

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

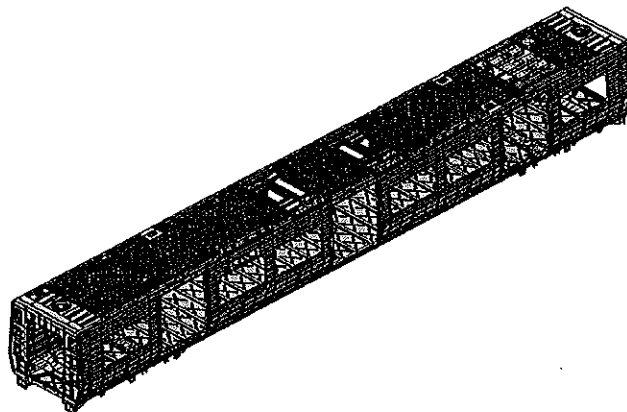
MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ?		
				TC1	M4	M3	M2	M1	TC2				
<input type="checkbox"/>	DTR3000152644	AA00001278566	CARBODYSHELL M3,M4 ASSEMBLY	CB1210		X				X		PRA.CB1210.DTR30225 487/3.V30	YES
<input type="checkbox"/>													
REV	DATE	MODIFICATION CONTENT	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	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								
28	07/11/2023	Added traceability for welding sections	APPROVER	Ngobeni Tyson	07/11/2023								
			CHECKER	Mohlampe Amogelang	07/11/2023								
			REVISED BY	Ntokozi Zwane	07/11/2023								
TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES								
731	1704	LAWRENCE 482999	03/06/24	SI.CB1210.254.V30	17								

	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRA5A SI.CB1210.254.V30
		Date 07/11/2023	

Car: M3 & M4	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	NO	Signature/Date (Manufacturing)	Signature/Date (Quality)
	D	M	N	U	V	W						
DTR30225487/3					✓		V30		✓		Signature 03/06/2023	Signature 03/06/2023

I.2 - Instruments Control

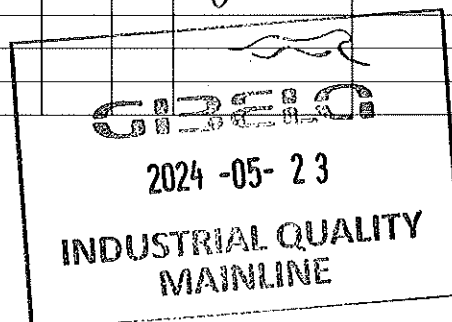
Monitoring and Measuring Instrument Control - Used for Special Process


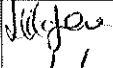






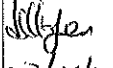
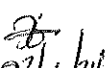
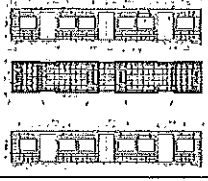
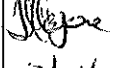
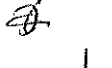

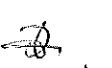
Instruments	Serial number	Calibration or Verification Validation Date	OK	NO	Signature/Date (Manufacturing)	Signature/Date (Quality)
LAZER TAPE	125425921	01/03/2024	✓		Signature 03/06/2023	Signature 03/06/2023
30 INTP	GIBTP 0049	24/11/2023	✓		Signature 03/06/2023	Signature 03/06/2023
TUBULAR	22316	07/02/2024	✓		Signature 03/06/2023	Signature 03/06/2023

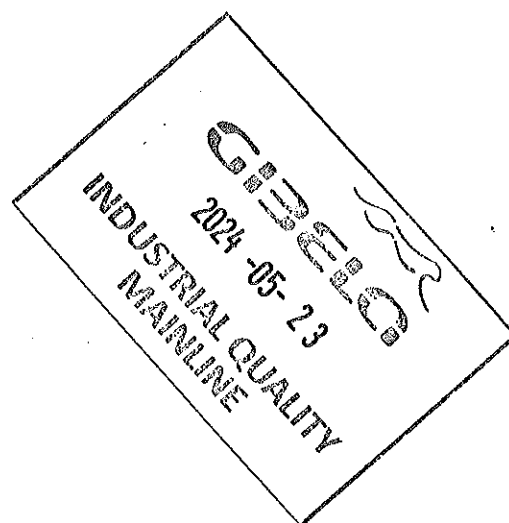
1.3 Consumables


Welding Consumable Control - Used for Special Process

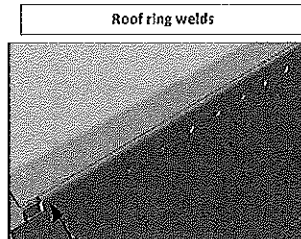
Filler Material	Heat Number	Welding Process	OK	NO	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LS1	314018-74097	MIG	✓		Signature 03/06/2023	Signature 03/06/2023
ER 308 L	299687-70322	TIG	✓		Signature 03/06/2023	Signature 03/06/2023
ER 309 LS1	316283-73957	MIG	✓		Signature 03/06/2023	Signature 03/06/2023



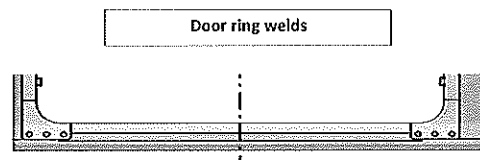
		Rev. 28 Date 07/11/2023	Project: PRA5A SI.CB1210.254.V30				
CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3							
II - Self Inspection - Items to Check							
II.1 - Items to check							
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Not OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓		 03/06/24	 03/06/24
02	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 03/06/24	 03/06/24
03	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 03/06/24	 03/06/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 03/06/24	 03/06/24
05		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓		 03/06/24	 03/06/24
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.	✓		 03/06/24	 03/06/24



	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V30
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Welding Traceability			



<u>LHS</u>	
Boiler maker (Name & Sign): <u>Justice [Signature]</u>	Welder (Name & Sign): <u>MTHOKOZI [Signature]</u>
<u>RHS</u>	
Boiler maker (Name & Sign): <u>Justice [Signature]</u>	Welder (Name & Sign): <u>MTHOKOZI [Signature]</u>



LHS

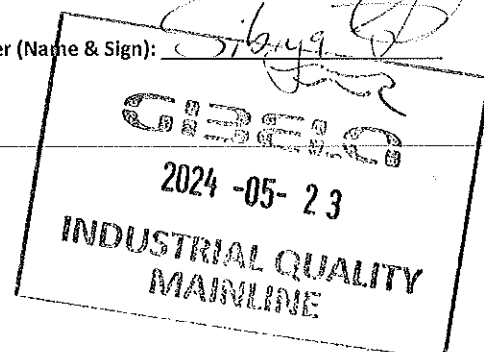
Boiler maker (Name & Sign): Innocent [Signature]


Welder (Name & Sign): Sibisi [Signature]

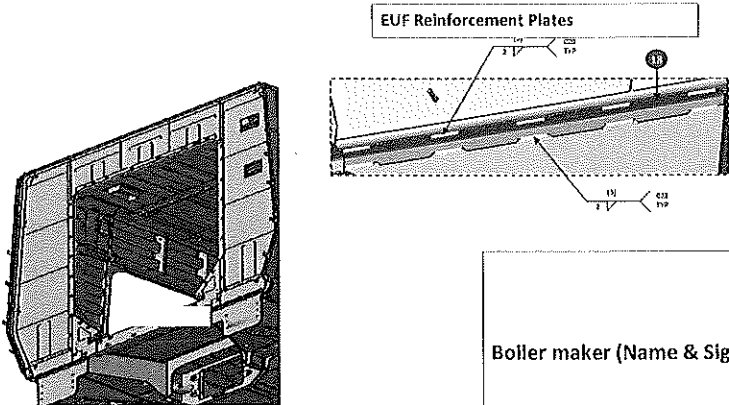
RHS

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

Welder (Name & Sign): Sibisi [Signature]



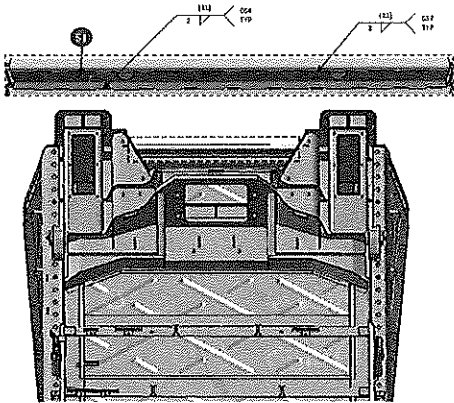
	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V30
		Date 07/11/2023	



END 1

Boiler maker (Name & Sign):
LAWRENCE Illgou

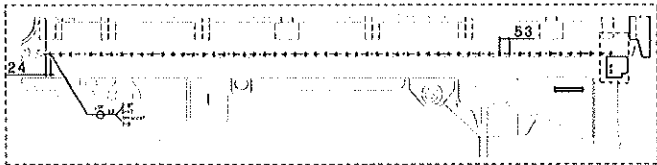
Welder (Name & Sign):
Gift



END 2

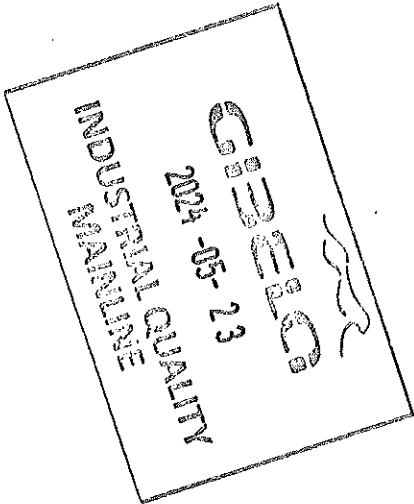
Boiler maker (Name & Sign):
Innocent


Welder (Name & Sign):
KEIU KMEU

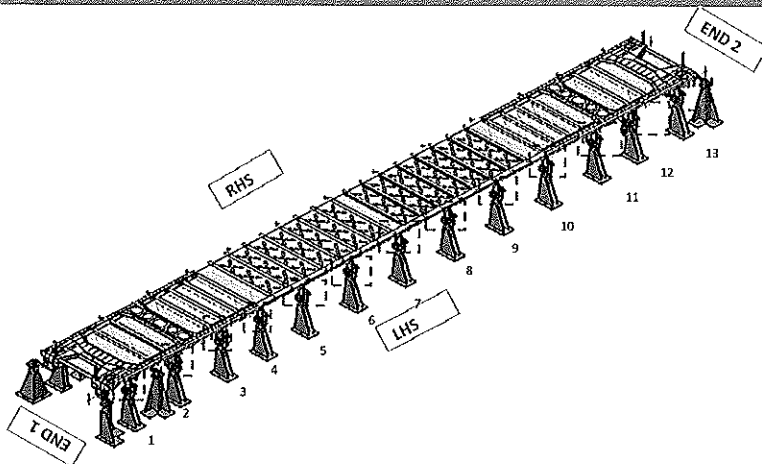


FEDOLI

Operator:
LAWRENCE Illgou



	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRA5A 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 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 Operations:

