

GIBELA

PRASA PROJECT

APPLICABLE FROM TRAINSET 190+ AS PER BASELINE 10.4

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

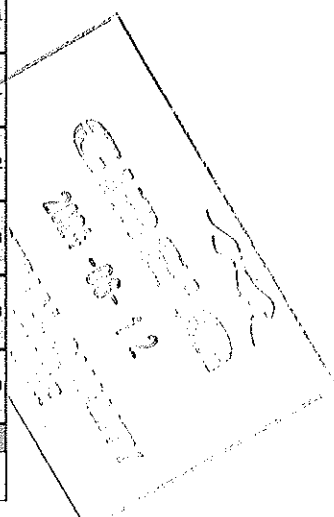
This document and the information contemplated therein have to be considered as Confidential Information pursuant to the provisions of Clause 25 of the MSA, and treated as such.


APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ?
				TC1	M1	M2	M3	TC2			
<input checked="" type="checkbox"/>	DTR3000152644	AAD0001278566	CARBODYSHELL M3,M4 ASSEMBLY	CB1210		X			X	PRA.CB1210.DTR30225 487/3.V30	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 10.2.5	APPROVER	Itumeleng Modiba	21/08/2019
			CHECKER	Nosizo Pindela	21/08/2019
			REVISED BY	Nosizo Pindela	21/08/2019
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	
			REVISED BY	Bongane Masina	
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi collins	17/08/2021
			CHECKER	Mpho Mulaudzi	
			REVISED BY	Mpho Mulaudzi	
25	19/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombi collins	19/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/04/2023	Addition of welding consumable traceability	APPROVER	Ntuli Vanessa	14/04/2023
			CHECKER	Mohlame Amogelang	
			REVISED BY	Mohlame Amogelang	
30	20/07/2023	New Baseline change 10.4	APPROVER	Ngobeni Tyson	28/07/2023
			CHECKER	Mohlame Amogelang	
			REVISED BY	Mohlame Amogelang	
31	07/11/2023	Added traceability for welding sections	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Mohlame Amogelang	
			REVISED BY	Ntokozo Zwane	

TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES
233	M3	Timothy-48354	15/06/24	SI.CB1210.254.V30	17

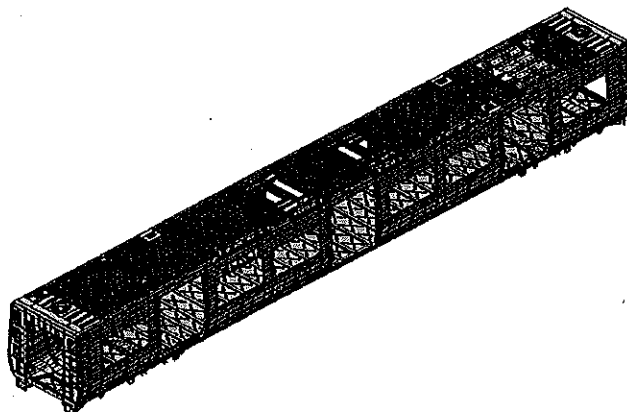


	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB1210.254.V30
		Date 07/11/2023	

Car: M3 & M4	NCR:	Work station: CB1210
--------------	------	----------------------



Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
	CI	ME	SE	SE	SE	SE						
DTR30225487/3						✓	31		✓		15/06/24	15/06/24

I.2 - Instruments Control

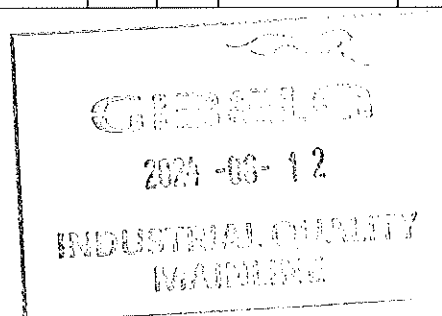
Monitoring and Measuring Instrument Control - Used for Special Process


Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
LASER TAPE	12542594	07/02/25	✓		15/06/24	15/06/24
MEASURING TAPE	GIBELO0084	31/03/25	✓		15/06/24	15/06/24
TUBULAR	22316	07/02/25	✓		15/06/24	15/06/24

1.3 Consumables

Welding Consumable Control - Used for Special Process


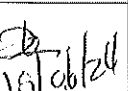

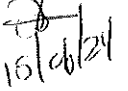


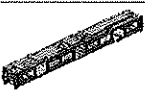
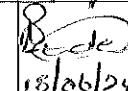
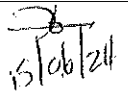
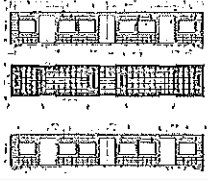
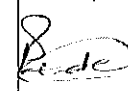
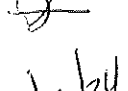


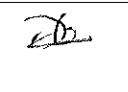
Weld Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSi	327730-74781	MIG	✓		15/06/24	15/06/24
ER 309 LSi	318394-74708	MIG	✓		15/06/24	15/06/24
ER 308 L	310442-73092	TIG	✓		15/06/24	15/06/24





	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB1210.254.V30
		Date 07/11/2023	

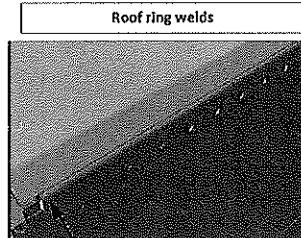
II - Self Inspection - Items to Check

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓		 15/06/24	 15/06/24
02	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 15/06/24	 15/06/24
03	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 15/06/24	 15/06/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 15/06/24	 15/06/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓		 15/06/24	 15/06/24
06 	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.	✓		 15/06/24	 15/06/24


 2024-06-15
 15/06/24

	CARBODYSHELL M3,M4 ASSEMBLY DTR30226487/3	Rev. 31	Project: PRASA SI.CB1210.254.V30
		Date 07/11/2023	
Welding Tracedability			

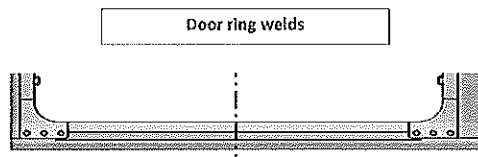


Boiler maker (Name & Sign): <u>Fontso [Signature]</u> ^{LHS}	Welder (Name & Sign): <u>MTHOKOZISI [Signature]</u>
Boiler maker (Name & Sign): <u>Fontso [Signature]</u> ^{RHS}	Welder (Name & Sign): <u>MTHOKOZISI [Signature]</u>

END 1

Boiler maker (Name & Sign): <u>Fontso [Signature]</u> ^{LHS}	Welder (Name & Sign): <u>MTHOKOZISI [Signature]</u>
Boiler maker (Name & Sign): <u>Fontso [Signature]</u> ^{RHS}	Welder (Name & Sign): <u>MTHOKOZISI [Signature]</u>

END 2



^{LHS}

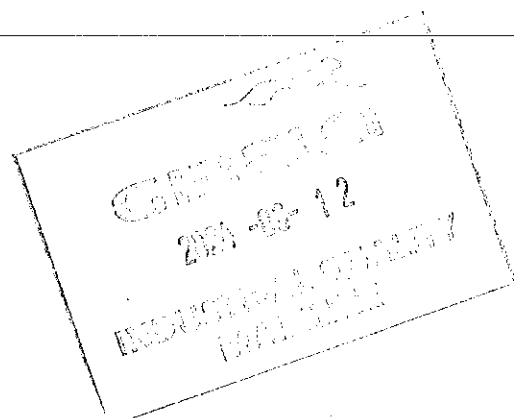
Boiler maker (Name & Sign): Tim [Signature]

Welder (Name & Sign): MTHOKOZISI [Signature]

^{RHS}

Boiler maker (Name & Sign): Tim [Signature]

Welder (Name & Sign): MTHOKOZISI [Signature]





CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

Rev.

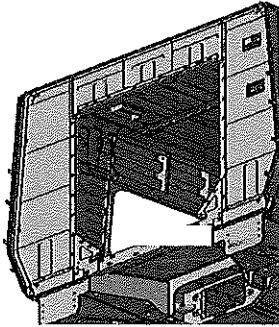
31

Date

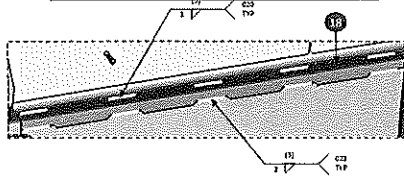
07/11/2023

Project: PRA5A

SI.CB1210.254.V30



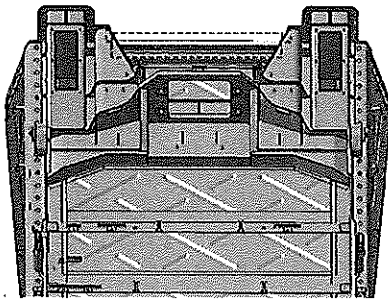
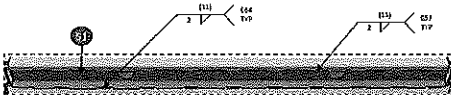
EUF Reinforcement Plates



END 1

Boiler maker (Name & Sign): LALITHA

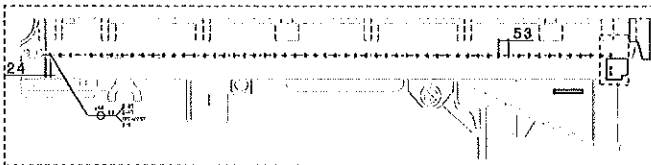
Welder (Name & Sign): SATHIARAJ



END 2

Boiler maker (Name & Sign): LUNGA

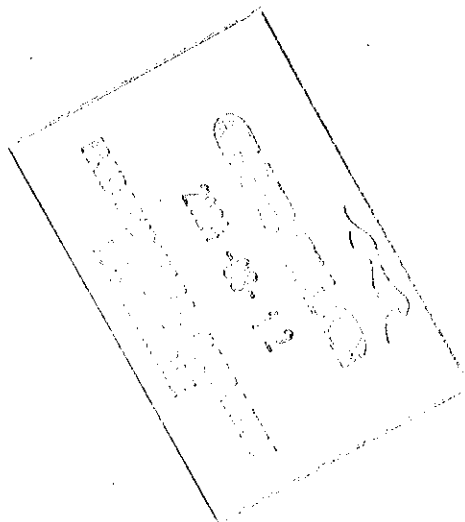
Welder (Name & Sign): KARTU K. M.




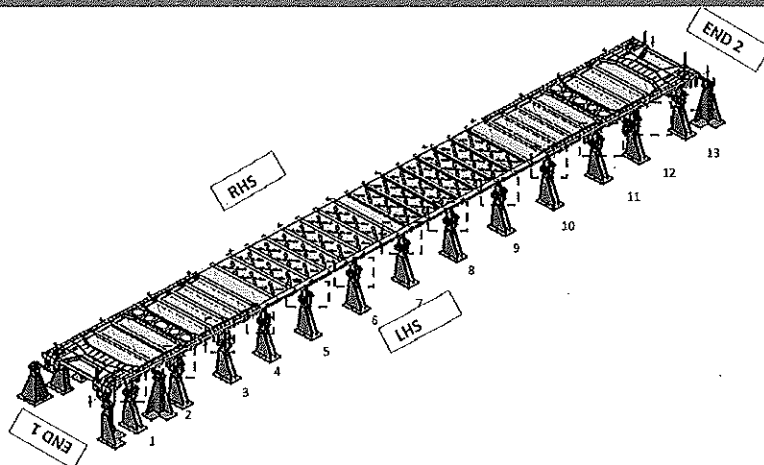
FEDOLI

Operator:

Tubog



	CARBODYSHELL M3,M4 ASSEMBLY DTR30226487/3	Rev. 31	Project: PRASA SI.CB1210.254.V30
		Date 07/11/2023	
Specifications of Details for CBS measurement			



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

After loading and clamping

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

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

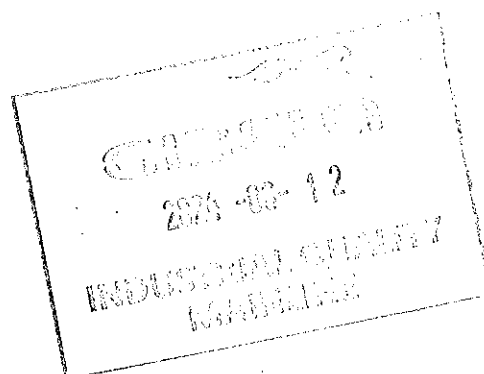
Signature Operations:  Date: 15/06/24

After Welding.

