


APPLICABLE FROM TRAINSET 100+ AS PER BASELINE 10.3.1


# SELF INSPECTION SHEET


**CONFIDENTIAL INFORMATION**

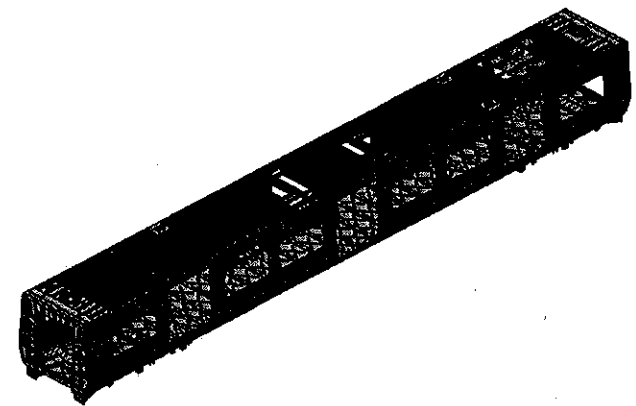
This document and the information contemplated therein have to be considered as Confidential information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

**APPLICATION REFERENCE**

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ? 		
				TCS	M1	M2	M3	M4	TCS				
<input type="checkbox"/>	DTR3000152640	AAD0001278566	CARBODYSHELL M1 ASSEMBLY	CB1210								PRA.CB1210.DTR30225 487/3.V25	YES
<input type="checkbox"/>													
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE								
0	10/01/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	10/01/2018								
			CHECKER	Nosizo Pindela	10/01/2018								
			COMPILER	Thanyani Mathegu	10/01/2018								
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	2018/05/18								
			CHECKER	Nosizo Pindela	2018/05/18								
			REVISED BY	Ramokone Motama	2018/05/18								
2	2018/07/04	Certain dimensional checks moved to CB1220 and CB1230	APPROVER	Itumeleng Modiba	2018/07/04								
			CHECKER	Nosizo Pindela	2018/07/04								
			REVISED BY	Ramokone Motama	2018/07/04								
3	2018/12/12	Added dimensional check points to CB1210	APPROVER	Itumeleng Modiba	2018/12/12								
			CHECKER	Nosizo Pindela	2018/12/12								
			REVISED BY	Ramokone Motama	2018/12/12								
5	22/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	22/01/2019								
			CHECKER	Nosizo Pindela	22/01/2019								
			REVISED BY	Vanessa Ntuli	22/01/2019								
6	13/03/2019	Added D1 and D2 on Self - Inspection	APPROVER	Itumeleng Modiba	13/03/2019								
			CHECKER	Nosizo Pindela	13/03/2019								
			REVISED BY	Nosizo Pindela	13/03/2019								
10	21/08/2019	New Baseline 10.2.5	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								
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023								
			CHECKER	Zwane Ntokozo	27/07/2023								
			REVISED BY	Mohlampe Amogelang	27/07/2023								
28	07/11/2023	Addition of welding traceability	APPROVER	Ngobeni Tyson	07/11/2023								
			CHECKER	Andani Muthelo	07/11/2023								
			REVISED BY	Ntokozo Zwane	07/11/2023								
TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES								
228	M1	lunga 471497	17/05/24	SI.CB1210.254.V28	17								

	<b>CARBODYSHELL M1 ASSEMBLY DTR30225487/3</b>	Rev. 28	Project: PRASA <b>SI.CB1210.254.V28</b>	
		Date 07/11/2023		
Car: M1	NCR:	Work station: <b>CB1210</b>		

 Safety Related



**I - Documentation and Instruments Control**

**I.1 - Documentation Control**

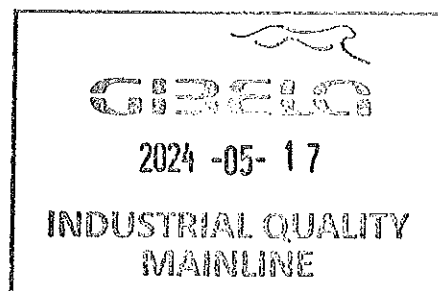
Document	Type of car						Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	1	2	3	4	5	6					
DTR30225487/3	X								✓		17/05/24



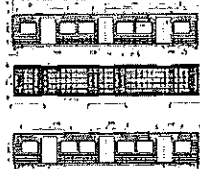
**I.2 - Instruments Control**

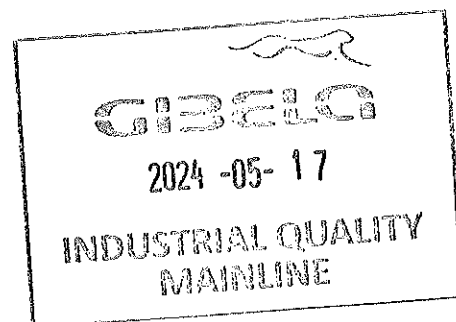
Monitoring and Measuring Instrument Control - Used for Special Process						
Instrument	Serial number	Calibration or Verification Validation Date	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)	
TUBULAR	32825-2	15/05/24	✓	17/05/24	17/05/24	
30 M TAPE	GIBTP0084	14/05/24	✓	17/05/24	17/05/24	
LASER TAPE	125425924	08/01/24	✓	17/05/24	17/05/24	


**1.3 Consumables**

Welding Consumable Control - Used for Special Process					
Fiber Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
WUTLOD 308LSI	K221880	MIG	✓	17/05/24	17/05/24
ERL 309 LSI	318394	MIG	✓	17/05/24	17/05/24