Date:

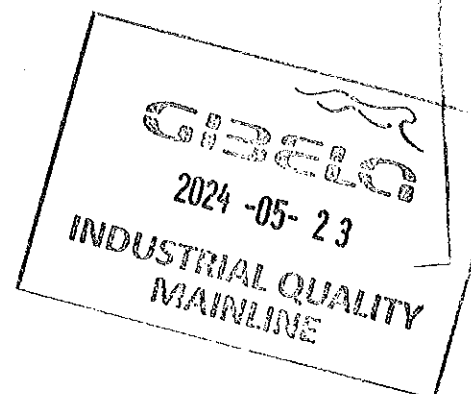
After Welding.

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:



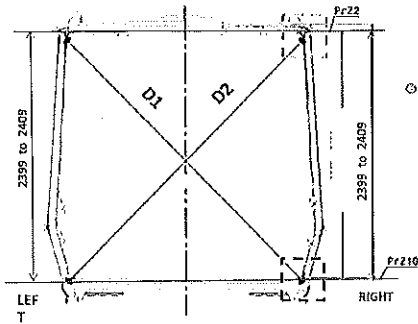
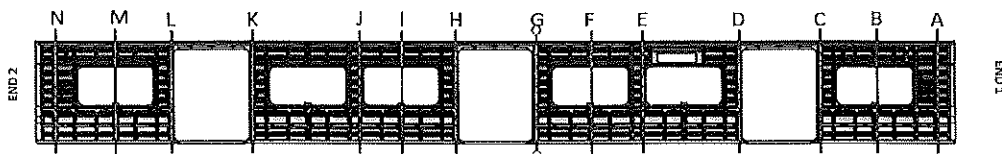


CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

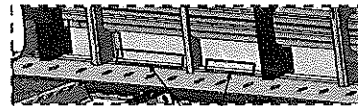
Rev.
28
Date
07/11/2023

Project: PRASA
SI.CB1210.254.V30

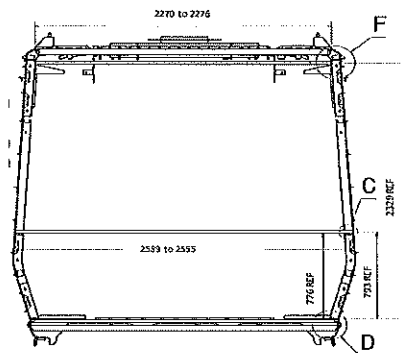
Specifications of Details for CBS measurement



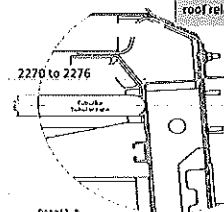
Measurement positions on roof rail and sidewall omega corner.



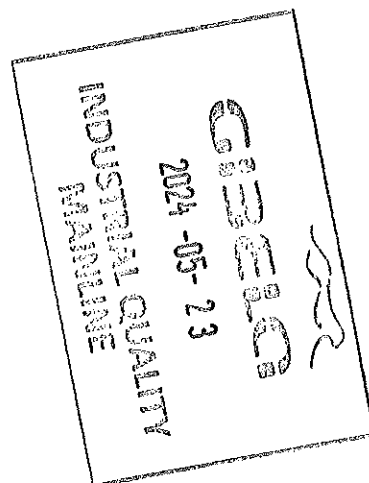
Measurement positions on sidewall and side sill corner.




Reinforcement area measurement positions on roof reinforcement area.

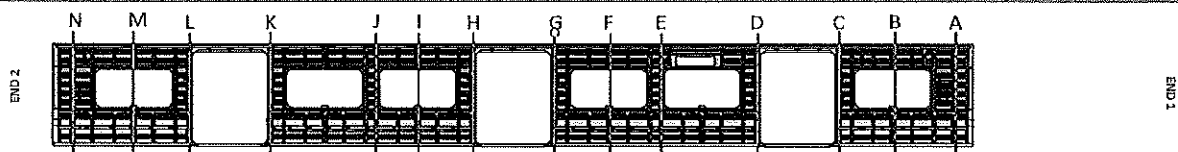


Detail P
Detail considering the reinforcement.



	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V30
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		07/11/2023	

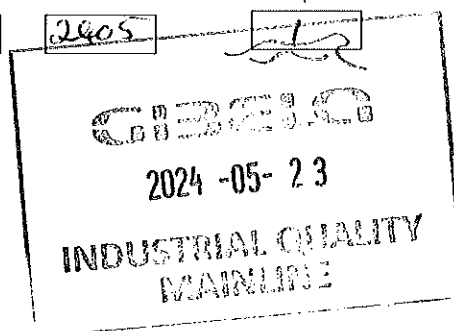
Specifications of Details for CBS measurement



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

BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3267	3266	1	2404	2405	1
B	3266	3266	0	2405	2404	1
C	3268	3267	1	2404	2404	0
D	3265	3266	1	2405	2405	0
E	3266	3267	1	2405	2404	1
F	3267	3267	0	2404	2404	0
G	3266	3265	1	2404	2405	1
H	3267	3267	0	2404	2404	0
I	3266	3267	1	2404	2405	1
J	3267	3266	1	2404	2404	0
K	3266	3267	1	2406	2405	1
L	3267	3267	0	2404	2405	1
M	3266	3267	1	2404	2405	1
N	3266	3266	0	2404	2405	1





CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

Rev.

28

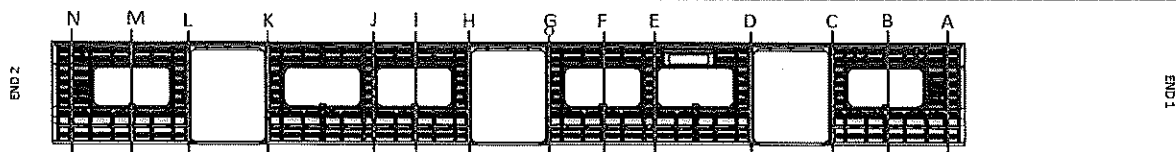
Date

07/11/2023

Project: PRASA

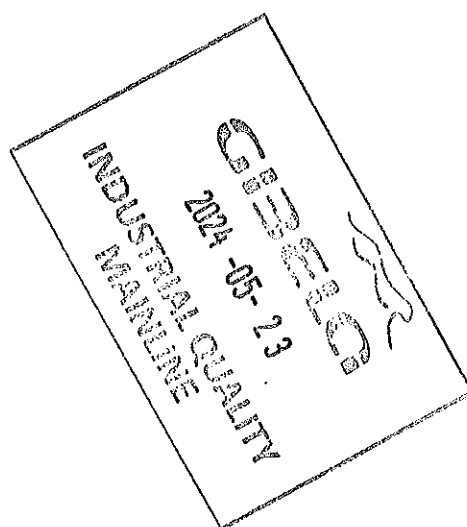
SI.CB1210.254.V30


Specifications of Details for CBS measurement

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

AFTER WELDING

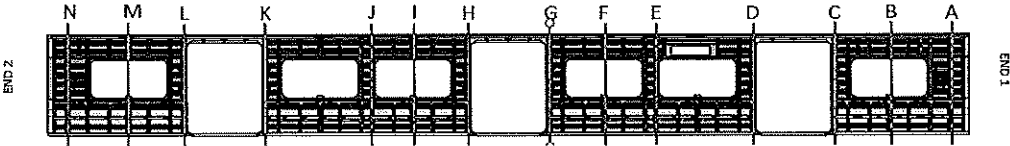
	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3294	3294	0	2404	2405	1
B	3266	3266	0	2405	2404	1
C	3292	3293	1	2404	2404	0
D	3293	3293	0	2405	2405	0
E	3266	3267	1	2405	2404	1
F	3267	3267	0	2404	2404	0
G	3294	3294	0	2404	2405	1
H	3293	3294	1	2404	2404	0
I	3266	3267	1	2404	2405	1
J	3267	3266	1	2404	2404	0
K	3294	3294	0	2406	2405	1
L	3295	3294	1	2404	2405	1
M	3266	3267	1	2404	2405	1
N	3294	3293	1	2404	2405	1



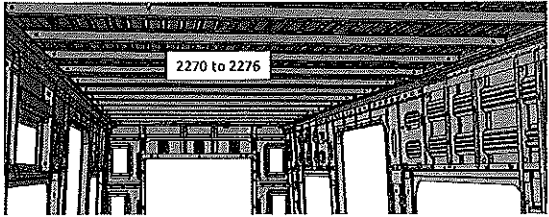
	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V30
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CBS measurement

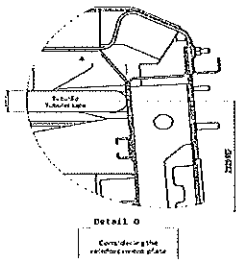
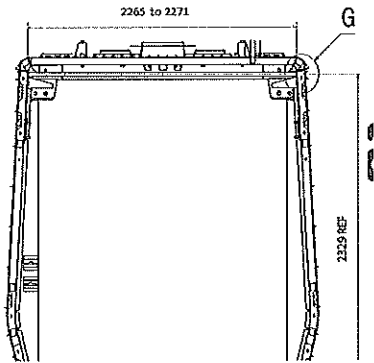
BEFORE WELDING