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

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

Signature Industrial Quality:  Date: 15/06/24





CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

Rev.

31

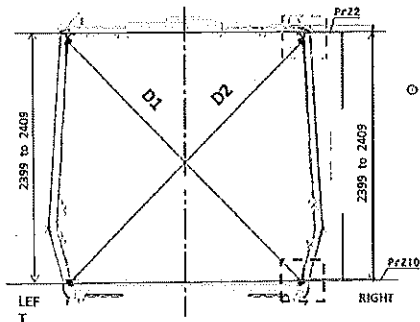
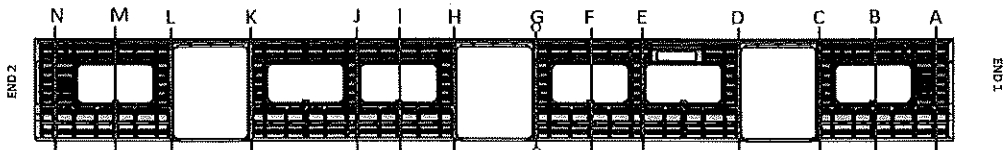
Date

07/11/2023

Project: PRA5A

SI.CB1210.254.V30

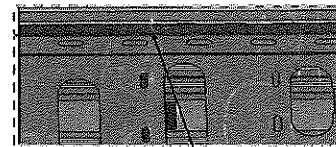
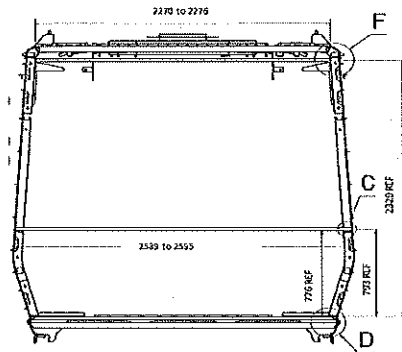
Specifications of Details for CBS measurement



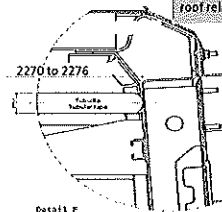
Measurement positions on roof rail and sidewall omega corner.



Measurement positions on sidewall and side sill corner.

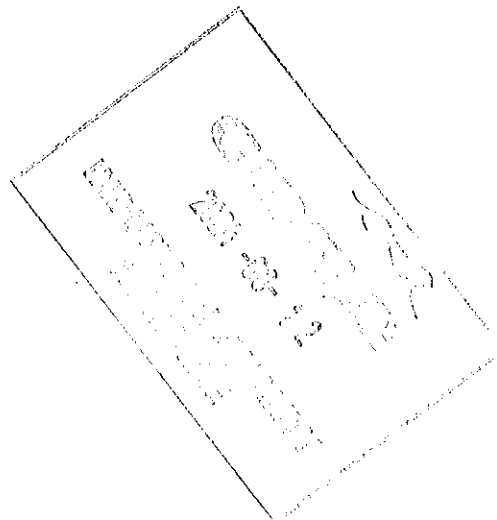


Reinforcement area measurement positions on roof reinforcement area.



Detail F

Don't compromise the reinforcement

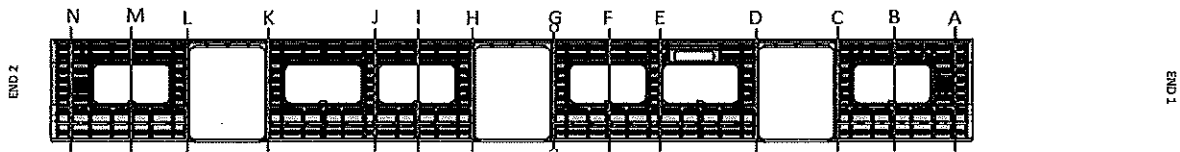




CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

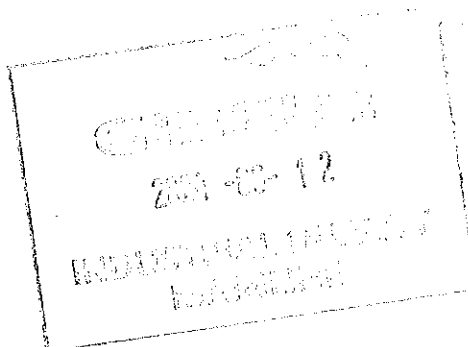
Rev.
31
Date
07/11/2023Project: PRASA
SI.CB1210.254.V30

Specifications of Details for CBS measurement

PME Column LHS - RHS should be
≤ 2MM on each point.

BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3264	3267	3	2407	2406	1
B	3266	3265	1	2407	2407	0
C	3269	3268	1	2405	2407	2
D	3263	3266	3	2406	2406	0
E	3267	3265	2	2406	2407	1
F	3263	3265	2	2408	2408	0
G	3268	3268	0	2408	2407	1
H	3266	3267	1	2406	2407	1
I	3261	3263	2	2405	2405	0
J	3265	3266	1	2406	2407	1
K	3265	3265	0	2407	2407	0
L	3267	3267	0	2404	2404	0
M	3264	3266	2	2405	2406	1
N	3263	3266	3	2406	2407	1





CARBODYSHELL M3,M4 ASSEMBLY DTR30226487/3

Rev.

31

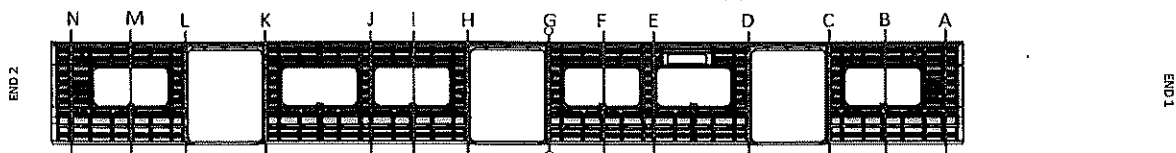
Date

07/11/2023

Project: PRASA

SI.CB1210.254.V30


Specifications of Details for CBS measurement

PME Column LHS - RHS should be $\leq 2\text{MM}$ on each point.

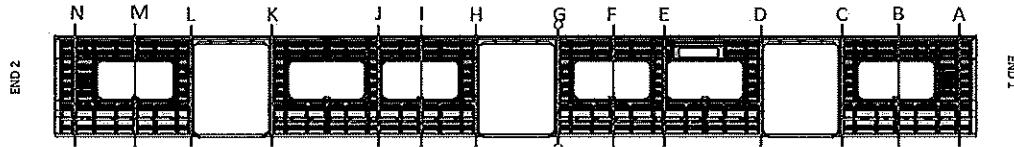
AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3294	3297	3	2407	2406	1
B	3266	3265	1	2407	2407	0
C	3299	3298	1	2405	2407	2
D	3293	3296	3	2406	2406	0
E	3267	3265	2	2406	2407	1
F	3263	3265	2	2408	2408	0
G	3298	3298	0	2408	2407	1
H	3296	3297	1	2406	2407	1
I	3261	3263	2	2405	2405	0
J	3265	3266	1	2406	2407	1
K	3295	3295	0	2407	2407	0
L	3297	3297	0	2404	2404	0
M	3264	3266	2	2405	2406	1
N	3293	3296	3	2406	2407	1

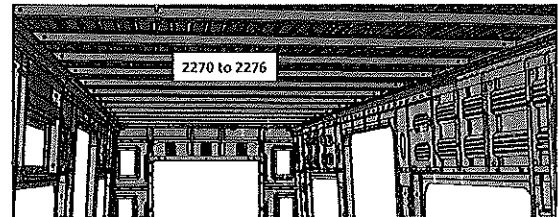
RECEIVED
15/06/24

	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRA5A SI.CB1210.254.V30
		Date 07/11/2023	
		CBS measurement	

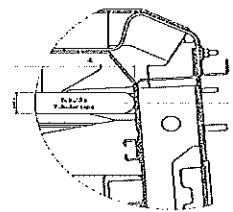
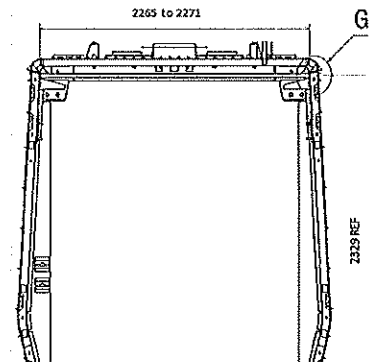
BEFORE WELDING



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

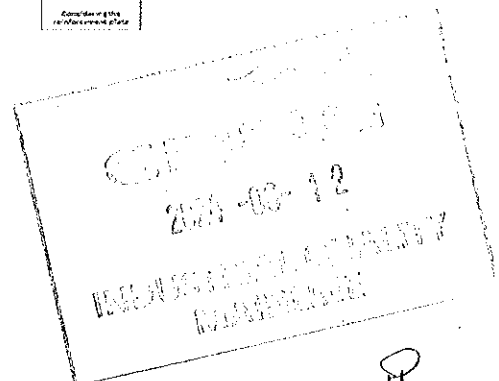


Do not consider reinforcement (Take measurements top area of zee profile



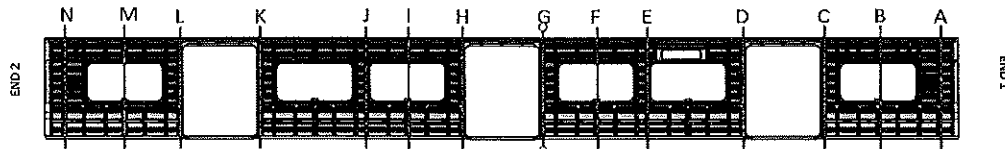
2265 to 2271

Detail 0
Consider the reinforcement plate

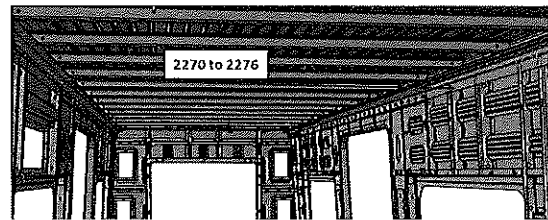


15/06/24

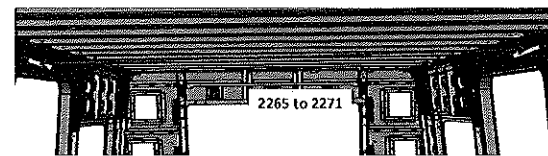
AFTER WELDING



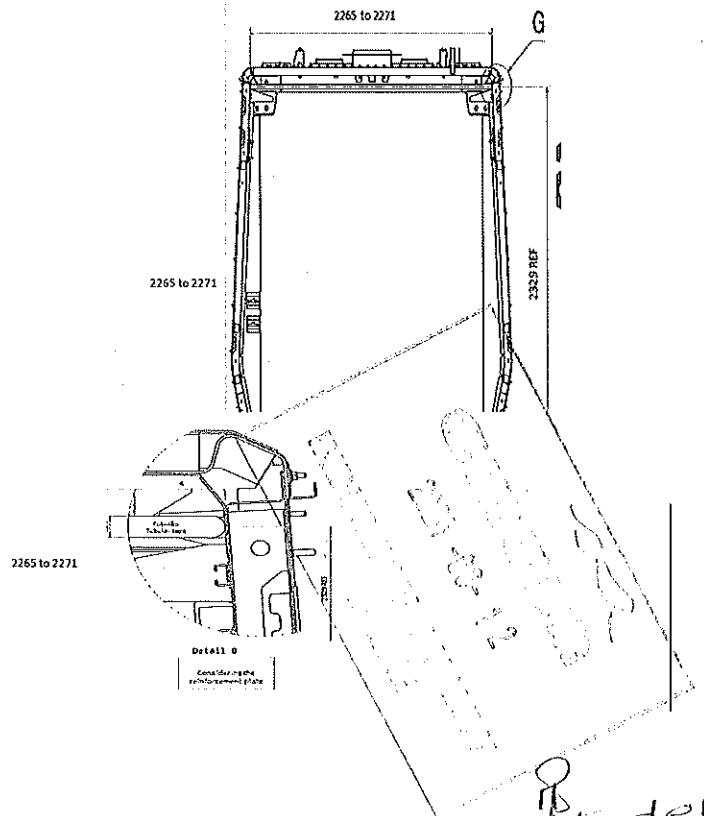
	2265 to 2271	2270 to 2276
A	2268	
B		2275
C	2266	
D	2268	
E		2276
F		2274
G	2269	
H	2265	
I		2275
J		2274
K	2268	
L	2265	
M		2276
N	2267	