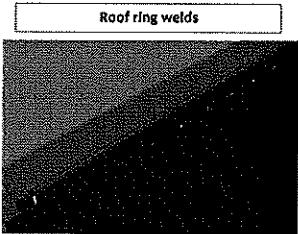


		<b>CARBODYSHELL M1 ASSEMBLY DTR30225487/3</b>	Rev. 28 Date 07/11/2023	<b>Project: PRASA</b> <b>SI.CB1210.254.V28</b>				
<b>II - Self Inspection - Items to Check</b>								
<b>II.1 - Items to check</b>								
Item	Picture/Drawing	Description	Acceptance criteria / Record	CP	CP	CP	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	DT00000311225	/			17/05/24	17/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	/			17/05/24	17/05/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD0000210675	/			17/05/24	17/05/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	/			17/05/24	17/05/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	/			17/05/24	17/05/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	/			17/05/24	17/05/24
07	N/A	Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	/			17/05/24	17/05/24



	CARBODYSHELL M1 ASSEMBLY DTR30225487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
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Welder Traceability

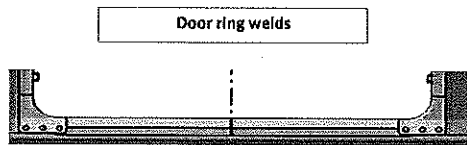


<div style="text-align: right; margin-bottom: 5px;"><u>LHS</u></div> Boiler maker (Name & Sign): <u>Gerald P. [Signature]</u>	<div style="text-align: right; margin-bottom: 5px;"><u>Welder (Name &amp; Sign):</u> <u>MITROKOZIS, [Signature]</u></div>
<div style="text-align: right; margin-bottom: 5px;"><u>RHS</u></div> Boiler maker (Name & Sign): <u>LUNGA [Signature]</u>	<div style="text-align: right; margin-bottom: 5px;"><u>Welder (Name &amp; Sign):</u> <u>MITROKOZIS [Signature]</u></div>

END 1

<div style="text-align: right; margin-bottom: 5px;"><u>LHS</u></div> Boiler maker (Name & Sign): <u>Gerald P. [Signature]</u>	<div style="text-align: right; margin-bottom: 5px;"><u>Welder (Name &amp; Sign):</u> <u>MITROKOZIS, [Signature]</u></div>
<div style="text-align: right; margin-bottom: 5px;"><u>RHS</u></div> Boiler maker (Name & Sign): <u>LUNGA [Signature]</u>	<div style="text-align: right; margin-bottom: 5px;"><u>Welder (Name &amp; Sign):</u> <u>MITROKOZIS, [Signature]</u></div>

END 2



LHS

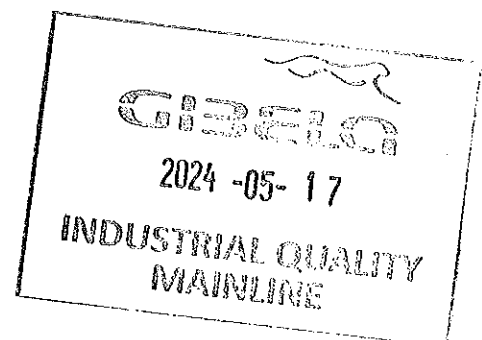
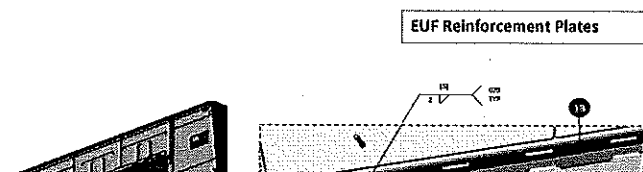
Boiler maker (Name & Sign): LUNGA [Signature]


Welder (Name & Sign): ROBERT [Signature]

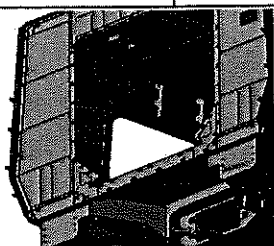
RHS

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

Welder (Name & Sign): KEVIN K. [Signature]



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



### END 1

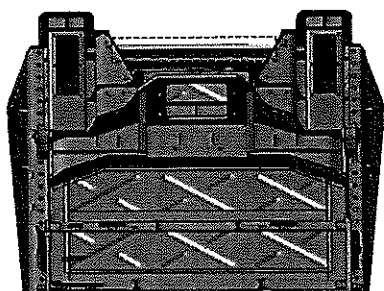
Boiler maker (Name & Sign):

*Timothy P. Letcher*

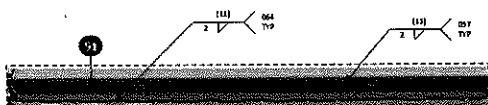
Welder (Name & Sign):

*SIPHOKAZU Kuroki*

### END 2



Underneath the CAR



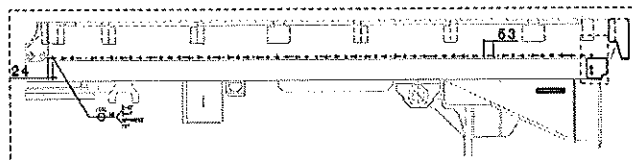
### END 2

Boiler maker (Name & Sign):

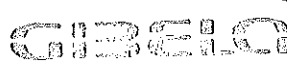
*LAURENCE BILGER*

Welder (Name & Sign):