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

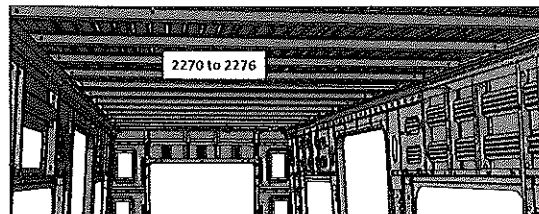


Do not consider reinforcement (Take measurements top area of zee profile

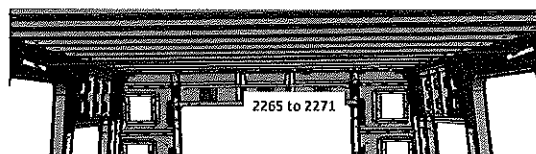


CBS measurement

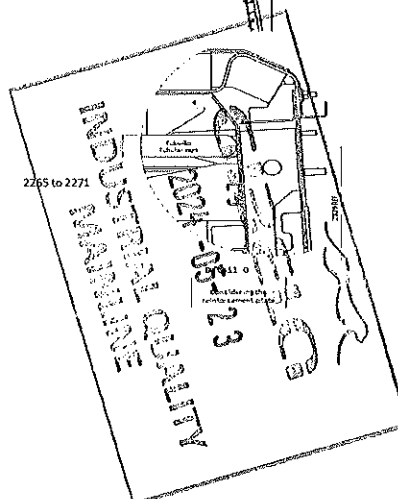
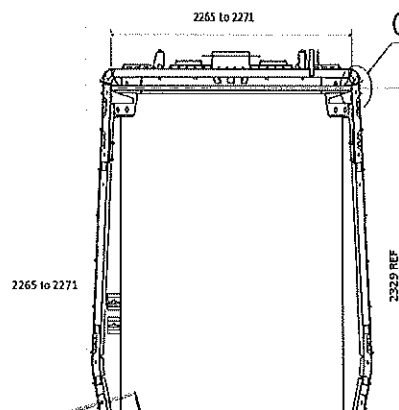
	2265 to 2271	2270 to 2276
A	2271	
B		2274
C	2271	
D	2270	
E		2273
F		2272
G	2269	
H	2270	
I		2274
J		2270
K	2267	
L	2269	
M		2270
N	2269	




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

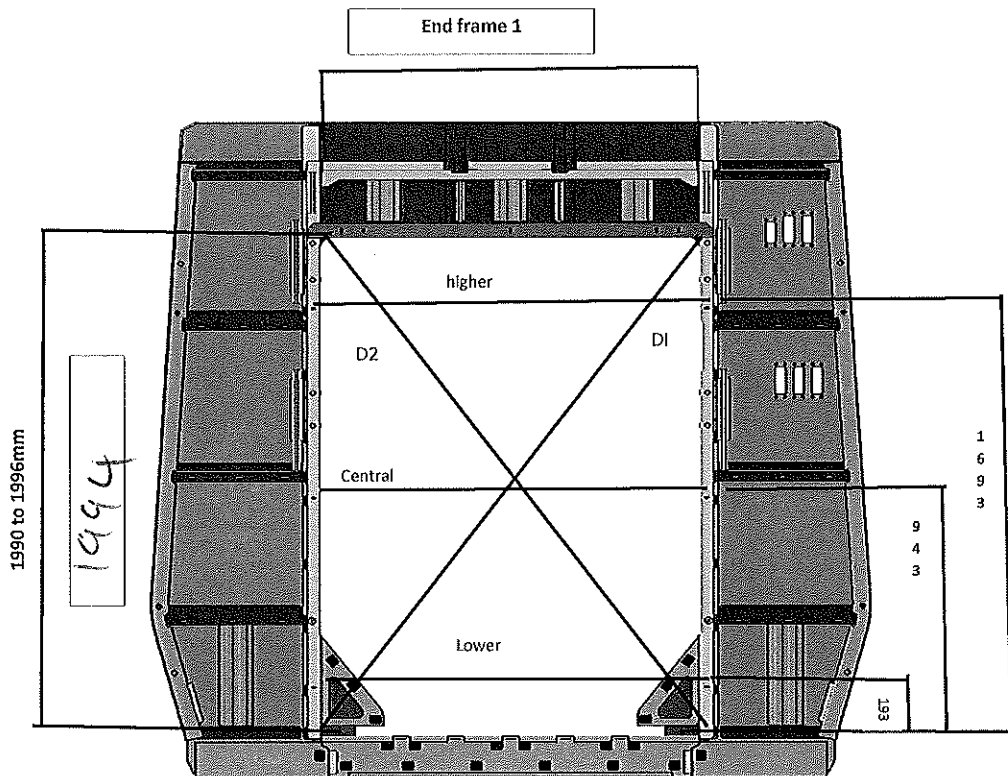


Take measurement close to radius { considering reinforcement }



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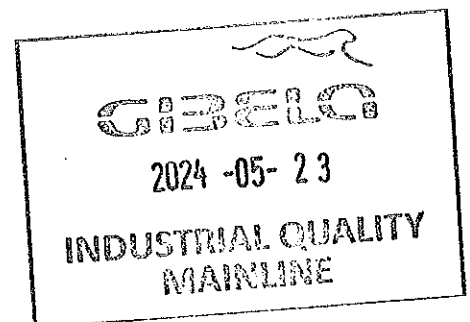
Specifications of Details for CBS measurement



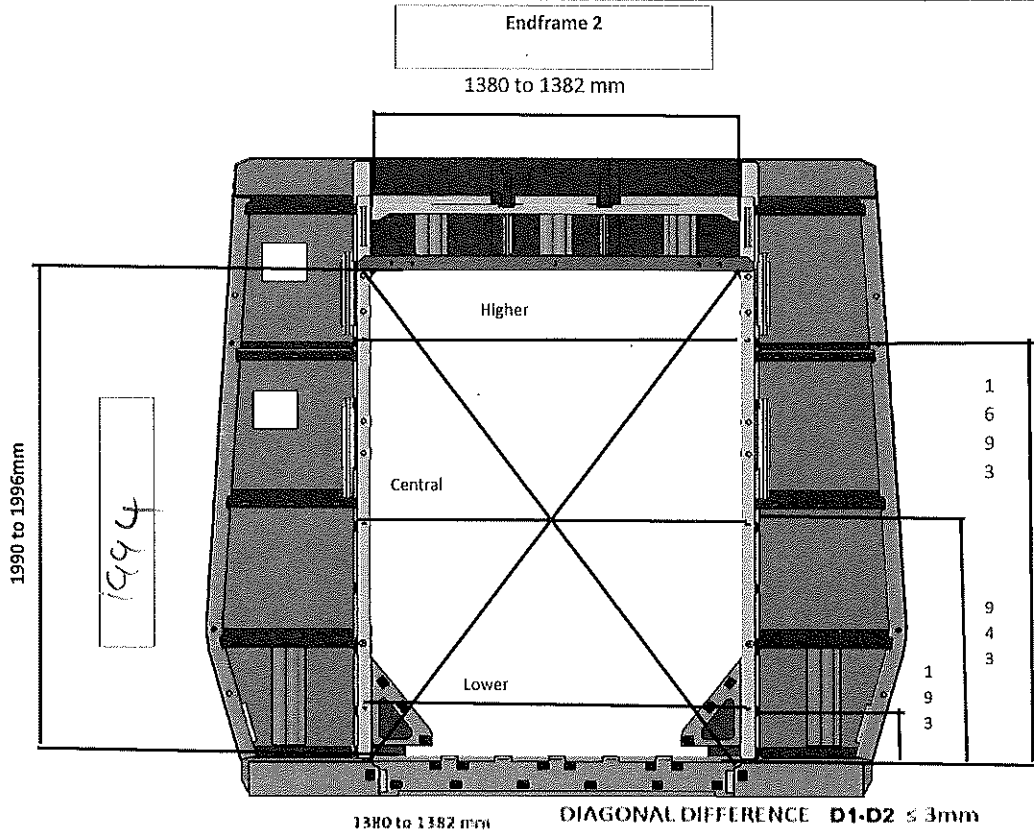
1380 to 1382 mm

DIAGONAL DIFFERENCE $D1-D2 \leq 3\text{mm}$

Higher Dimension	1380	D1	2415
Central Dimension	1381	D2	2415
Lower Dimension	1380	D1-D2	0



Specifications of Details for CBS measurement



DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension

1380

D1

2415

Central Dimension

1380

D2

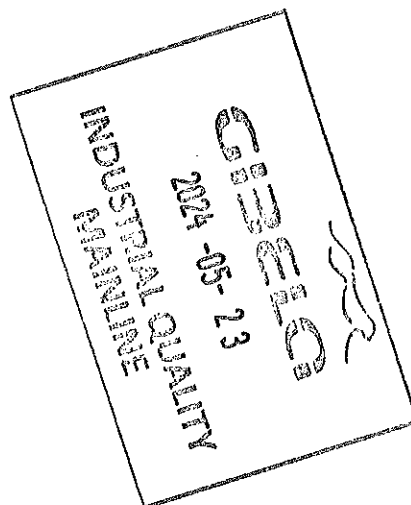
2414

Lower Dimension

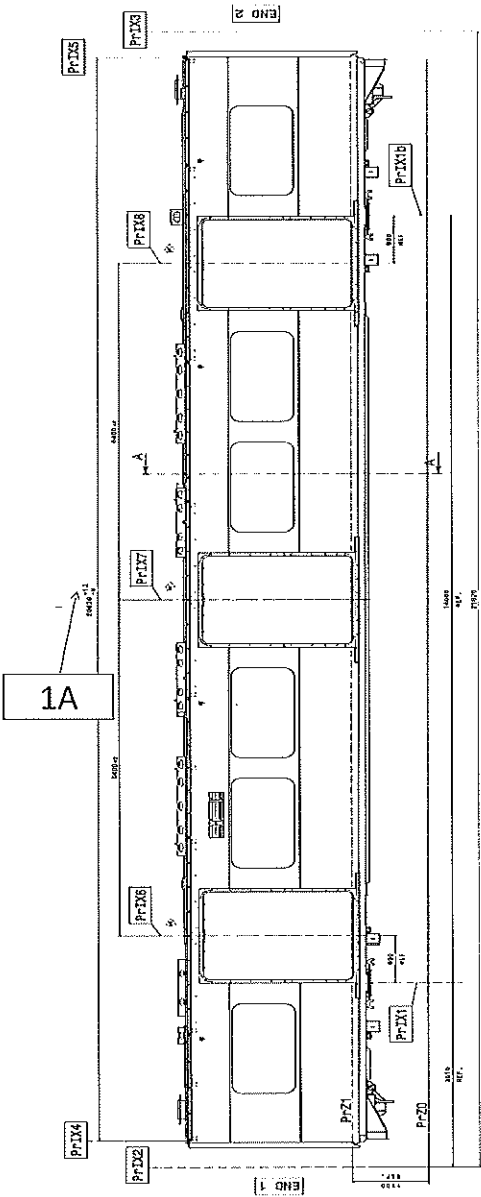
1380

D1-D2

1



Specifications of Details for CBS measurement



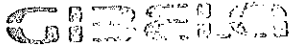
LEFT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20627