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



Take measurement close to radius (considering reinforcement)



Redeb
15/06/24

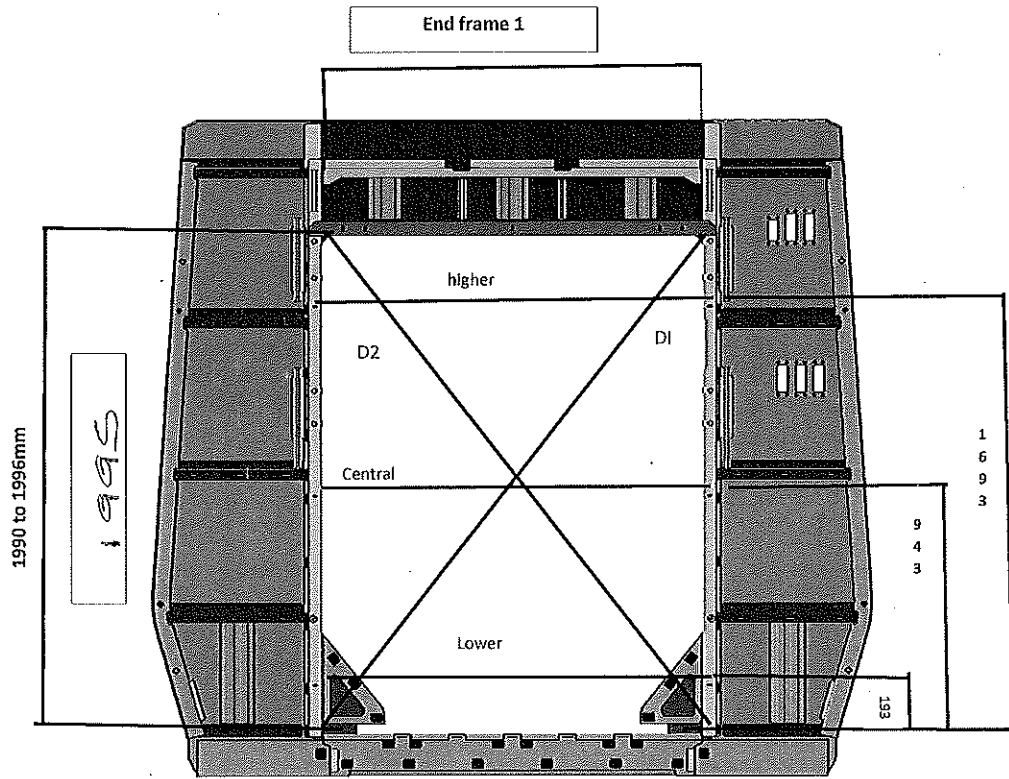


CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

Rev.
31
Date
07/11/2023

Project: PRASA
SI.CB1210.254.V30

Specifications of Details for CBS measurement



Higher Dimension

1381

Central Dimension

1381

Lower Dimension

1380

D1

2412

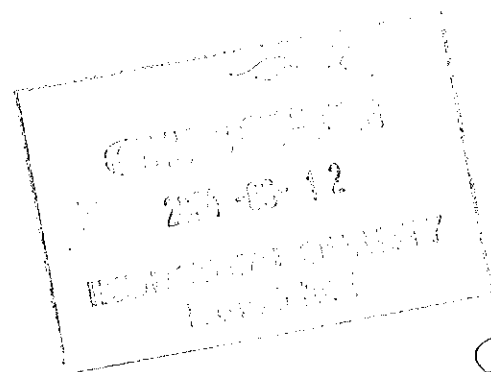
D2

2414

D1-D2

2

DIAGONAL DIFFERENCE $D1-D2 \leq 3mm$





CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

Rev.

31

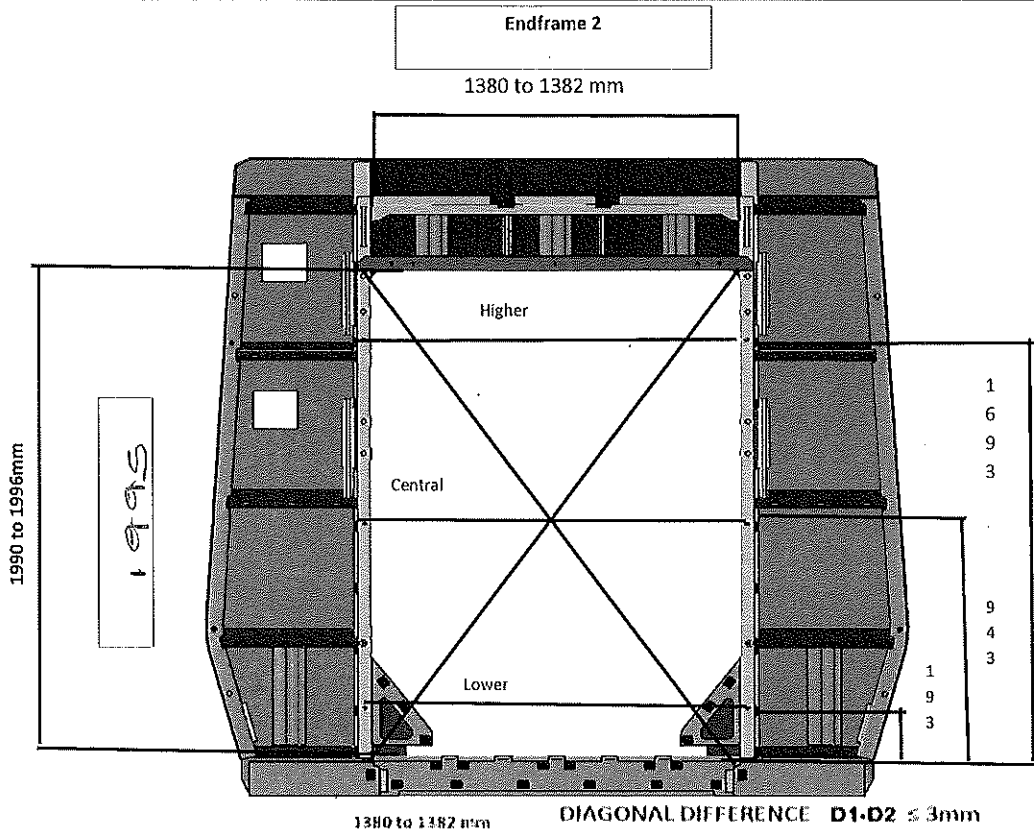
Date

07/11/2023

Project: PRASA

SI.CB1210.254.V30

Specifications of Details for CRS measurement



DIAGONAL DIFFERENCE $D1-D2 \leq 3mm$

Higher Dimension

1380

D1

2415

Central Dimension

1381

D2

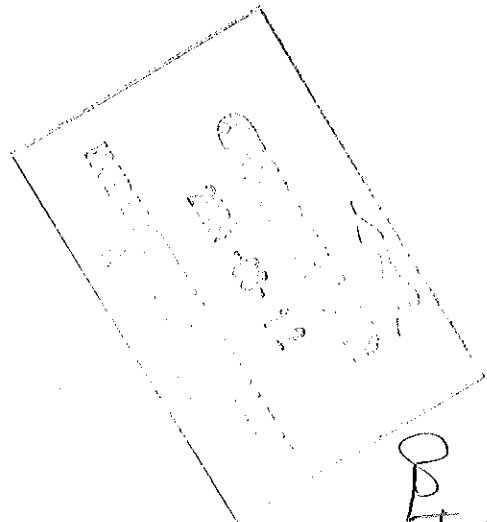
2416

Lower Dimension

1381

D1-D2

1






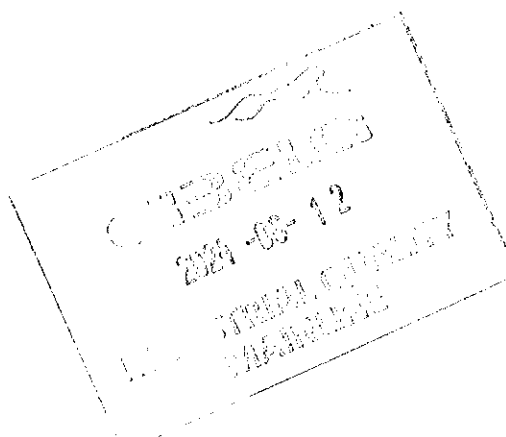
15/06/24


	RIGHT SIDE	
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	24x26

CH 1373
23-4-12
RECEIVED
MAY 1912

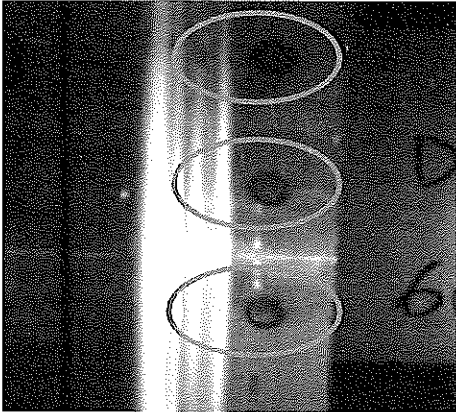
15/06/24


		CARBODYSHELL M3,M4 ASSEMBLY DTR30226487/3		Rev. 31 Date 07/11/2023	Project: PRA5A SI.CB1210.254.V30	
Self Inspection - Final Result						
				DATE	NAME	SIGNATURE
HOLD POINT		GO	(if activities are not complete, the missing activities must not impact the next stage)	15/06/24	Timothy Operations	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	15/06/24	Andani Industrial Quality	
			There are activities pending that impact/stop the activities of the next process Obs: (To describe problems below)			
			There are non-conformities impact the quality of the product and there is no corrective action defined yet)			
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-between;"> <div> Operations </div> <div> Quality </div> </div>						



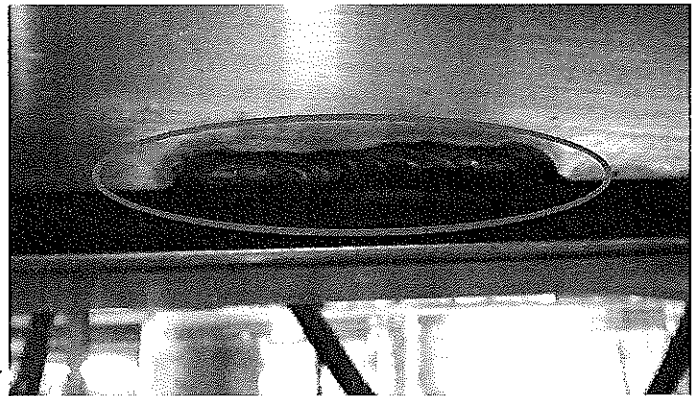
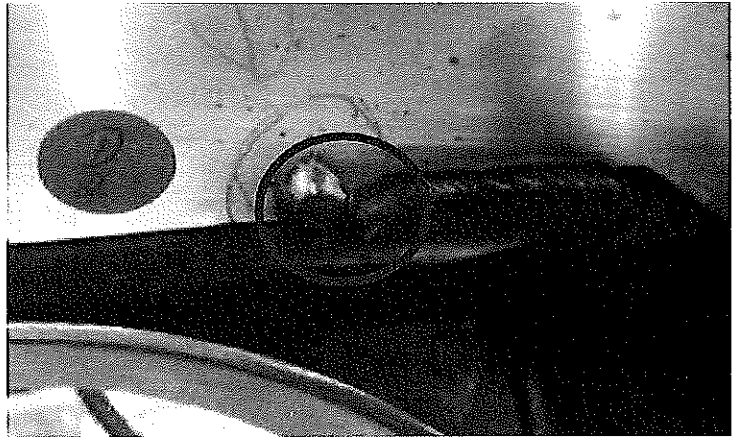
	CARBODYSHELL M3,M4 ASSEMBLY DTR30226487/3	Rev. 31	Project: PRASA SI.CB1210.254.V30
		Date 07/11/2023	