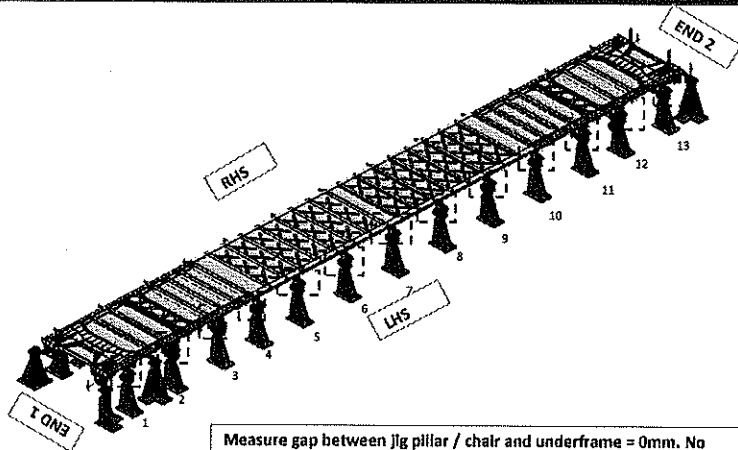
*KATO K. NAGAI*



FEDOLI OPERATOR: <i>Teboyo M. M. M.</i>
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 2024 -05- 17 INDUSTRIAL QUALITY MAINLINE
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Specifications of Details for CBS measurement



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

After loading and clamping

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

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

Signature Operations:

Date: 17/05/24

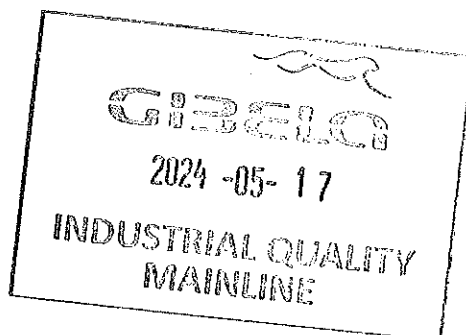
After Welding.

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

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

Signature Industrial Quality:

Date: 17/05/24



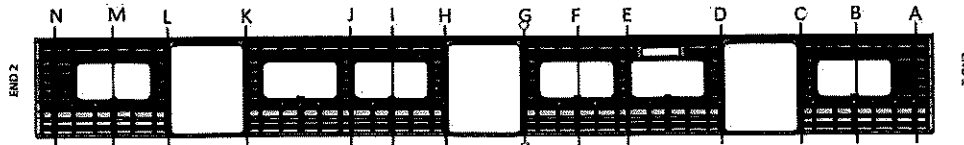


CARBODYSHELL M1 ASSEMBLY DTR30226487/3

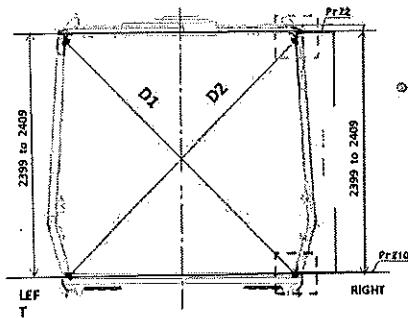
Rev.  
28  
Date  
07/11/2023

Project: PRASA  
SI.CB1210.254.V28

Specifications of Details for CBS measurement



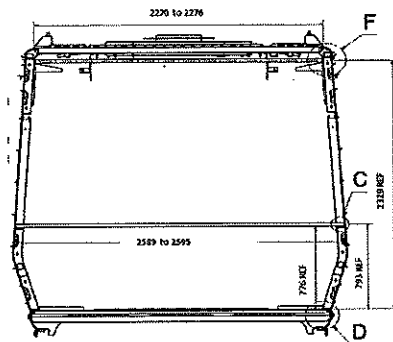
9



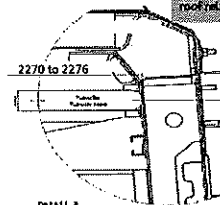
Measurement positions on roof rail and sidewall corner



Measurement positions on sidewall and side all corner



Reinforcement area and measurement positions on roof reinforcement area




Detail P

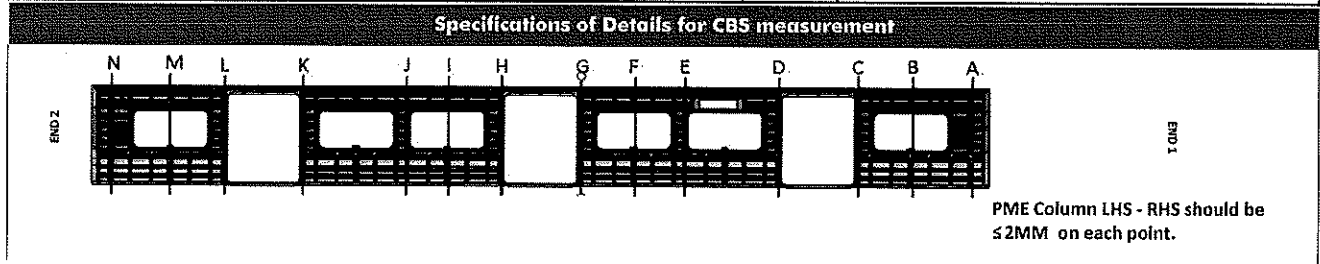
Detail P is a sub-detail of the reinforcement area.