RIGHT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20627

Dye penetrant test


Dye-penetration test to be performed by quality personnel

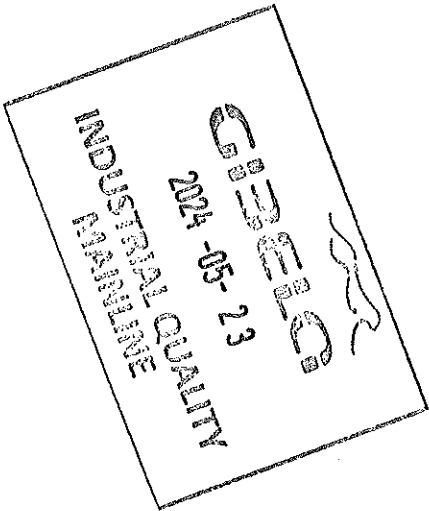







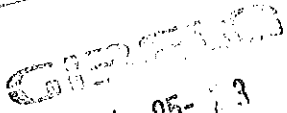
2024 -05- 23

INDUSTRIAL QUALITY
MAINLINE

		CARBODYSHELL M3,M4 ASSEMBLY DTR30226487/3		Rev. 28	Project: PRASA			
				Date 07/11/2023	SI.CB1210.254.V30			
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. How defects must be added on the REX					



		CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3		Rev. 28 Date 07/11/2023	Project: PRASA 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) Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	03/06/24	LAURENCE Operations	
				03/06/24	Andoni Industrial Quality	
		NO GO	There are activities pendings 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	
Operations			Quality			


2024-05-13
INDUSTRIAL QUALITY
MAINLINE

	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29	Project: PRA5A SI.CB2220.250.V29	
		Date 28/10/2023		
Car: M1,M3&M4	NCR:	Work station:		CB2220

Safety Related

I - Documentation and Instruments Control

1.1 - Documentation Control

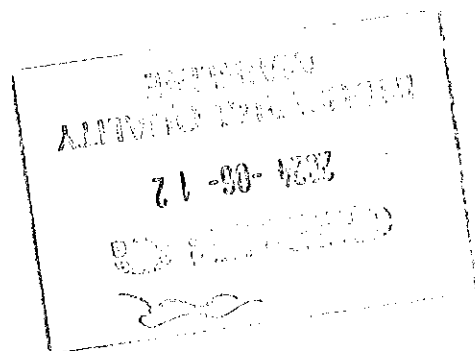
Document	Type of car					Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	M1	M3	M4	M5	M6					
DTR30225487/2				✓		29	04/06/24	✓	N/A	04/06/24











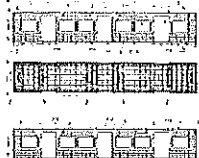


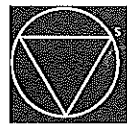









1.2 - Instruments Control


Monitoring and Measuring Instrument Control - Used for Special Process					
Instruments	Serial number	Calibration or Verification Validation Date	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Turbular Measuring tape	32823-2	15/03/2025	✓	04/06/24	04/06/24
	GIBTA0396	12/04/2025	✓		

1.3 Consumables

Welding Consumable Control - Used for Special Process					
Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Welding wire	E23061	MIG Welding	✓	04/06/24	04/06/24

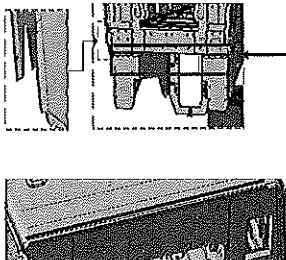


		CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2		Rev.	Project: PRASA SI.CB2220.250.V29		
				29			
				Date			
				28/10/2023			
II - Self Inspection - Items to Check							
II.1 - Items to check							
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Not OK	Signature/Date (Manufacturing)	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	✓		 04/06/24	 04/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓		 04/06/24	 04/06/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 04/06/24	 04/06/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 04/06/24	 04/06/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓		 04/06/24	 04/06/24
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.	✓		 04/06/24	 04/06/24
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 16°C - 35°C Relative Humidity Min - Max (%) Min - Max 25% - 66%	Segment Batch No: <u>581104/4</u> Exp Date: <u>15/06/24</u> Actuals Temperature: <u>20°C</u> Humidity: <u>45%</u>	✓		 04/06/24	 04/06/24
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001278566			 04/06/24	 04/06/24
09		Verification of safety welds	Approved according to DTD000210658 reference and Self inspection	✓		 04/06/24	 04/06/24

	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

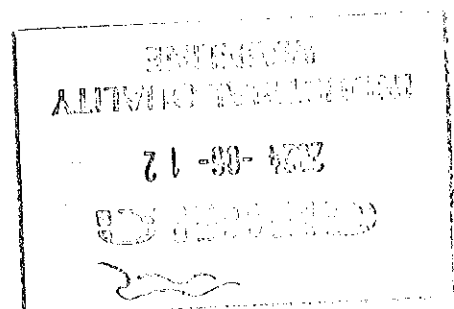
SEALANT APPLICATION




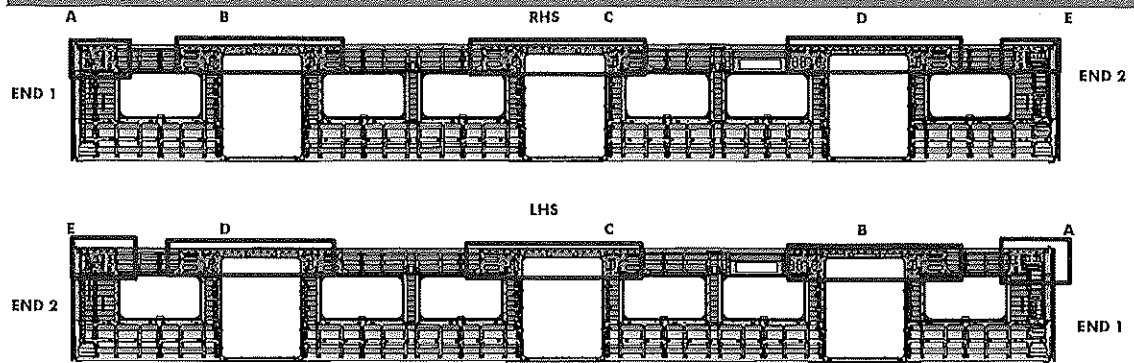
AREA 1 & 2 END 1

Operator (Name & sign): *Pascina*

Operator (Name & sign): *Pascina*

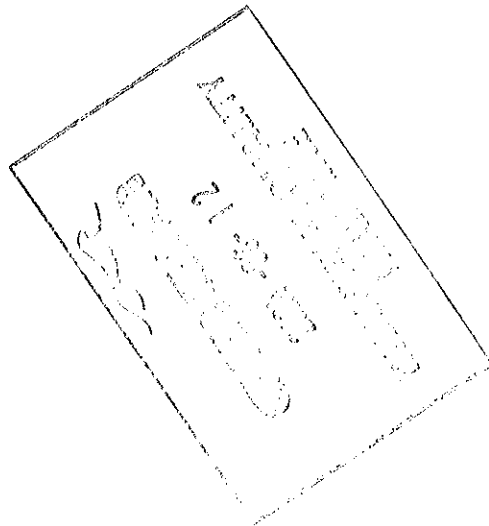



	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA SI.CB2220.250.V29
		29	
		Date	
		28/10/2023	
II - Self Inspection - Items to Check			



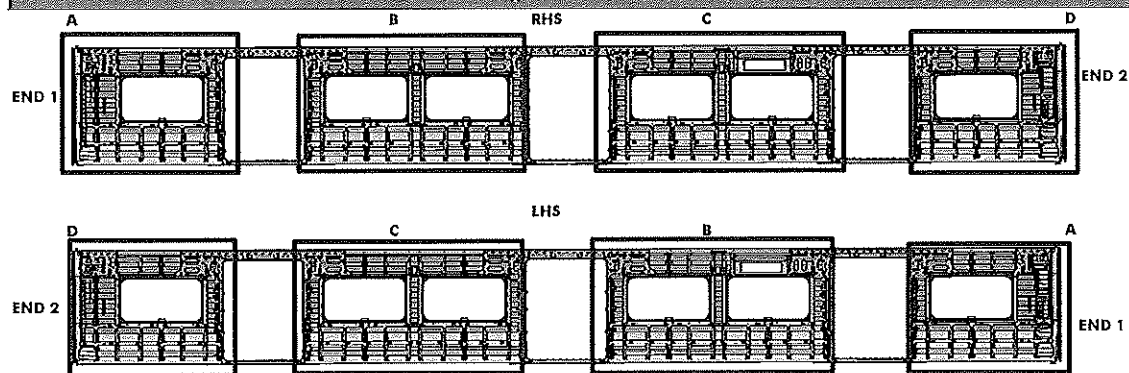
REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>LINDO [signature]</u>	<u>LINDO [signature]</u>
B	Operator (Name&sign): <u>LINDO [signature]</u>	<u>LINDO [signature]</u>
C	Operator (Name&sign): <u>[signature]</u>	<u>[signature]</u>
D	Operator (Name&sign): <u>[signature]</u>	<u>[signature]</u>
E	Operator (Name&sign): <u>[signature]</u>	<u>[signature]</u>



