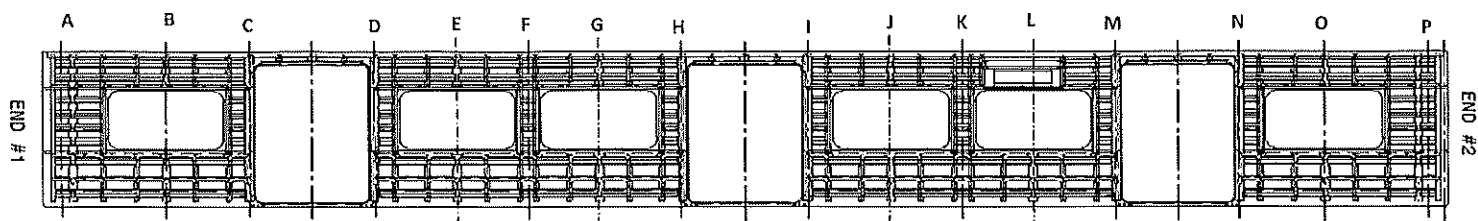
Specifications of Details for CBS measurement CB1230



Detail C

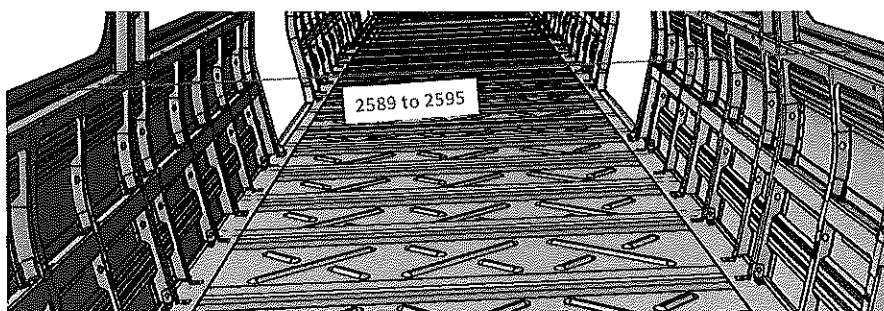


Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



Threshold verification

Nominal value :38

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

BOILER MAKER: monhanha

Welder mmathapelo



CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
29

Date

06/11/2023

Project: PRASA

SI.CB1230.256.V28

Dye penetrant test

Dye-penetration test to be performed by quality personnel



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



CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
29

Date

06/11/2023

Project: PRASA

SI.CB1230.256.V28

Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT	GO	(If activities are not complete, the missing activities must not impact the next stage)		10/4/24	Zanele Mahlangu Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)		10/04/24	Ntoko Industrial Quality	
	NO GO	There are activities pendings that impact/stop the activiiles 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