GIBELC

2024 -05- 17

INDUSTRIAL QUALITY  
MAINLINE


	CARBODYSHELL M1 ASSEMBLY DTR30226487/3	Rev. 28	Project: PRASA SI.CB1210.254.V28
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BEFORE WELDING						
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3269	3268	1	2406	2406	0
B	3264	3268	4	2405	2407	2
C	3269	3269	0	2406	2405	1
D	3267	3268	1	2405	2405	0
E	3266	3266	0	2406	2404	2
F	3265	3266	1	2405	2407	2
G	3268	3267	1	2406	2406	0
H	3269	3267	2	2407	2405	2
I	3265	3264	1	2405	2406	1
J	3266	3265	1	2406	2404	0
K	3268	3268	0	2406	2405	1
L	3270	3268	2	2405	2405	0
M	3264	3267	3	2406	2406	0
N	3268	3269	1	2407	2406	1





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

Specifications of Details for CBS measurement

END 2

N

M

L

K

J

I

H

G

F

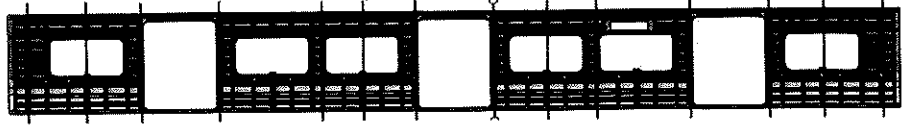
E

D

C

B

A

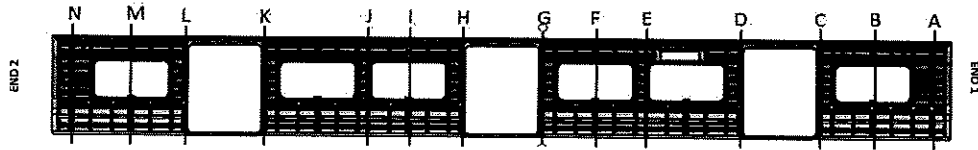


END 1

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

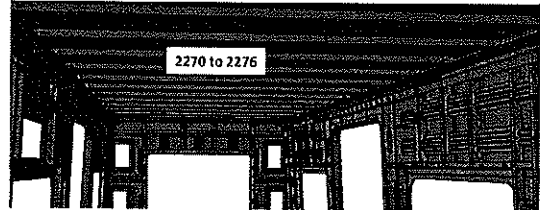
AFTER WELDING						
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3295	3294	1	2407	2406	1
B	3265	3266	1	2405	2405	0
C	3295	3295	0	2406	2404	2
D	3296	3295	1	2405	2405	0
E	3266	3266	0	2406	2405	1
F	3264	3265	1	2405	2404	1
G	3295	3294	1	2406	2406	0
H	3296	3295	1	2405	2406	1
I	3265	3264	1	2404	2405	1
J	3266	3266	0	2407	2406	1
K	3295	3296	1	2405	2405	0
L	3295	3295	0	2404	2405	1
M	3266	3269	3	2406	2406	0
N	3294	3296	2	2407	2408	1

BEFORE WELDING

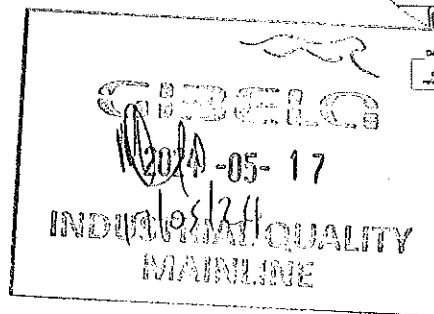
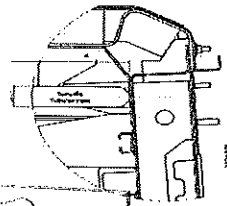
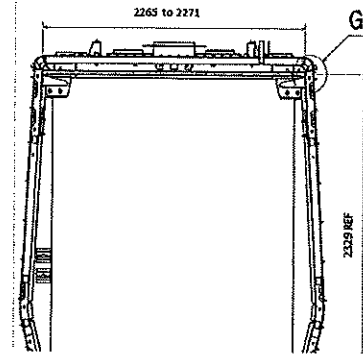


	2270 to 2276
A	2272
B	2274
C	2273
D	2273
E	2278
F	2275
G	2272
H	2271
I	2275
J	2277
K	2273
L	2271
M	2274
N	2272


1990 to



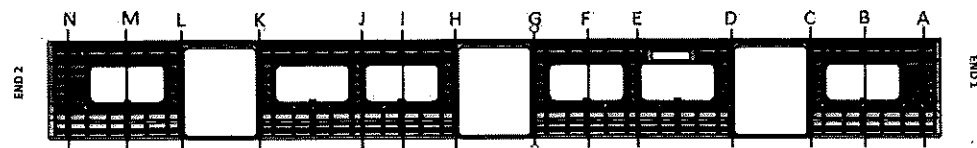
Do not consider reinforcement ( Take measurements top area of zee profile