	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



BRACKETING

C-RAILS:		Operator:	ASANIWA
DOOR MECHANISMS:		Operator:	ASANIWA
TAPPING PADS		Operator:	LINDO END1 NEW
		Operator:	STUK END2
SEAT & LUGGAGE BRACKETS:		Operator:	McKelozio
		Operator:	STUK
SEAT BRACKETS VERIFICATION:		Operator:	McKelozio
		Operator:	

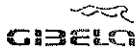
WELDING

AREA	LHS	RHS
A (Seat brackets)	Operator (Name&sign): D. Dew	Operator (Name&sign): D. Dew
(C-rails, Luggage and earth bushes)	Operator (Name&sign): D. Dew	Operator (Name&sign): S. BATAOINDO
B (Seat brackets)	Operator (Name&sign): X. S. BATAOINDO	Operator (Name&sign): X. S. BATAOINDO
(C-rails, Luggage and earth bushes)	Operator (Name&sign): X. S. BATAOINDO	Operator (Name&sign): THULANI
C (Seat brackets)	Operator (Name&sign): X. S. BATAOINDO	Operator (Name&sign): THULANI
(C-rails, Luggage and earth bushes)	Operator (Name&sign): X. S. BATAOINDO	Operator (Name&sign): THULANI
D (Seat brackets)	Operator (Name&sign): Sibigat	Operator (Name&sign): Sibigat
(C-rails, Luggage and earth bushes)	Operator (Name&sign): Sibigat	Operator (Name&sign): THULANI

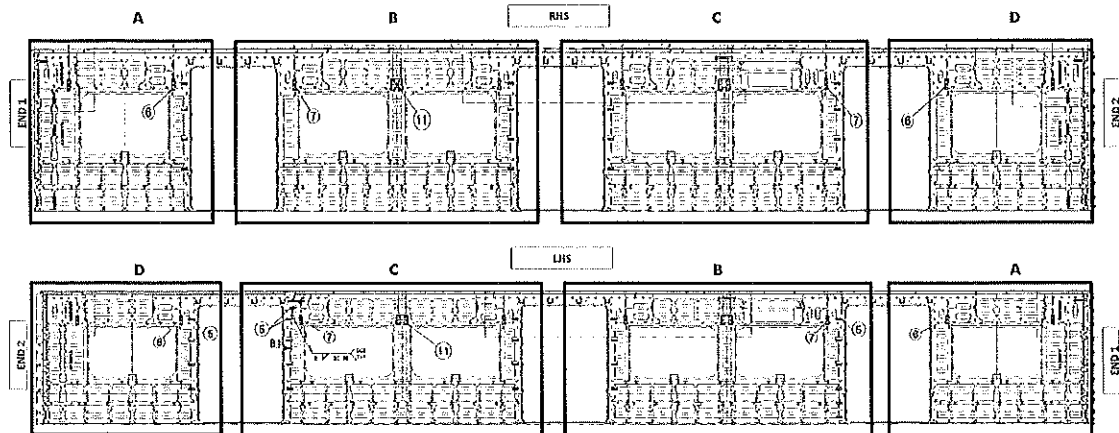
ENDS

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

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

	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev. 29	Project: PRASA SI.CB2220.250.V29
		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	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: Tetelo

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	4	✓	
	D	2	✓	

ROOF ENDS:
CRAILS 2 OFF EACH END
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: Tetelo

QUANTITIES (M1)

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	2		
	B	4		
	C	5		
	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	10		
	C	11		
	D	8		
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: _____

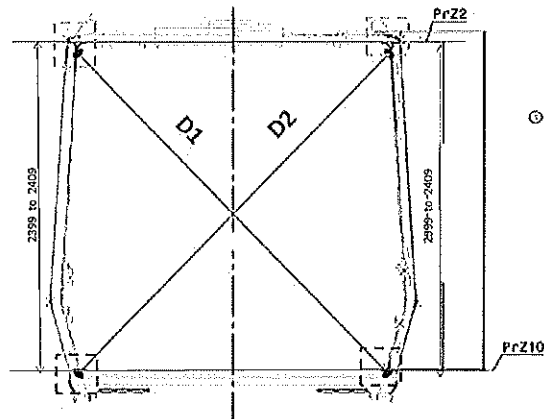


CARBODYSHELL M1,M3,M4 ASSEMBLY
DTR30225487/2

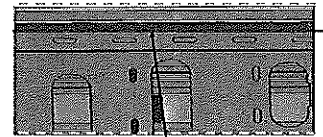
Rev.
29
Date
28/10/2023

Project: PRASA
SI.CB2220.250.V29

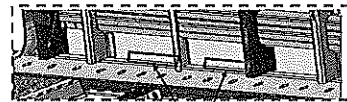
Specifications of Details for CBS measurement



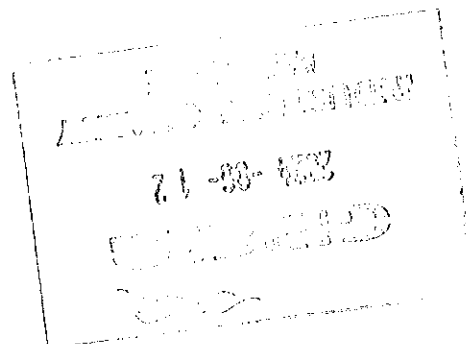
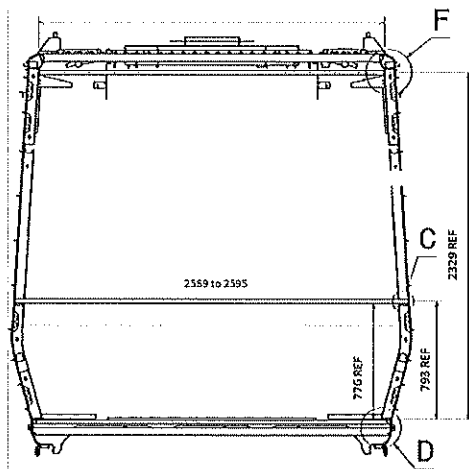
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.



Measurement positions on sidewall and side sill corner.



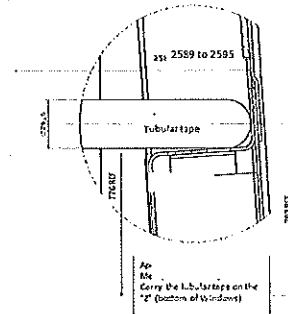
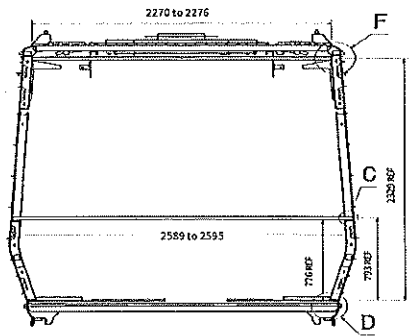


CARBODYSHELL M1,M3,M4 ASSEMBLY
DTR30225487/2

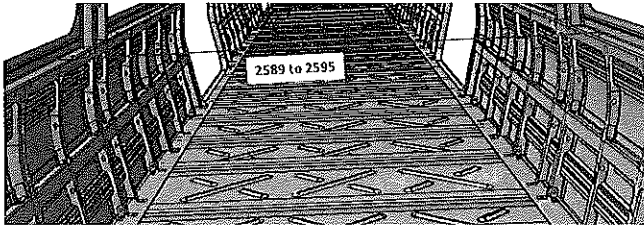
Rev.
29
Date
28/10/2023

Project: PRASA
SI.CB2220.250.V29

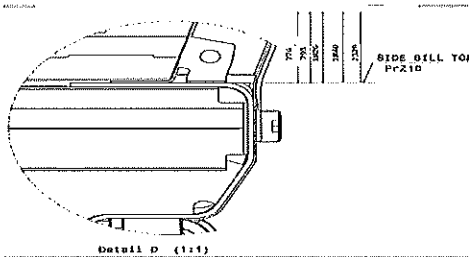
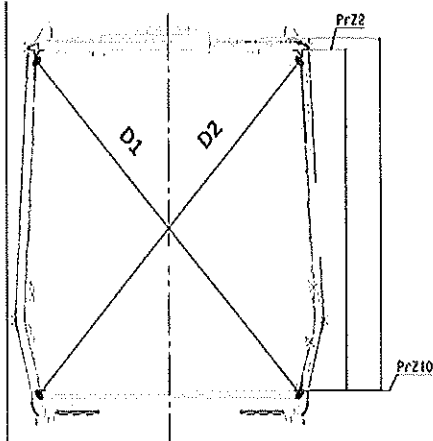
CBS measurement



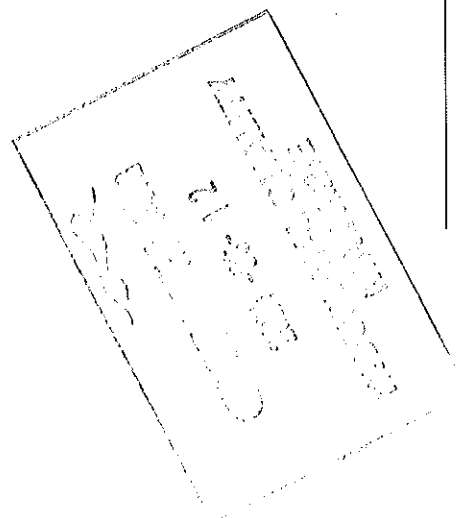
Detail C

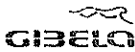


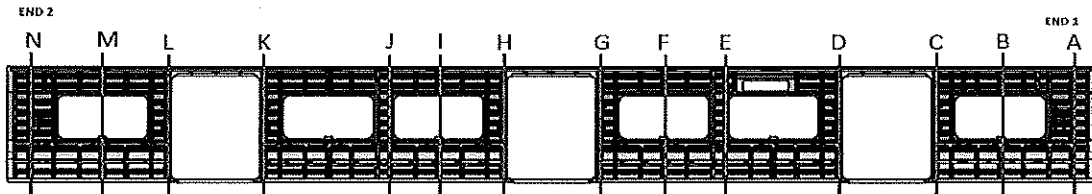
Take measurement close to radius



Detail D (1:1)