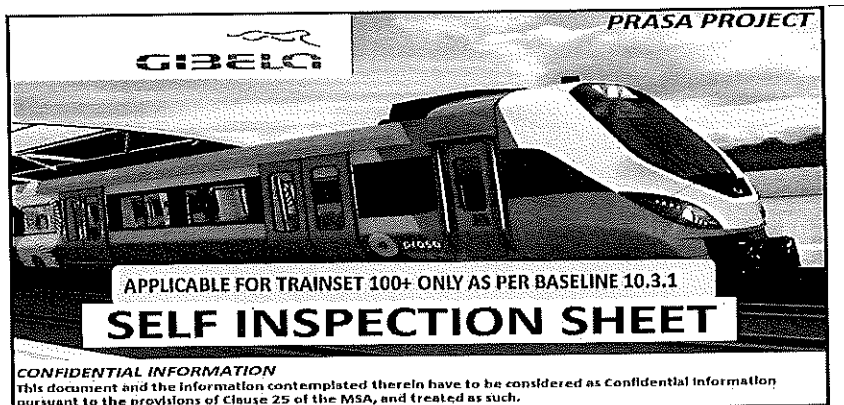
ANNEXURE A: Spot Welding Quality Acceptance Standard




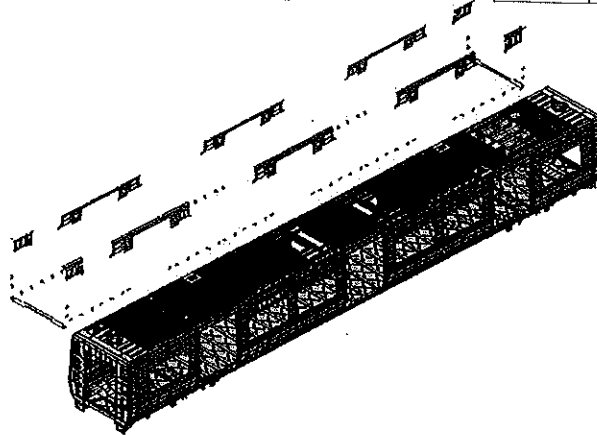
	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 31	Project: PRASA SI.CB1210.254.V30
		Date 07/11/2023	

ANNEXURE B: Arc Welding Quality Acceptance Standard






	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA SI.CB2220.250.V29
		29	
		Date	
Car: M1,M3&M4		28/10/2023	Work station: CB2220





I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
	M1	M3	M4	M5	M6						
DTR30225487/2					✓			✓		N/A	 16/06/24


I.2 - Instruments Control

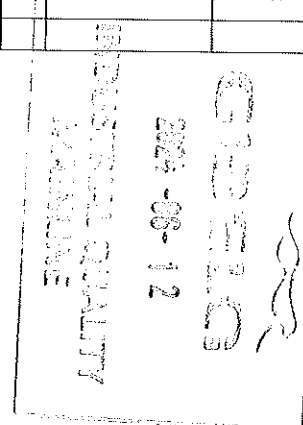
Monitoring and Measuring Instrument Control - Used for Special Process










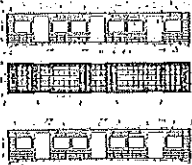





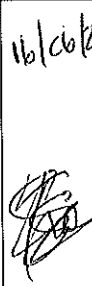
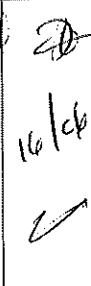





Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Intubator	32823-3	2025/03/15	✓			16/06/24
Measuring tape	618710399	2025/04/16	✓			16/06/24


1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
308 1.0 mm		MIG	✓			16/06/24

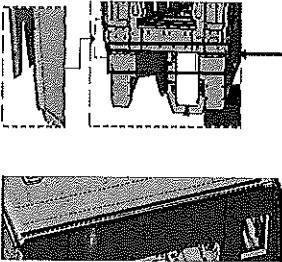


GIBELQ		CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2		Rev. 29 Date 28/10/2023	Project: PRASA SI.CB2220.250.V29	
II - Self Inspection - Items to Check						
II.1 - Items to check						
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB2220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	PRA.CB2220.DTR30225487/2	✓	 16/06/24	 16/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓	 16/06/24	 16/06/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓	 16/06/24	 16/06/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓	 16/06/24	 16/06/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓	 16/06/24	 16/06/24
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.	✓	 16/06/24	 16/06/24
07	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (°C) Min-Max 10°C - 35°C Relative humidity Min - Max 25% - 80% Max (l)	Sealant Batch No: 129431 Exp Date: 01/06/24 Actuals Temperature: 19°C Humidity: 64%	✓	 16/06/24	 16/06/24
08	NA	Verification of sealant application in certain regions in the drawing.	AA00001278566	✓	 16/06/24	 16/06/24
09		Verification of safety welds	Approved according to DTD000210658 reference and Self inspection	✓	 16/06/24	 16/06/24


	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRASA SI.CB2220.250.V29
		29	
		Date	
		28/10/2023	


II - Self Inspection - Items to Check

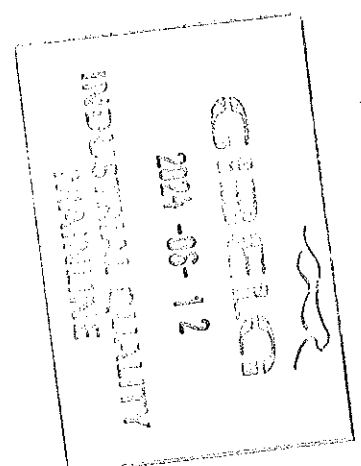
SEALANT APPLICATION




AREA 1 & 2 END 1

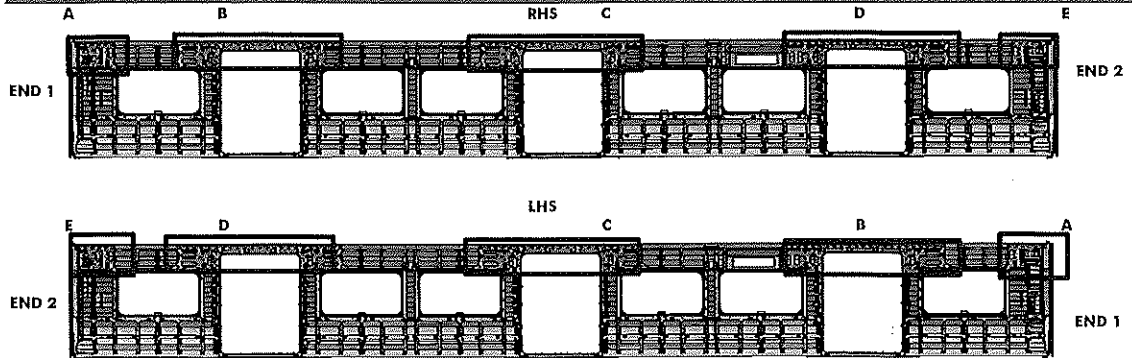
Operator (Name & sign): 

Operator (Name & sign): 



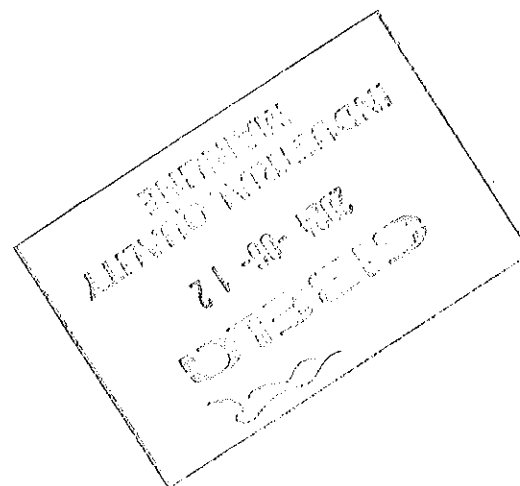
	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA
		29	
		Date	
		28/10/2023	SI.CB2220.250.V29


II - Self Inspection - Items to Check

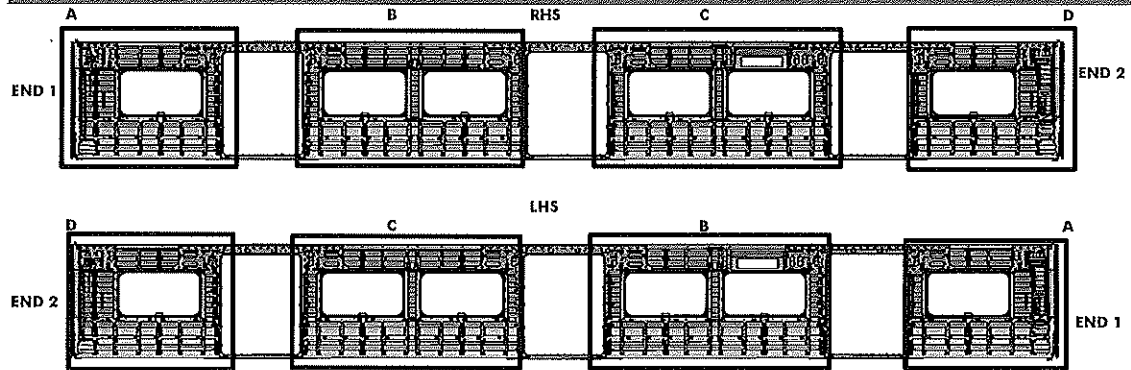


REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>S. M. Aguiar</u>	<u>S. M. Aguiar</u>
B	Operator (Name&sign): <u>S. M. Aguiar</u>	<u>S. M. Aguiar</u>
C	Operator (Name&sign): <u>THULAN</u>	<u>THULAN</u>
D	Operator (Name&sign): <u>Sibiga</u>	<u>Musadun</u>
E	Operator (Name&sign): <u>Sibiga</u>	<u>Musadun</u>



	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA
		29	
		Date	SI.CB2220.250.V29
		28/10/2023	
II - Self Inspection - Items to Check			



BRACKETING

INSTALLATION	
C-RAILS:	Operator: <u>Lini [Signature]</u>
	Operator: <u>Piscilla [Signature]</u>
DOOR MECHANISMS:	Operator: <u>Piscilla [Signature]</u>
	Operator: <u>Piscilla [Signature]</u>
TAPPING PADS	Operator: <u>Piscilla [Signature]</u>
	Operator: _____
INSTALLATION & VERIFICATION	
SEAT & LUGGAGE BRACKETS:	Operator: <u>Tetelo [Signature]</u>
	Operator: _____
SEAT BRACKETS VERIFICATION:	Operator: <u>Tetelo [Signature]</u>
	Operator: _____
WELDING	
AREA	LHS
A (Seat brackets)	: Operator (Name&sign): <u>LINDO [Signature]</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>LINDO [Signature]</u>
B (Seat brackets)	: Operator (Name&sign): <u>LINDO [Signature]</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): _____
C (Seat brackets)	: Operator (Name&sign): <u>Ngzulungu [Signature]</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>Ngzulungu [Signature]</u>
D (Seat brackets)	Operator (Name&sign): <u>[Signature]</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): _____
ENDS	
END 1 TAPPING PADS WELDING:	Operator (Name&sign): <u>LINDO [Signature]</u>
END 1 TAPPING PADS WELDING:	Operator (Name&sign): _____