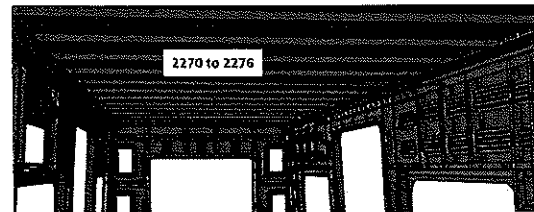
INDUSTRIAL QUALITY  
MAINLINE

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

AFTER WELDING



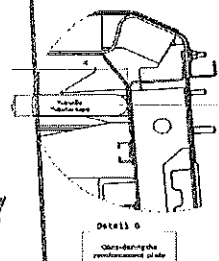
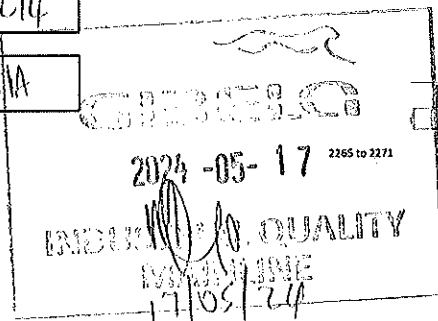
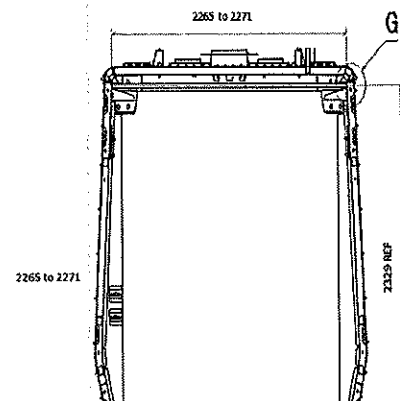
	2265 to 2271	2270 to 2276
A	2268	N/A
B	N/A	2274
C	2269	N/A
D	2266	N/A
E	N/A	2276
F	N/A	2275
G	2268	N/A
H	2270	N/A
I	N/A	2276
J	N/A	2276
K	2268	N/A
L	2266	N/A
M	N/A	2274
N	2265	N/A



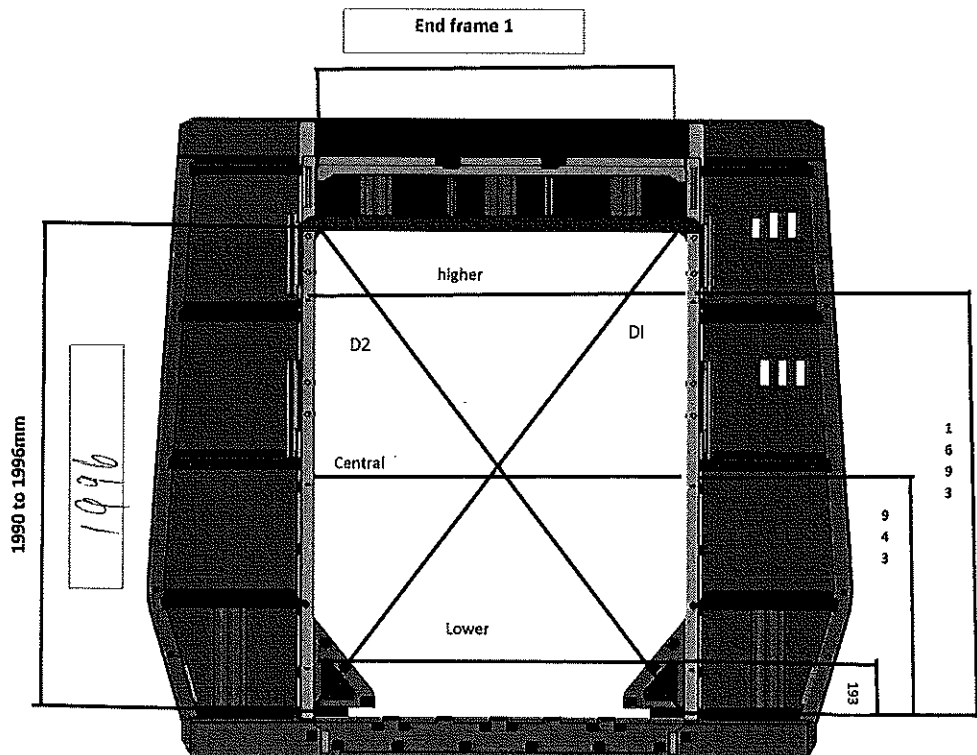
Do not consider reinforcement ( Take measurements top area of zee profile



Take measurement close to radius ( considering reinforcement)