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



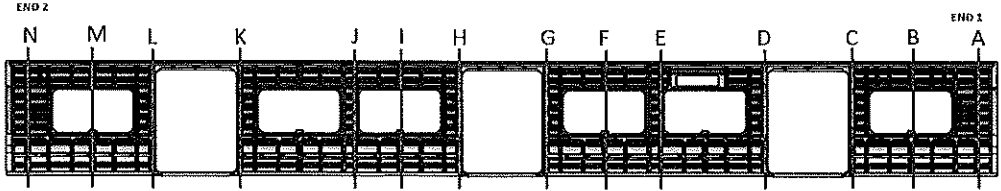
BEFORE WELDING

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

21-08-2023
 11:00-11:30
 11:30-12:00
 12:00-12:30
 12:30-13:00
 13:00-13:30
 13:30-14:00
 14:00-14:30
 14:30-15:00
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 21:30-22:00
 22:00-22:30
 22:30-23:00
 23:00-23:30
 23:30-24:00

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

CBS measurement

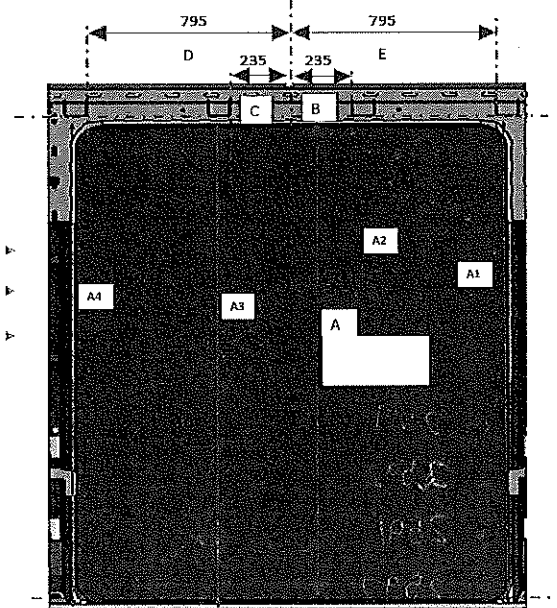


AFTER WELDING

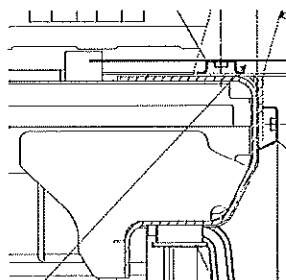
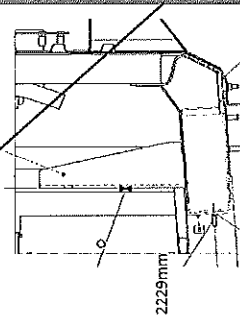
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3299	3299	0	2590
B	3266	3267	1	2591
C	3300	3298	2	2592
D	3298	3296	2	2591
E	3266	3269	3	2592
F	3268	3269	1	2591
G	3299	3297	2	2590
H	3300	3291	3	2591
I	3267	3268	1	2592
J	3268	3267	1	2591
K	3298	3296	2	2592
L	3299	3297	2	2591
M	3266	3268	2	2590
N	3300	3298	2	2590



Specifications of Details for CBS measurement CB1220



Brackets Carbodyshell
U Type Supports



Brackets Carbodyshell
Channel Assy

DOOR 1 - LHS

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

DOOR 2 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	2231
A2	2230 to 2232	2230
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

DOOR 2 - RHS

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

DOOR 1 - RHS

	VALUE	ACTUAL
A1	2230 to 2232	2231
A2	2230 to 2232	2230
A3	2230 to 2232	2231
A4	2230 to 2232	2230
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	2230
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

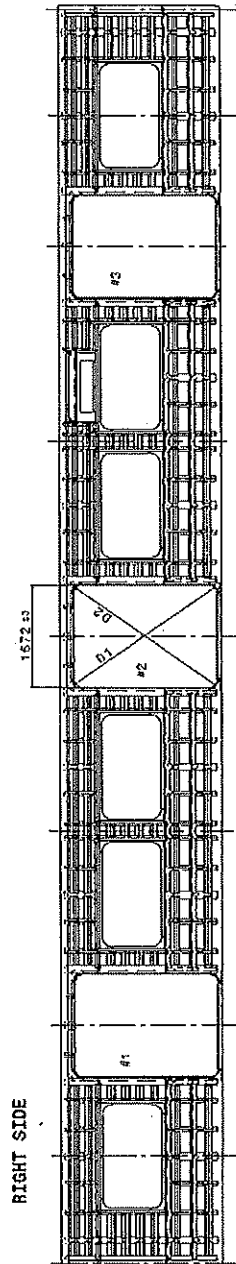
DOOR 3 - RHS

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

RECEIVED
QUALITY CONTROL
21-00-1000
GIBELQ

Specifications of Details for GB5 measurement GB1220

End #2



Doors diagonal D1-D2 maximum difference ≤4mm

#1	#2	#3
D1	2754	2750
D2	2749	2749
D1-D2	2	1

HIGHER DIMENSION

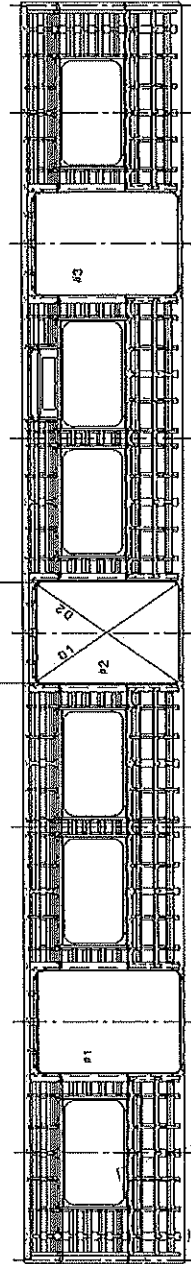
CENTRAL DIMENSION

LOWER DIMENSION

Doors Length - 1672 ±0mm

#1	#2	#3
1669	1671	1672
1670	1671	1672
1670	1671	1670

End #1



Doors diagonal D1-D2 maximum difference ≤4mm

#1	#2	#3
D1	2750	2751
D2	2749	2749
D1-D2	1	2



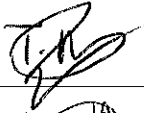

HIGHER DIMENSION

CENTRAL DIMENSION

LOWER DIMENSION

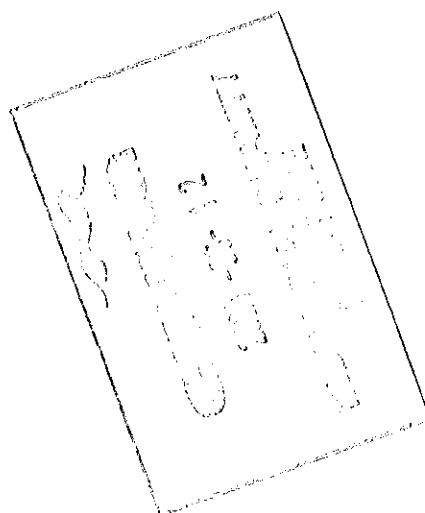
Doors Length - 1672 ±0mm

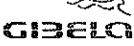
#1	#2	#3
1669	1671	1671
1670	1672	1671
1670	1671	1671

	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	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)	04/06/24	Tetelo <small>Operations</small>	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party)	04/06/24	Kelabone <small>Industrial Quality</small>	
	NO GO		There are activities pending that impact/stop the activities of the next process Obs: (To describe problems below)		<small>Operations</small>	
			There are non-conformities impact the quality of the product and there is no corrective action defined yet)		<small>Industrial Quality</small>	
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

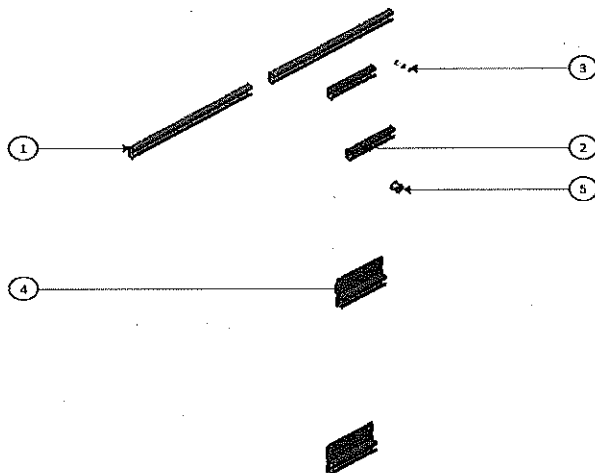


	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA SI.CB2220.250.V29
		29	
		Date	
		28/10/2023	

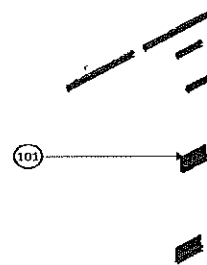
ANNEXURE A: Arc Welding Quality Acceptance Standard



Station: CB1220-004- U108 & U107



PART NO.	ITEM NO.	QTY	DESCRIPTION	MASS (KG)
DTF0000074203	5	6	EARTH STUD 6	0.035
AA00001201513	4	5	ASSEMBLY SUPPORT	0.271
DTF0000348305	3	12	WELDING STUD ISO13918 FT-1/8X20-SS1	0.007
AA00001180424	2	12	ASSEMBLY SUPPORT	0.193
AA00001184418	1	14	ASSEMBLY SUPPORT	0.521
AA00001161050	101	6	CARBODYSHELL BRACKETS CARBODYSHELL M1/M3/M4 CAP(SIDE FRAME MODULE END - OSP)	12.132