RHS

LINDO [Signature]

Jetty [Signature]

Jetty [Signature]

Jetty [Signature]

[Signature]


[Signature]

[Signature]

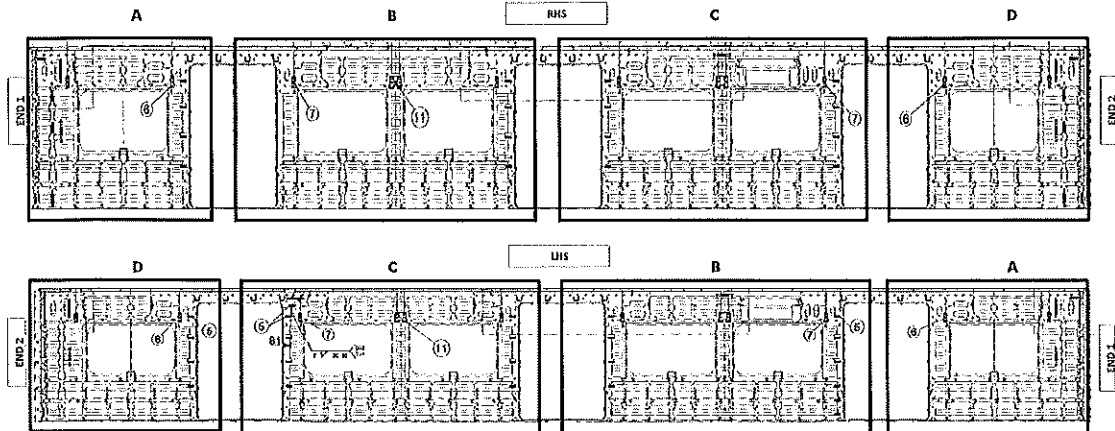
2024-06-12

QUALITY

100%

	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA SI.CB2220.250.V29
		29	
		Date	
		28/10/2023	
II - Self Inspection - Items to Check			

M1/M3/M4 BRACKET INSTALLATION



QUANTITIES (M3/M4)

RHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	7		
	B	4		
	C	8		
	D	8		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	5		
	C	4		
	D	3		

ROOF ENDS:
 C-RAILS 2 OFF EACH END
 EARTH BUSH 6 OFF EACH END
 VERIFICATION BY: Mashah

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	8		
	D	2		

ROOF ENDS:
 C-RAILS 2 OFF EACH END
 EARTH BUSH 6 OFF EACH END
 VERIFICATION BY: Mashah

QUANTITIES (M1)

RHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	7		
	B	8		
	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:
 C-RAILS 2 OFF EACH END
 EARTH BUSH 6 OFF EACH END
 VERIFICATION BY: _____

LHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	2		
	B	10		
	C	11		
	D	6		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	7		
	C	6		
	D	2		

ROOF ENDS:
 C-RAILS 2 OFF EACH END
 EARTH BUSH 6 OFF EACH END
 VERIFICATION BY: _____

21-10-2023
 21-10-2023
 21-10-2023



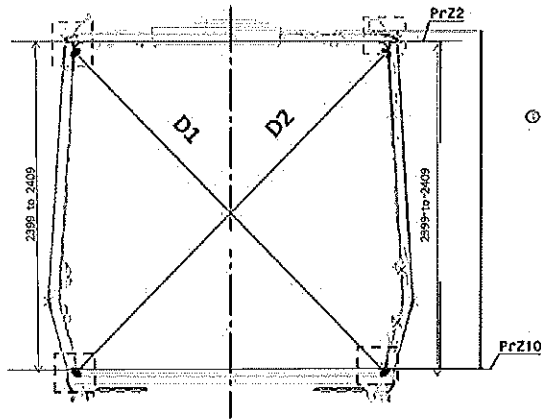
CARBODYSHELL M1,M3,M4 ASSEMBLY
DTR30225487/2

Rev.
29
Date
28/10/2023

Project: PRASA

SI.CB2220.250.V29

Specifications of Details for CBS measurement



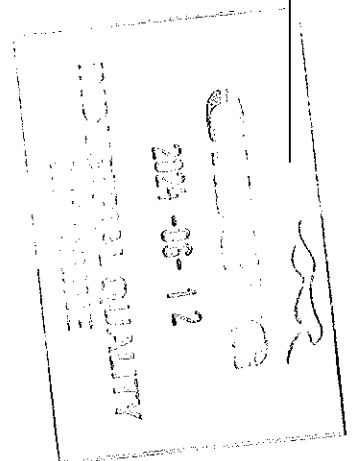
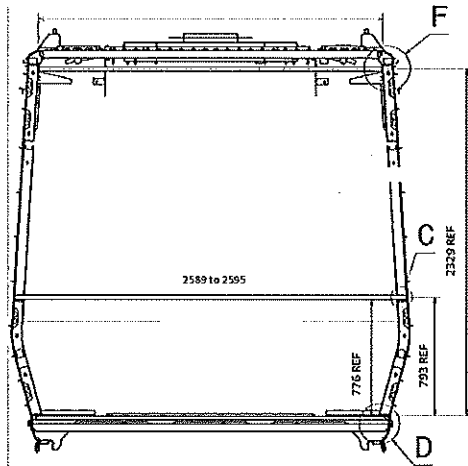
Measurement positions on roof rail and sidewall omega corner.



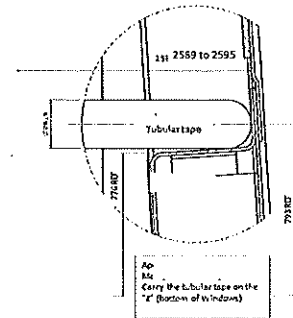
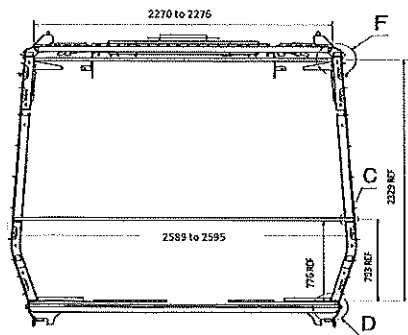
Reinforcement area measurement positions on roof reinforcement area.



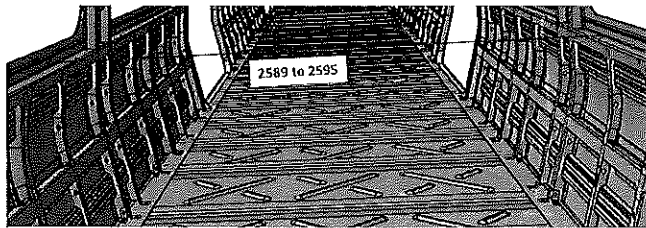
Measurement positions on sidewall and side sill corner.



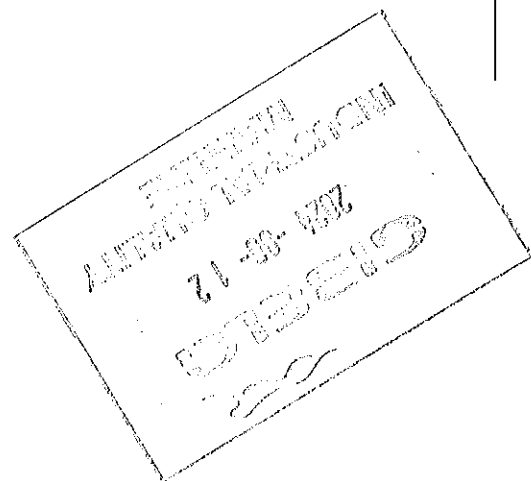
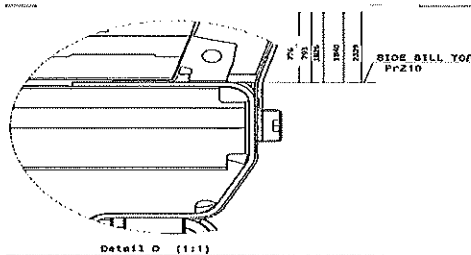
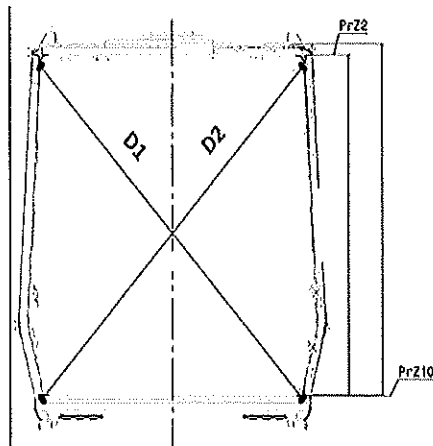
CBS measurement




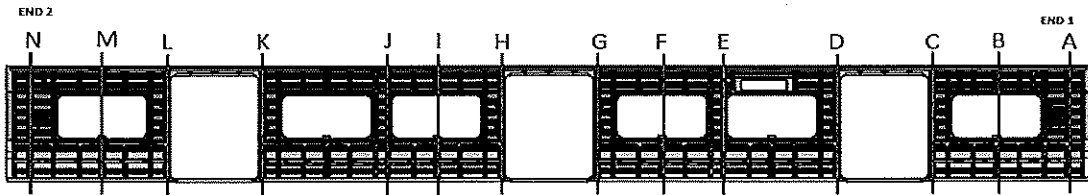
Detail C



Take measurement close to radius

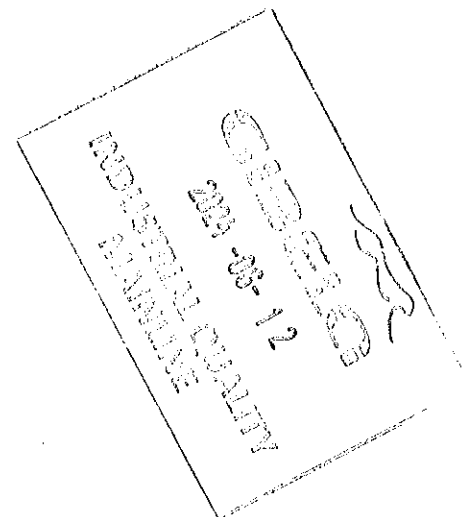



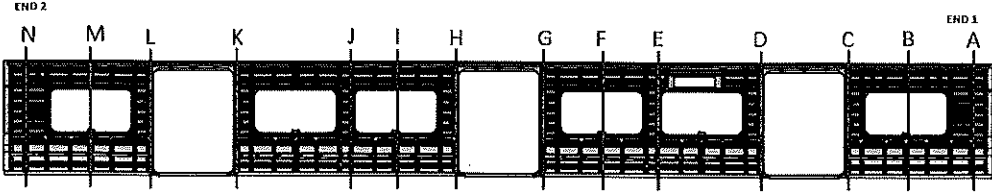
	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA SI.CB2220.250.V29
		29	
		Date	
		28/10/2023	
CBS measurement			



BEFORE WELDING

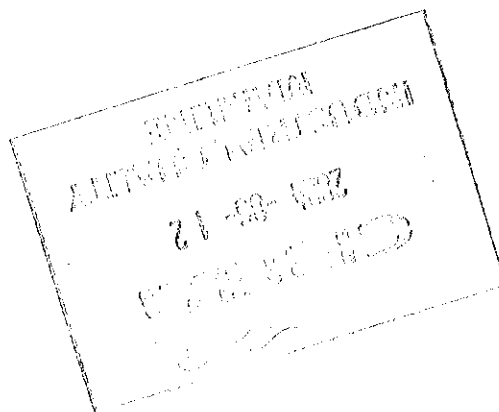
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3297	3298	1	—
B	3264	3265	1	—
C	3299	3295	4	—
D	3295	3293	2	—
E	3264	3261	3	—
F	3265	3261	4	—
G	3297	3298	1	—
H	3300	3295	5	—
I	3265	3260	5	—
J	3266	3263	3	—
K	3295	3296	1	—
L	3292	3295	3	—
M	3265	3265	0	—
N	3295	3297	2	—