Specifications of Details for CBS measurement



1380 to 1382 mm

DIAGONAL DIFFERENCE  $D1-D2 \leq 3mm$

Higher Dimension

1381

D1

2413

Central Dimension

1381

D2

2414

Lower Dimension

1380

D1-D2

1

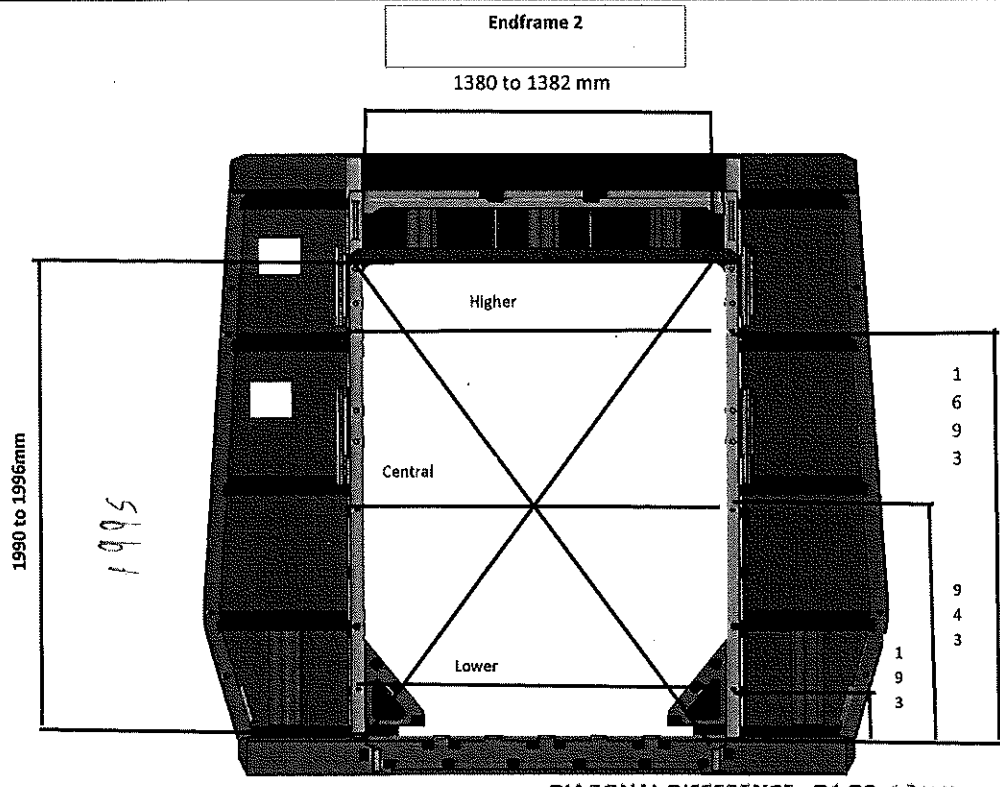
17/05/24

**GIBELC**

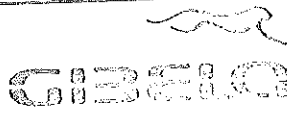
2024-05-17

INDUSTRIAL QUALITY  
MANLINE

Specifications of Details for CBS measurement



	1380 to 1382 mm	DIAGONAL DIFFERENCE D1-D2 ≤ 3mm	
Higher Dimension	1382	D1	2414
Central Dimension	1381	D2	2414
Lower Dimension	1381	D1-D2	0


  
2024-05-17
  
INDUSTRIAL QUALITY
  
17/05/2024
  
MAINLINE



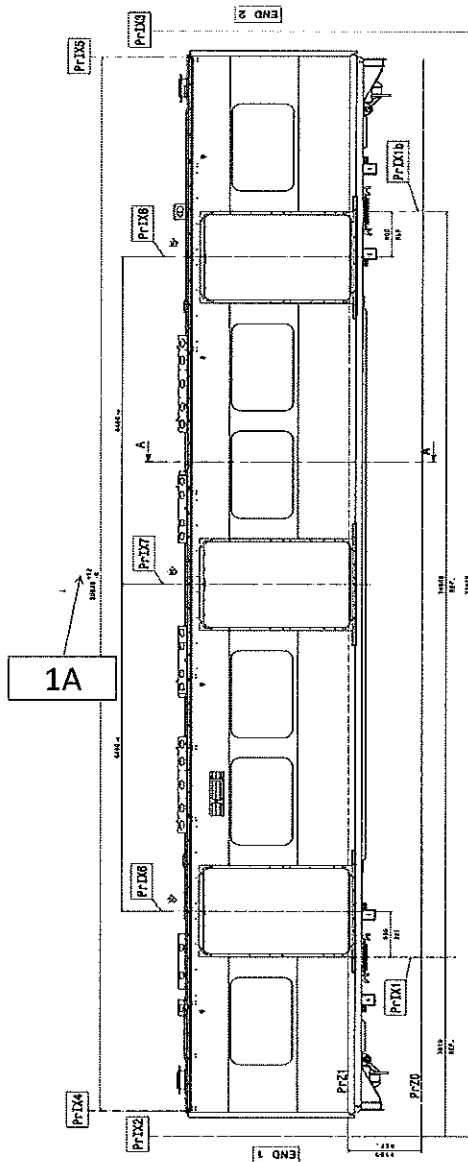
CARBODYSHELL M1 ASSEMBLY DTR30225487/3

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28

Date  
07/11/2023

Project: PRA5A  
SI.CB1210.254.V28

Specifications of Details for CBS measurement

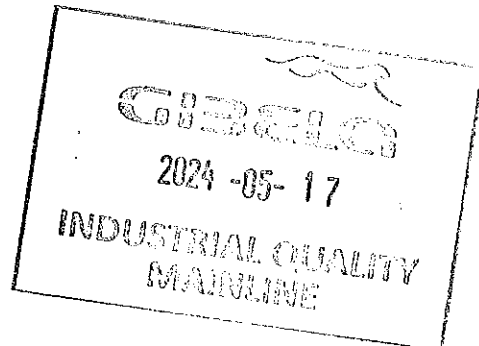


LEFT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20615


RIGHT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614	20616

Dye penetrant test



Dye-penetration test to be performed by quality personnel





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

Self Inspection - Final Result

			DATE	NAME	SIGNATURE
HOLD POINT		(If activities are not complete, the missing activities must not impact the next stage)	17/05/24	luncg	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	17/05/24	Amogelag	
		There are activities pendings that impact/top 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)			

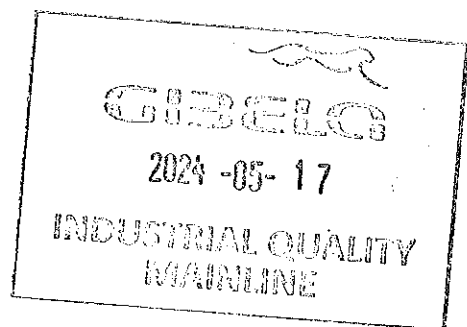
In case of "NO GO", describe blocking problems