PRASA PROJECT



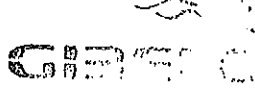
APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1
SELF INSPECTION SHEET

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 ?
				ICE	ICE	ICE	ICE	ICE	ICE		
<input type="checkbox"/>	DT000003225487	AAD0001218566	CARBOODYSHELL M1,M3,M4 ASSEMBLY	CB1230	X	X			X	PRA.CB1230.DT0000002 25487.V20	YES
<input type="checkbox"/>											
<input type="checkbox"/>											


N.	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	Ramokone Motama	2018/05/07
5	24/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	24/01/2019
			CHECKER	Nosizo Pindela	24/01/2019
			REVISED BY	Vanessa Ntuli	24/01/2019
6	13/03/2019	Added Twist and Door Bracket Measurements Remove Door Measurements	APPROVER	Itumeleng Modiba	13/03/2019
			CHECKER	Nosizo Pindela	13/03/2019
			REVISED BY	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
11	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 Mbombhli	20/02/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Collins Mbombhli	14/06/2022
			CHECKER	Andani Muthelo	
			REVISED BY	Andani Muthelo	
27	19/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mbombhli	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
231	M04	Lenny 126459	04/06/2024	SI.CB1230.256.V28	11



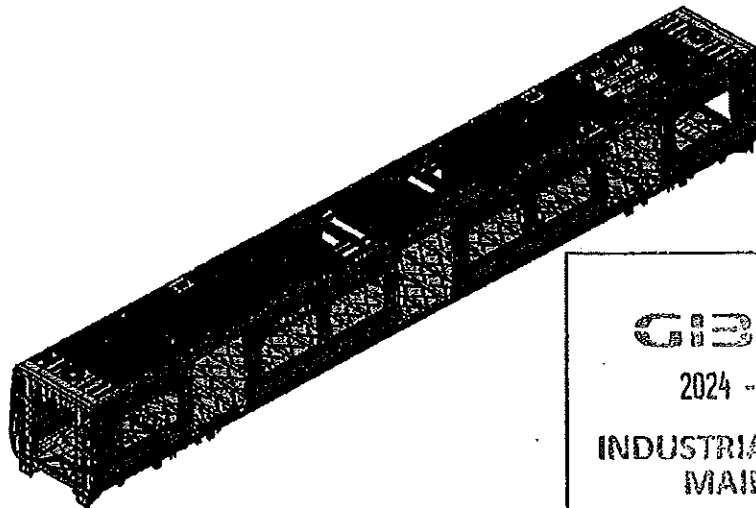
2024-08-14

**INDUSTRIAL QUALITY
MAINLINE**

	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29	Project: PRASA SI.CB1230.256.V28
		Date	
		06/11/2023	
Car:	NCR:	Work station: CB1230	



Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car	Revision	Observation	✓	OK	REWORK	Signature/Date (Operations)	Signature/Date (Quality)
PRA.CB1230.DT00000225487	X	29		✓		N/A	04/06/24	05/06/24

I.2 - Instruments Control


Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial Number	Calibration or Verification Value/Date	✓	OK	Signature/Date (Operations)	Signature/Date (Quality)
Tubular	32823	15/03/2024	✓		04/06/24	05/06/24
Co-Joination Square	GIBCS 0072	27/07/24	✓		04/06/24	05/06/24
Measuring Tape	GIBTA 0397	2024/04/22	✓		04/06/24	05/06/24

1.3 Consumables







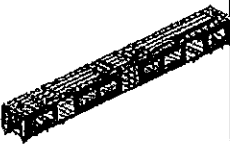


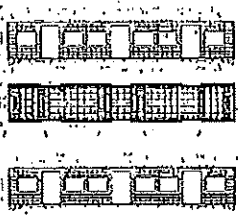


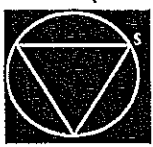






Welding Consumable Control - Used for Special Process


Welding Material	Serial Number	Welding Process	✓	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
OK Autocord SIBLSi	373779	MIG	✓		04/06/24	05/06/24

	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29	Project: PRASA SI.CB1230.256.V28
		Date	
		06/11/2023	

II - Self Inspection - Items to Check

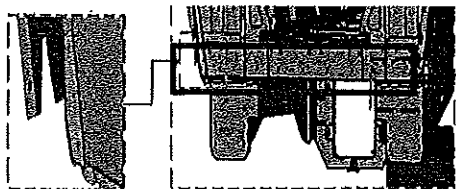
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	U	N	U	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	✓			 04/06/24	 05/06/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			 04/06/24	 05/06/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure,	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			 04/06/24	 05/06/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			 04/06/24	 05/06/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified in pages below 2024-05-04	✓			 04/06/24	 05/06/24
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.	INDUSTRIAL QUALITY MAINLINE As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓			 04/06/24	 05/06/24
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 (°) Min-Max 10°C - 35°C Relative humidity Min - Max (H) Min-Max 25% - 90%	Sealant Batch No: B3/497-E Exp Date: 06 / 15 / 24 Actuals Temperature: 18°C Humidity: 61%	✓			 04/06/24	 05/06/24
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	✓			 04/06/24	 05/06/24

	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29	Project: PRASA SI.CB1230.256.V28
		Date	
		06/11/2023	

END 2 SEALANT

AREA 1



OPERATOR
(Name & sign):

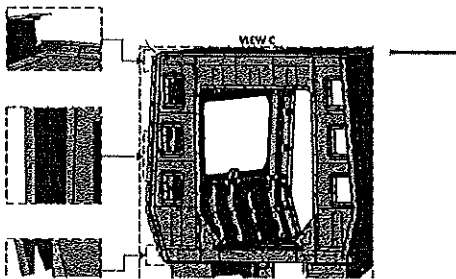
Leroy 

OPERATOR
(Name & sign):

Leroy 

OPERATOR
(Name & sign):

Leroy 




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


Operator (Name & sign):

LHS
E H I (TOP)

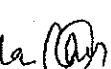
RHS
D,E,F,G

Operator (Name & sign):

Leroy 

H I (TOP)
Buhle 

Operator (Name & sign):

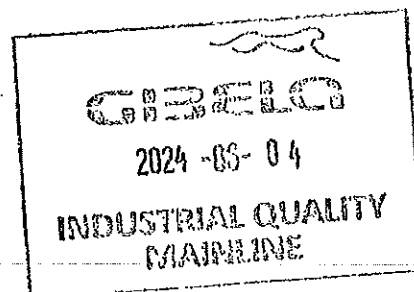
Nonhahla 

Boity 

Operator (Name & sign):

Operator (Name & sign):

Operator (Name & sign):





CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000226487

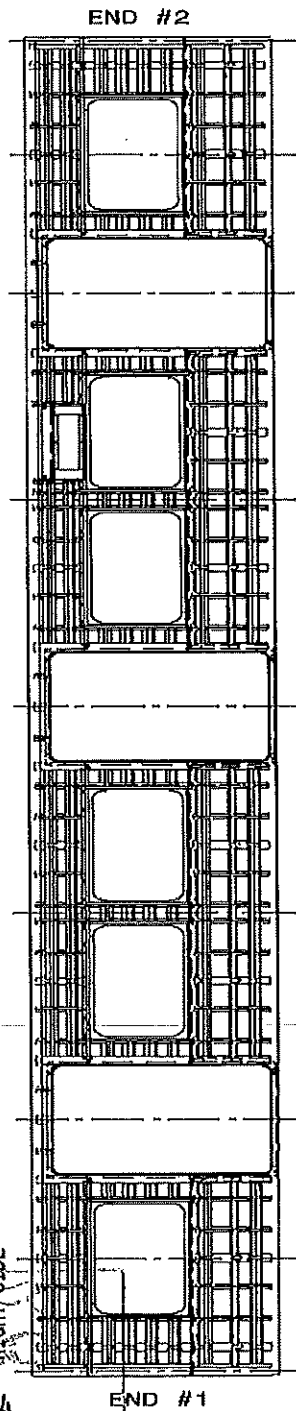
Rev.
29
Date
06/11/2023

Project PRASA
SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230

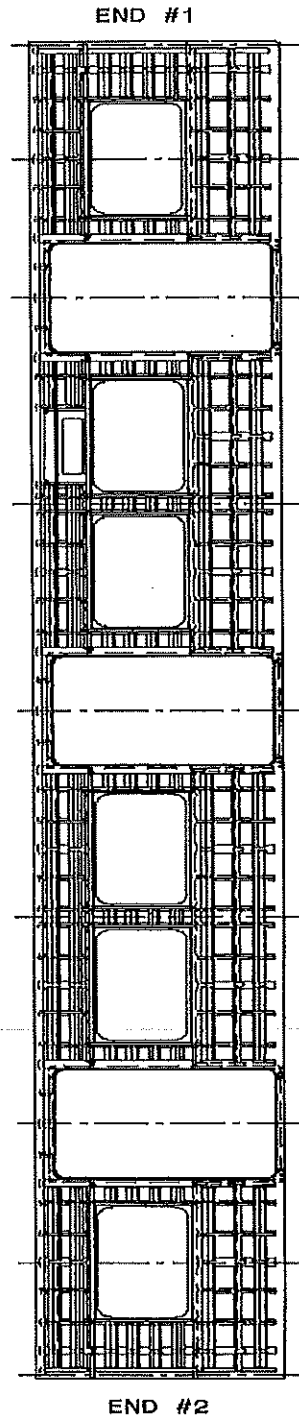
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Record the maximum and minimum value found and indicate the corresponding region.