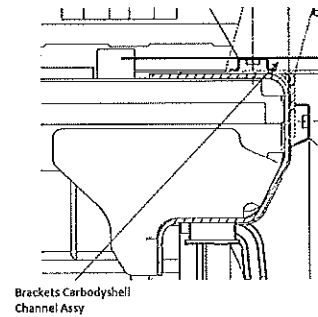
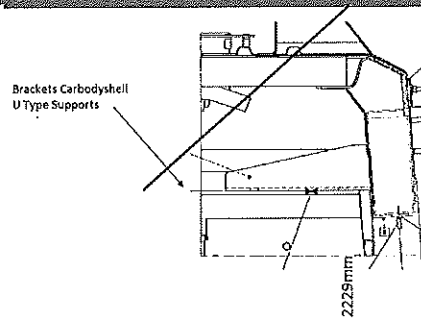
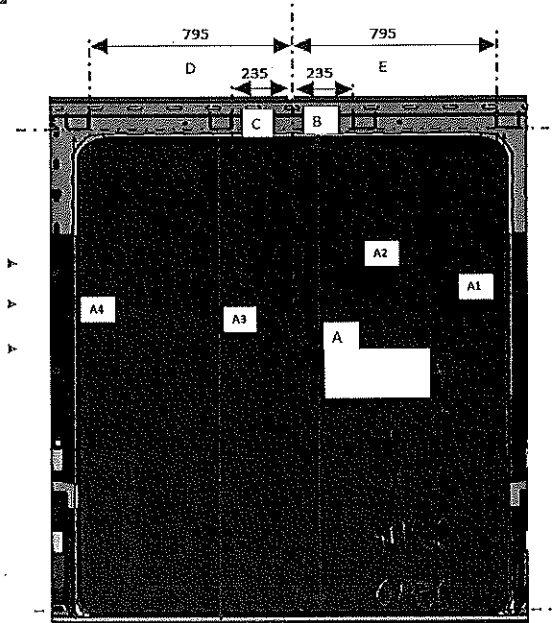
	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRA5A SI.CB2220.250.V29
		29	
		Date	
		26/10/2023	
CBS measurement			
			

AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3298	3297	1	2594
B	3266	3264	2	2593
C	3298	3295	3	2594
D	3294	3296	2	2594
E	3262	3264	2	2590
F	3263	3266	3	2593
G	3299	3296	3	2594
H	3299	3295	4	2593
I	3264	3267	3	2594
J	3268	3264	4	2591
K	3297	3295	2	2590
L	3294	3297	3	2594
M	3297	3295	2	2593
N	3298	3297	1	2594



Specifications of Details for CBS measurement CB1220



DOOR 1 - LHS

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

DOOR 2 - RHS

	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	796
E	794 to 796	794

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

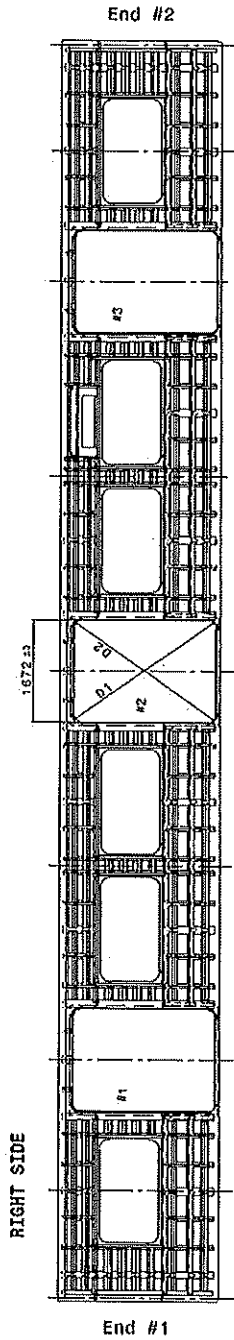
DOOR 2 - RHS

	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	236
C	234 to 236	234
D	794 to 796	794
E	794 to 796	796

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	795

Specifications of Details for CBS measurement CB1220



End #1

End #2

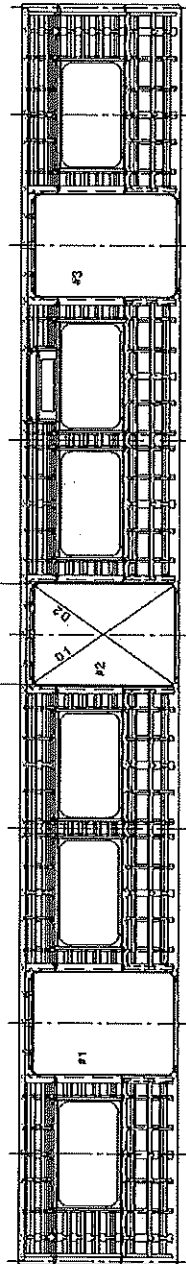
Doors diagonal D1-D2 maximum difference $\leq 4\text{mm}$

#1	#2	#3
D1 2749	2748	2747
D2 2747	2749	2749
D1-D2 2	1	2

Doors length - 1672.33mm

#1	#2	#3
HIGHER DIMENSION 1672	1672	1669
CENTRAL DIMENSION 1671	1671	1670
LOWER DIMENSION 1671	1671	1670

LEFT SIDE



End #2

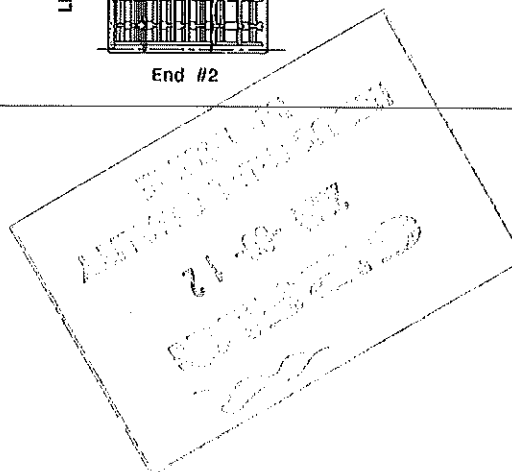
End #1



Doors diagonal D1-D2 maximum difference $\leq 4\text{mm}$

#1	#2	#3
D1 2747	2748	2750
D2 2749	2747	2747
D1-D2 2	1	3

Doors length - 1672.33mm

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



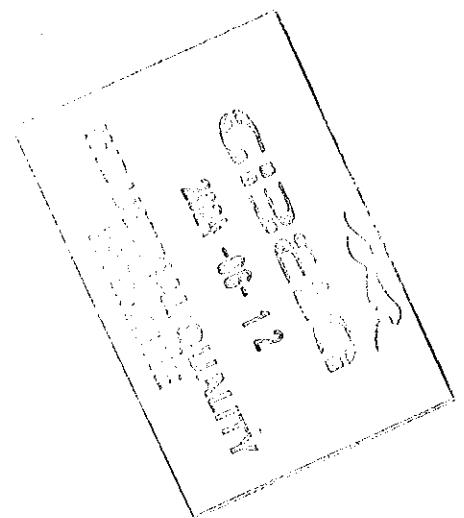
	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRASA SI.CB2220.250.V29	
		29		
		Date		
		28/10/2023		
CBS measurement (Manufacturing)				
Dye penetrant test				
Dye-penetration test to be performed by quality personnel				
				



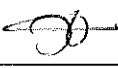
Item	Description of the Issue	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)

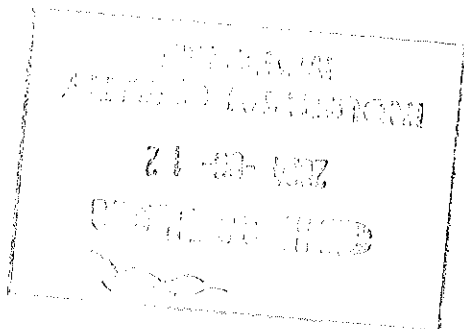
B.2 - Check List REX

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			



	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRASA SI.CB2220.250.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)	16/06/2024	Mashudi Operations		
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	06/06/2024	Pindani Industrial Quality		
		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				



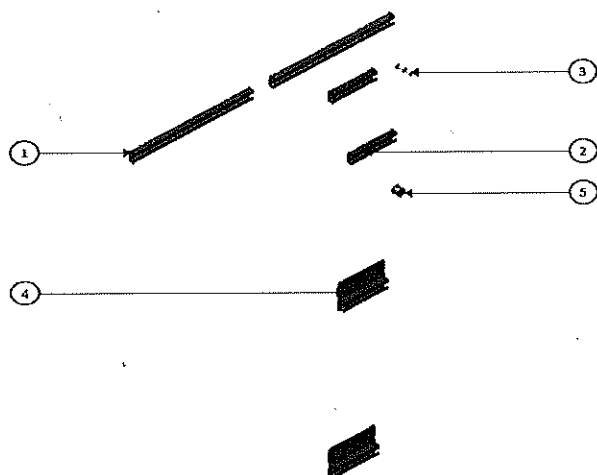
End 1 sealant
2 missing part
End 1 sealant
bushes

GIBELQ	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA
		29	
		Date	
		28/10/2023	SI.CB2220.250.V29

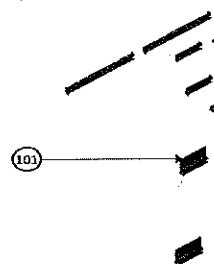
ANNEXURE A: Arc Welding Quality Acceptance Standard



Station: CB1220-004- U108 & U107



PART NO.	ITEM NO.	QTY	DESCRIPTION	MASS (KG)
DTR0020074005	5	6	EARTH STUD 6	0.035
AA00001201642	4	6	ASSEMBLY SUPPORT	0.221
DTR0000348305	3	12	WELDING STUD (603351.8 PT - M5X20 - S5T)	0.007
AA00001100423	2	12	ASSEMBLY SUPPORT	0.193
AA00001164418	1	14	ASSEMBLY SUPPORT	0.522
AA00001161000	101	6	CARBODYSHELL BRACKETS CARBODYSHELL M1/M3/M4 CAP(SIDE FRAME MODULE END - 000)	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.