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

Item	Description	Responsible	Due date	Status



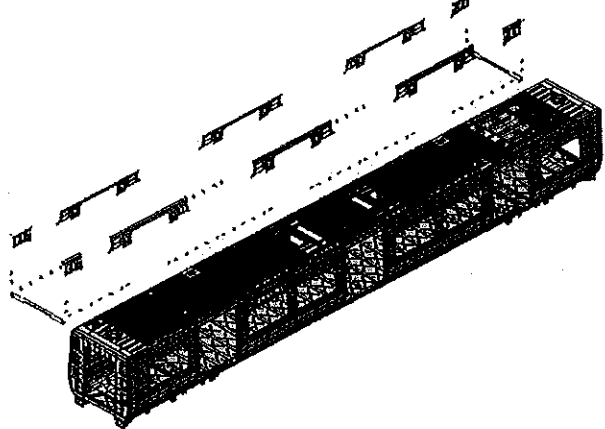
Operations

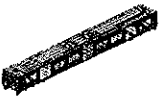
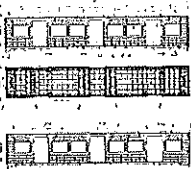


Quality




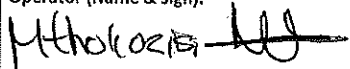



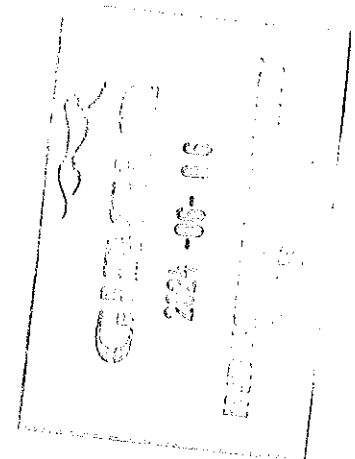





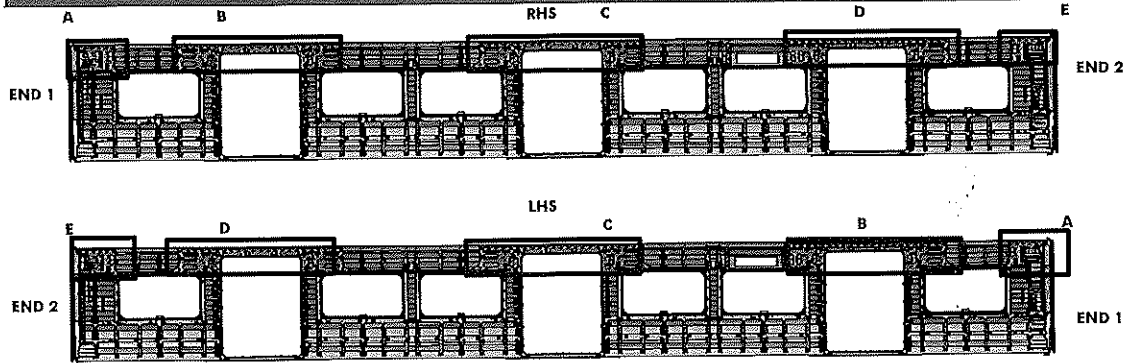
	<b>CARBODYSHELL M1,M3,M4 ASSEMBLY</b> DTR30225487/2	Rev.	<b>Project: PRASA</b>  <b>SI.CB1220.250.V29</b>									
		29										
		Date										
Car: M1,M3&M4		NCR:		Work station:	CB1220							
 Safety Related												
												
<b>I - Documentation and Instruments Control</b>												
<b>I.1 - Documentation Control</b>												
Document	Type of car					Revision	Observation	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)	
	D1	M1	M2	M3	M4							D2
DTR30225487/2						29	28/10/2023	X		N/A	18/05/24 LBB	18/05/24 J. J. J.
<b>I.2 - Instruments Control</b>												
Monitoring and Measuring Instrument Control - Used for Special Process												
Instruments	Serial number	Calibration or Verification Validation Date		OK		Signature/Date (Manufacturing)	Signature/Date (Quality)					
Tubular	32825-2	15/05/24 - 15/05/25		✓		18/05/24 LBB	18/05/24 J. J. J.					
Measuring type	51711001	22/01/23 - 22/01/24		✓		18/05/24 LBB	18/05/24 J. J. J.					
<b>1.3 Consumables</b>												
Welding Consumable Control - Used for Special Process												
Filler Material	Heat Number	Welding Process		OK		Signature/Date (Manufacturing)	Signature/Date (Quality)					
Welding 308LSI	1322/880	Mig		X		18/05/24 LBB	18/05/24 J. J. J.					

GIBELQ		CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2		Rev. 29 Date 28/10/2023	Project: PRA5A SI.CB1220.250.V29		
<b>II - Self Inspection - Items to Check</b>							
<b>II.1 - Items to check</b>							
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB1220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	PRA.CB1220.DTR30225487/2	✓		18/05/24 L. B. B.	18/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓		18/05/24 L. B. B.	18/05/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		18/05/24 L. B. B.	18/05/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		18/05/24 L. B. B.	18/05/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓		18/05/24 L. B. B.	18/05/24
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.	✓		18/05/24 L. B. B.	18/05/24
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) 10°C - 35°C Relative humidity Min - Max (%) 25% - 60%	Section Bolch No: 83497 Exp Date: 01/06/24 Actuals Temperature: 27 Humidity: 25	✓		18/05/24 L. B. B.	18/05/24
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001278566	✓		18/05/24 L. B. B.	18/05/24
09		Verification of safety welds	Approved according to DTD000210658 reference and Self inspection	✓		18/05/24 L. B. B.	18/05/24

	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA  SI.CB1220.250.V29
		29	
		Date	
		28/10/2023	
II - Self Inspection - Items to Check			
SEALANT APPLICATION			
		AREA 1 & 2 END 1	
		Operator (Name & sign): 	
		Operator (Name & sign): 	