GIBCO
2024-08-04
INDUSTRIAL QUALITY
MAINLINE



MAXIMUM 2
MINIMUM 1.8

LEFT SIDE



MAXIMUM 1.4
MINIMUM 1.1



CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.
29

Date

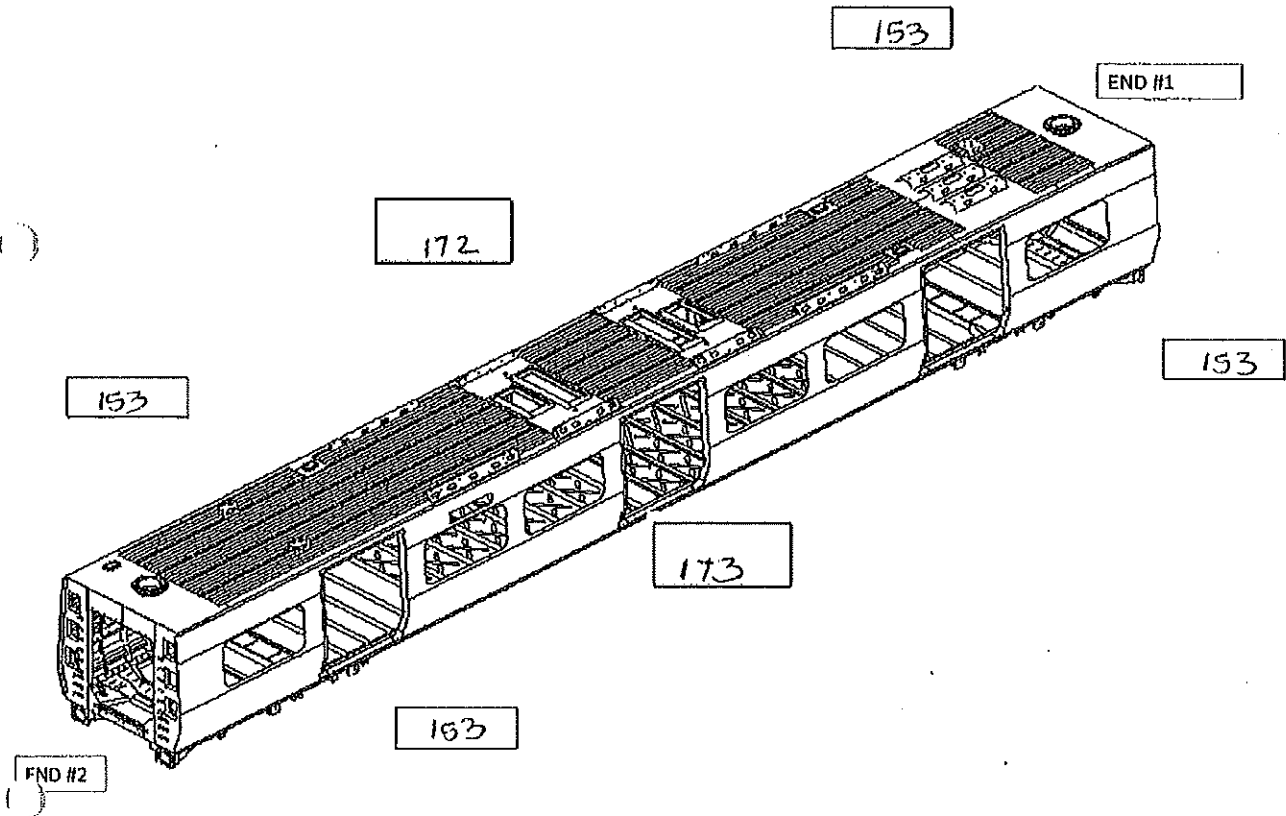
06/11/2023

Project: PRASA

SI.CB1230.256.V28

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 1 19



2024-03-04

INDUSTRIAL QUALITY
MAINLINE

	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000225487	Rev. 29	Project: PRASA SI.CB1230.256.V28
		Date	
		08/11/2023	

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.

90

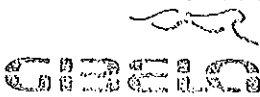
END #1

91

89

90

END #2


2024-08-04
INDUSTRIAL QUALITY
MAINLINE

TWIST FOUND ON END 1

TRANVERS

1

LONGITUDIN

1

TWIST FOUND ON END 2

TRANVERSE

1

LONGITUDINAL

1

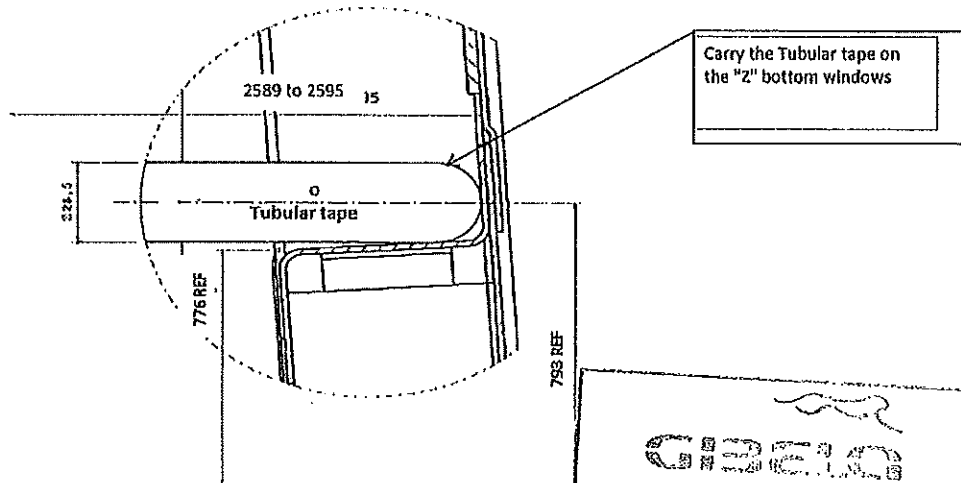


CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000226487

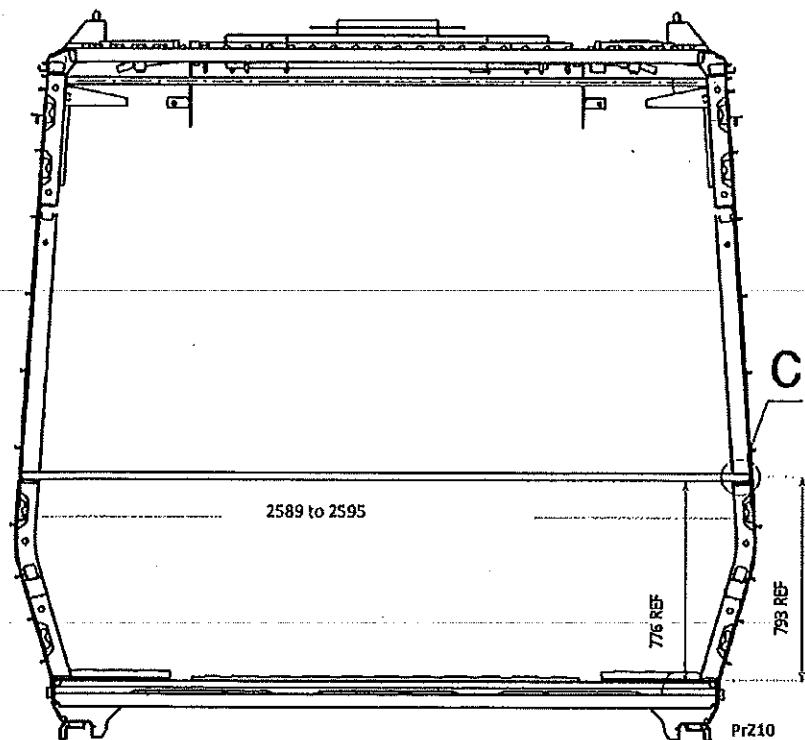
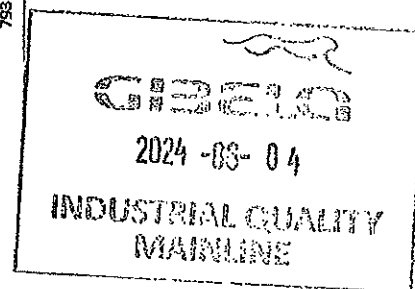
Rev.
29
Date
06/11/2023

Project: PRASA
SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230



Detail C





CARBODYSHELL M1,M3,M4 ASSEMBLY
DT00000225487

Rev.

29

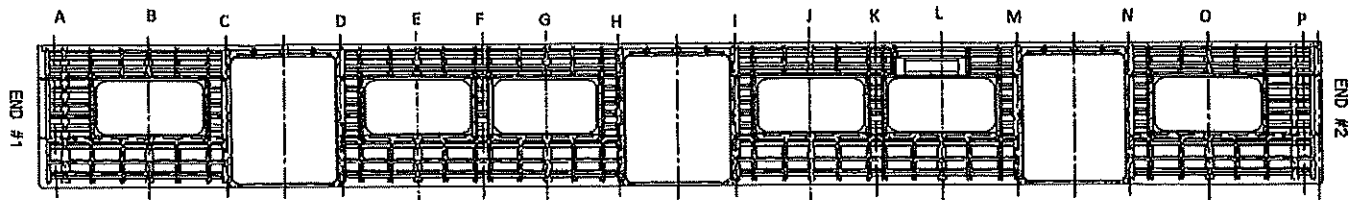
Project: PRASA

Date

08/11/2023

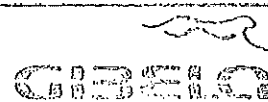
SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

A	25	94
B	25	91
C	25	89
D	25	91
E	25	95
F	25	95
G	25	95
H	25	89
I	25	89
J	25	95
K	25	95
L	25	95
M	25	92
N	25	89
O	25	93
P	25	95



2024-03-04

INDUSTRIAL QUALITY
MAINLINE

Threshold verification


Nominal value :38

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

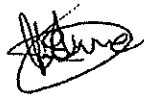
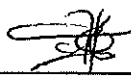
BOILER MAKER:

EMMANUEL R. M. P.

WELDER EMMANUEL R. M. P.

	CARBODYSHELL M1,M3,M4 ASSEMBLY DT00000226487	Rev. 29	Project: PRASA SI.CB1230.256.V28
		Date	
		08/11/2023	

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			(If activities are not complete, the missing activities must not impact the next stage)	04/06/2024	Lenny	
			Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	05/06/2024	Amogelang	
			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

Operations

Quality