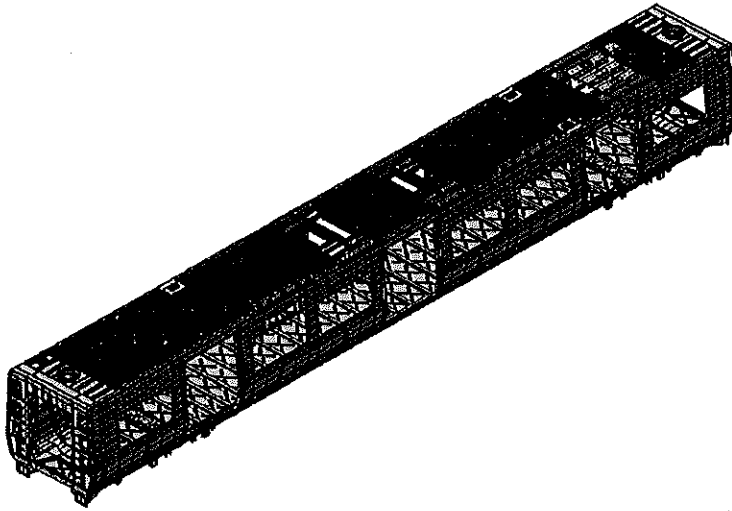
APPLICATION REFERENCE

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	CB2230		X	X		X		PRA.CB2230.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						
			COMPILED	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	Bamokhele 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 Mbombhni	20/02/2022						
			CHECKER	Andani Muthelo							
			REVISED BY	Andani Muthelo							
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Collins Mbombhni	14/06/2022						
			CHECKER	Andani Muthelo							
			REVISED BY	Andani Muthelo							
27	26/07/2022	Threshold measurements addition	APPROVER	Collins Mbombhni	26/07/2022						
			CHECKER	Andani Muthelo							
			REVISED BY	Andani Muthelo							
28	17/10/2022	Added traceability of sealant application	APPROVER	Collins Mbombhni	17/10/2022						
			CHECKER	Ntokozo Zwane							
			REVISED BY	Amogelang Mohlampe							
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023						
			CHECKER	Ntokozo Zwane							
			REVISED BY	Amogelang Mohlampe							
30	06/11/2023	Added threshold traceability for boiler makers and welders	APPROVER	Ngobeni Tyson	06/11/2023						
			CHECKER	Andani Muthelo							
			REVISED BY	Ntokozo Zwane							
TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES						
233	M3	Zandile 482774	19/06/24	SI.CB2230.256.V29	12						

	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 30	Project: PRASA SI.CB2230.256.V29
		Date 06/11/2023	
Car:	NCR:	Work station: CB2230	



Safety Related



1 - Documentation and Instruments Control

1.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	NOK	REWORK	Signature/Date (Operations)	Signature/Date (Quality)
	M1	M2	M3	M4	TC2							
PRA.CB2230.DT00000225487						30		X		N/A	19/06/24	14/06/24

1.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Tubular	27713	26/10/25	X		19/06/24	
Combination Square	Q1130794	25/04/25	X		19/06/24	
Tape Measurement	Q1130012	27/07/24	X		19/06/24	

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		MIG	X		19/06/24	14/06/24

GIBEL		CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487		Rev. 30 Date 08/11/2023	Project: PRASA SI.CB2230.256.V29		
II - Self Inspection - Items to Check							
II.1 - Items to check							
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NO	Revise	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			 19/06/24 19/06/24
02	N/A	Corshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	X			 19/06/24 19/06/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	X			 19/06/24 19/06/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	X			 19/06/24 19/06/24
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			 19/06/24 19/06/24
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			 19/06/24 19/06/24
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: <u>ISE-10-03</u> Exp Date: <u>09/24</u> Actuals Temperature: <u>18°C</u> Humidity: <u>39%</u>	X			 19/06/24 19/06/24
08	N/A	Verification of sealant application on the roof and sidewall finishers.	Sealant must be: -Applied straight and even -Free of gaps, cracks, damage and debris (flashes, dirt, dust) Refer to Annexure B	X			 19/06/24 19/06/24
09	N/A	Verification of sealant application in certain regions in the drawing.	AAD0001278566	X			 19/06/24 19/06/24



CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
30

Date

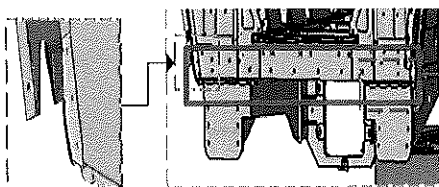
06/11/2023

Project: PRASA

SI.CB2230.256.V29

II - Self Inspection - Items to Check

AREA 1



END 2 SEALANT

OPERATOR
(Name & sign):

Zanele [Signature]

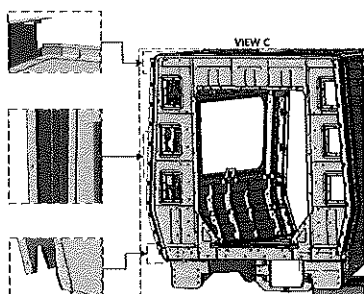
OPERATOR
(Name & sign):

Zanele [Signature]

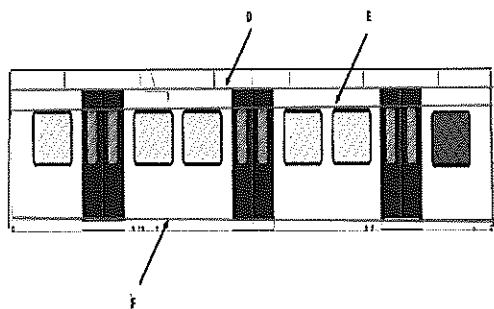
OPERATOR
(Name & sign):

Zanele [Signature]

AREA 2 (VIEW C)



H



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

Operator (Name & sign):

(F) LHS
BOTH
[Signature]

(F) RHS
BOTH
[Signature]

Operator (Name & sign):

HIDE G
Sihle [Signature]

HIDE G
Sihle [Signature]

Operator (Name & sign):

Tshenolo [Signature]

Tshenolo [Signature]

Operator (Name & sign):

[Signature]

[Signature]

Operator (Name & sign):



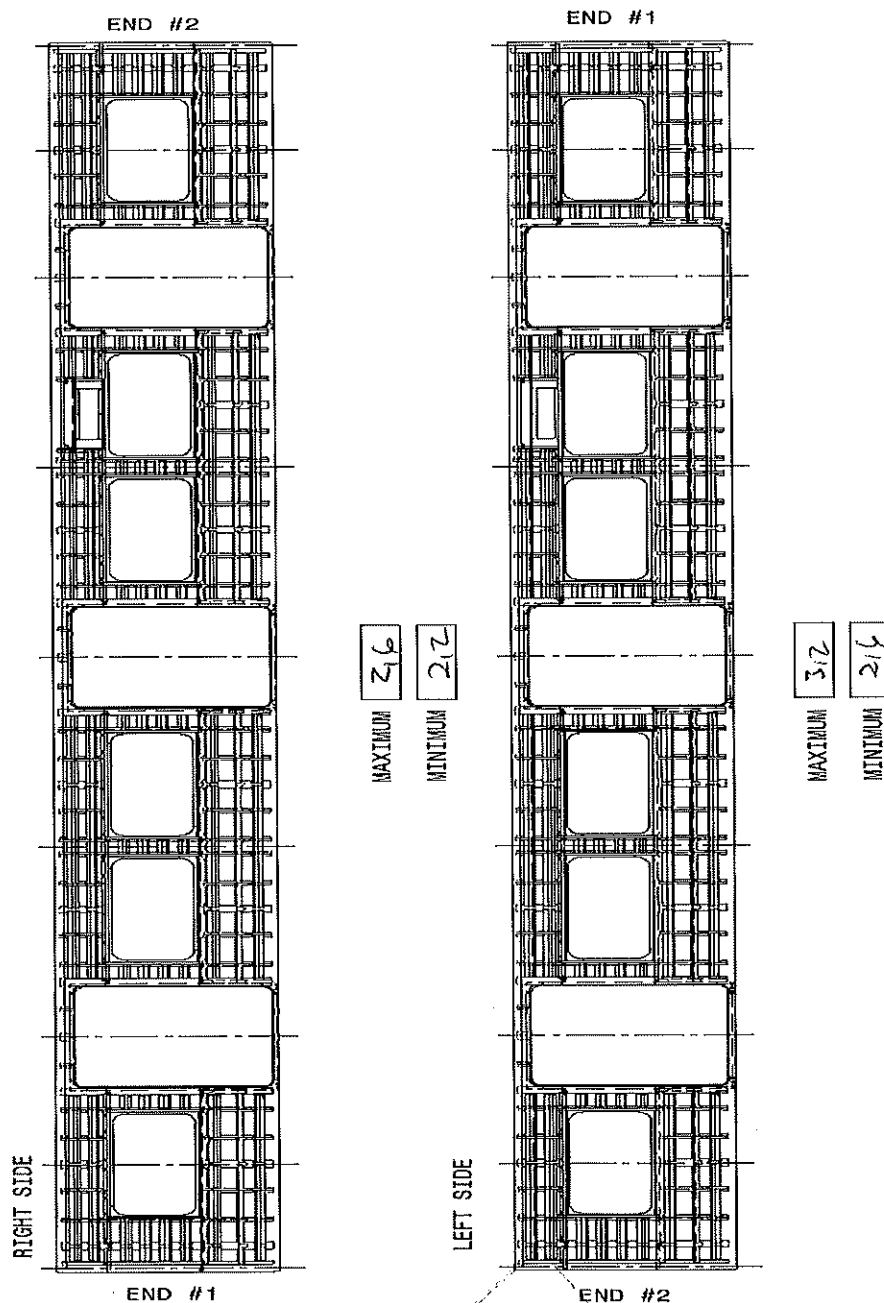
CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
30
Date
06/11/2023

Project: PRASA
SI.CB2230.256.V29

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.





CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
30

Date

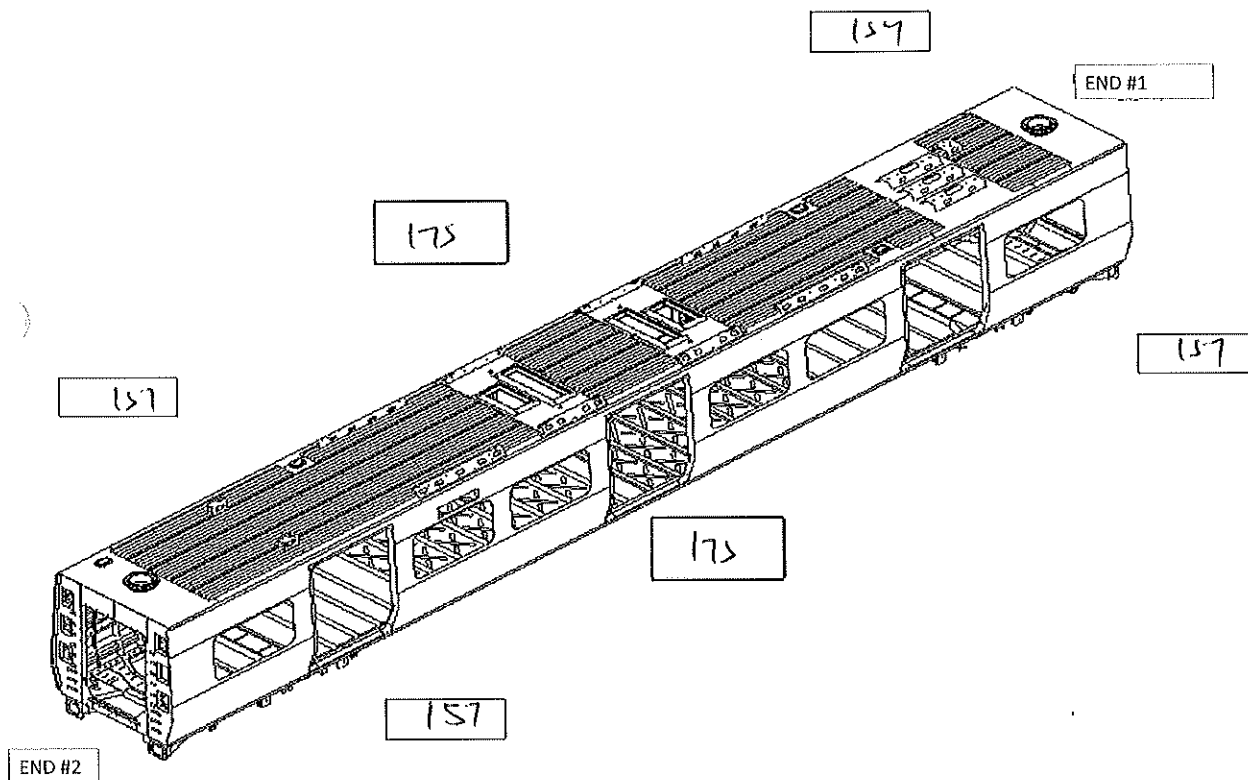
06/11/2023

Project: PRASA

SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230

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



MEASURED CAMBER VALUES

RIGHT	i1	12
LEFT	'a1	18





CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
30

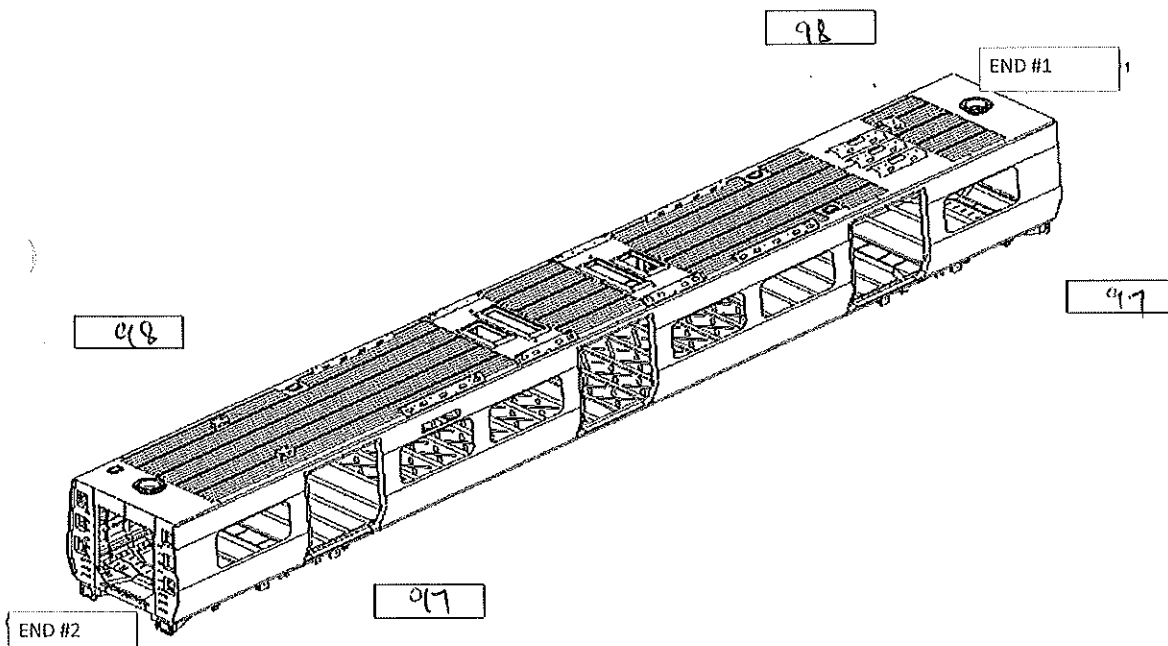
Date
06/11/2023

Project: PRASA

SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230

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



TWIST FOUND ON END 1

TRANVERSE

1

LONGITUDINAL

0

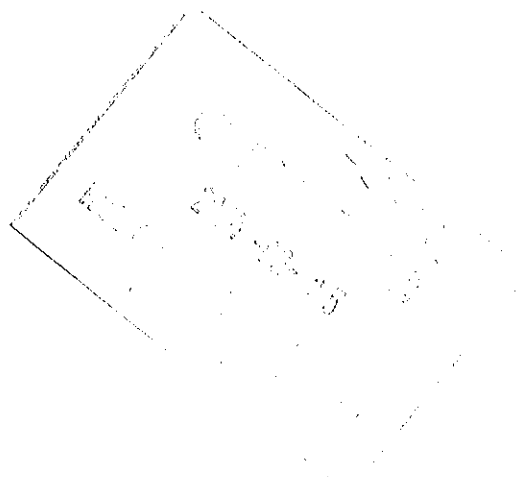
TWIST FOUND ON END 2

TRANVERSE

1

LONGITUDINAL

0



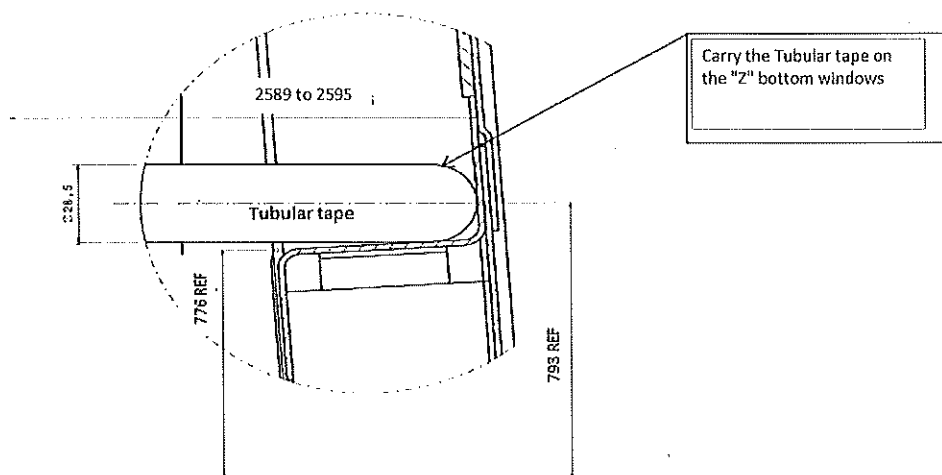


CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

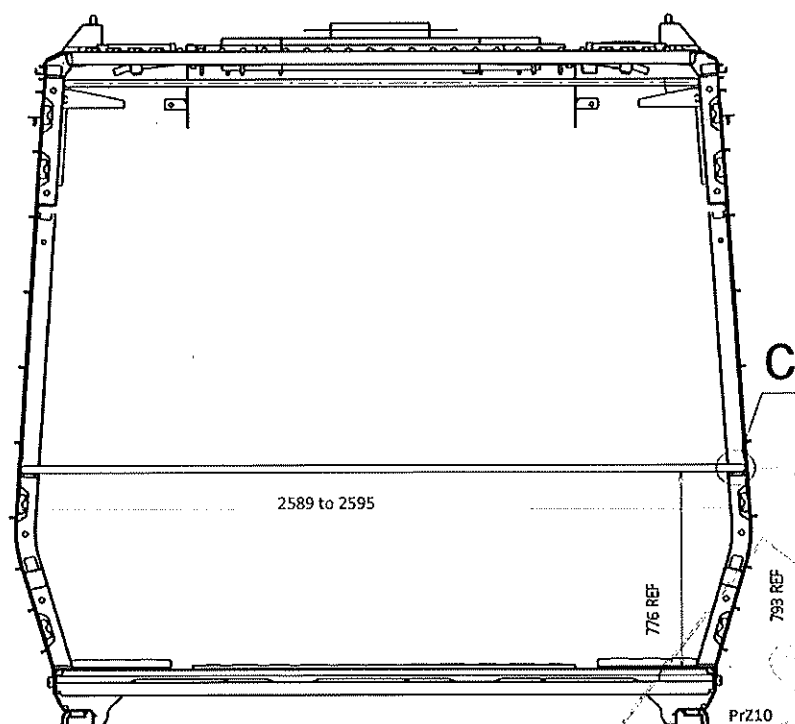
Rev.
30
Date
06/11/2023

Project: PRASA
SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230



Detail C



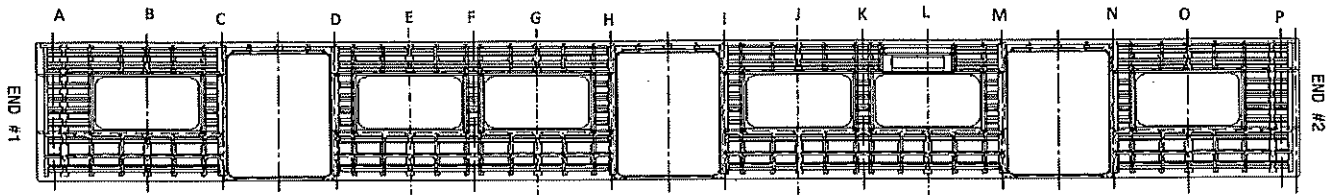


CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
30
Date
06/11/2023

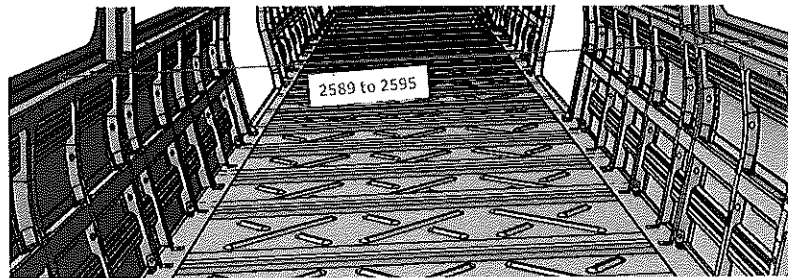
Project: PRASA
SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



Threshold verification

Nominal value :38

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

BOILER MAKER:

lerato (M)...


WELDER:

Mmaphapelo Mda.

Dye penetrant test

Dye-penetration test to be performed by quality personnel



	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 30	Project: PRASA SI.CB2230.256.V29
		Date	
		06/11/2023	

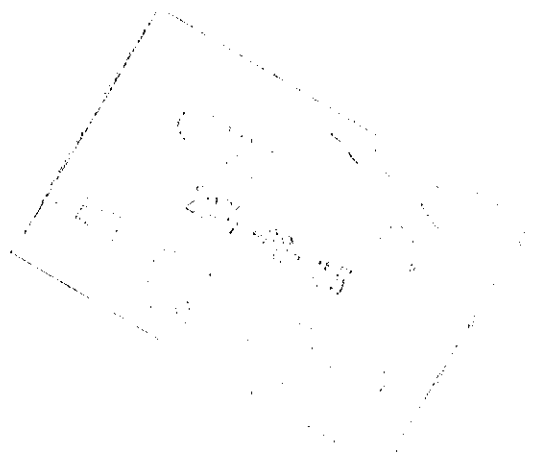
Specifications of Details for CBS measurement


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

II.2 - Check List REX


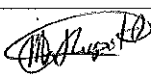
Check List Items

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



	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 30	Project: PRASA SI.CB2230.256.V29
		Date	
		06/11/2023	

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)	19/06/24	Zanele Operations		
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	19/06/24	Richmond Industrial Quality		
	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	

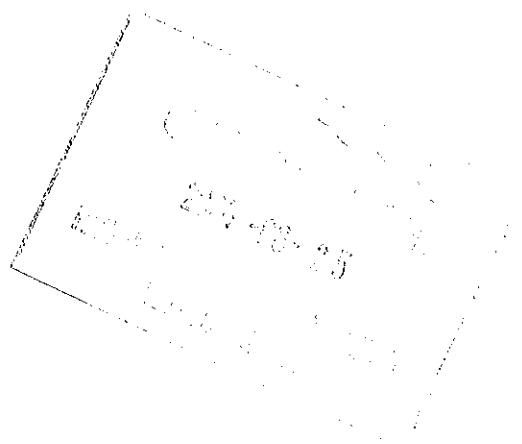
In case of "NO GO", describe blocking problems

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

Item	Description	Responsible	Due date	Status

Operations

Quality





CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

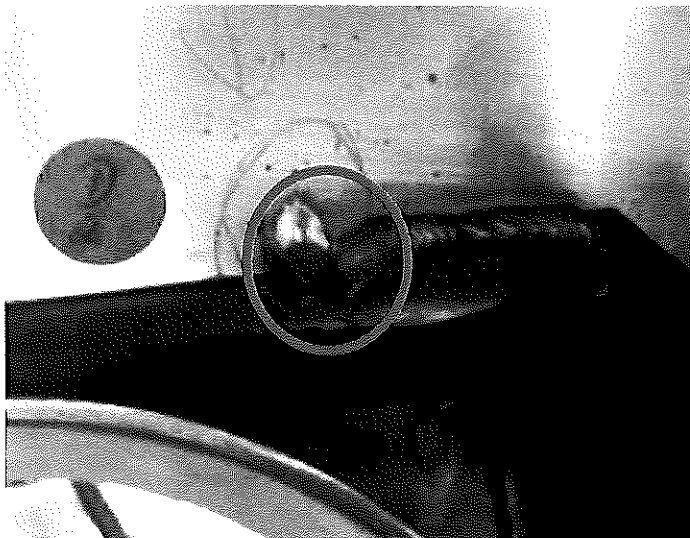
Rev.
30

Project: PRASA

Date
06/11/2023

SI.CB2230.256.V29

ANNEXURE A: Arc Welding Quality Acceptance Standard





CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
30

Date

08/11/2023

Project: PRA5A

SI.CB2230.256.V29

ANNEXURE B: Sealant