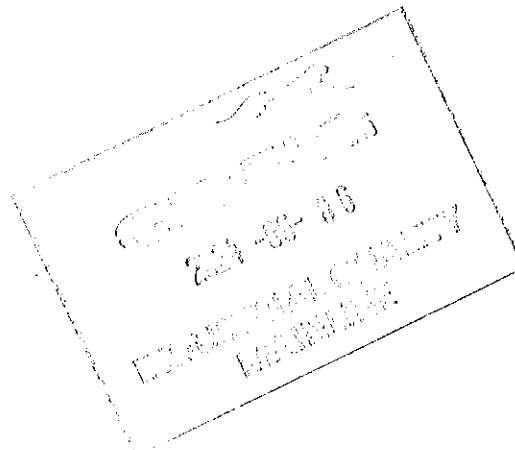



	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA SI.CB1220.250.V29
		29	
		Date	
		28/10/2023	
II - Self-Inspection - Items to Check			



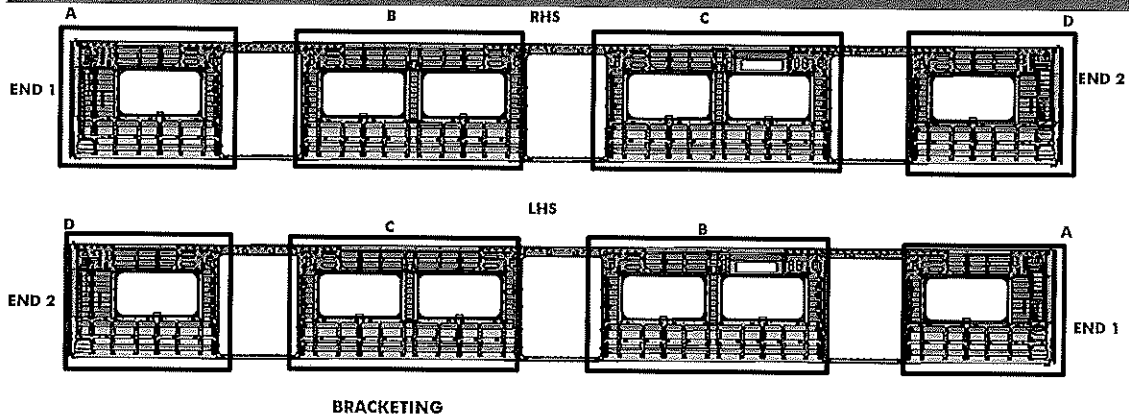
### REINFORCEMENT WELDING

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

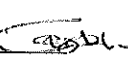
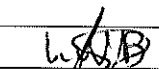
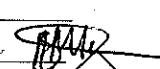


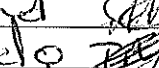
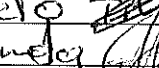

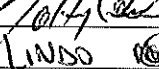

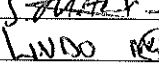
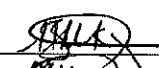
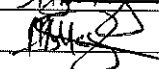
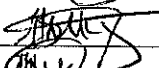

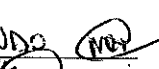
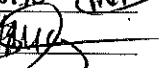



	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA  SI.CB1220.250.V29
		29	
		Date	
		28/10/2023	

### II - Self Inspection - Items to Check

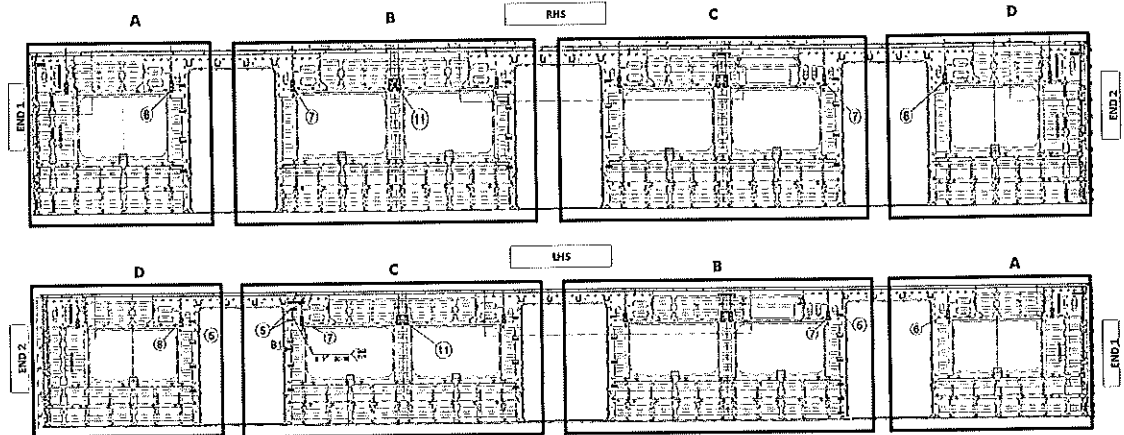


### BRACKETING

		INSTALLATION	
C-RAILS:	Operator:	Priscille 	
	Operator:		
DOOR MECHANISMS:	Operator:	Lemi 	
	Operator:		
TAPPING PADS	Operator:	Mkhize 	
	Operator:	LINDO END1 	
		INSTALLATION & VERIFICATION	
SEAT & LUGGAGE BRACKETS:	Operator:	Asand 	
	Operator:	Tetelo 	
SEAT BRACKETS VERIFICATION:	Operator:	Asand 	
	Operator:		
WELDING			
AREA	LHS	RHS	
A (Seat brackets)	: Operator (Name&sign):		
(C-rails, Luggage and earth bushes)	: Operator (Name&sign):	LINDO 	
B (Seat brackets)	: Operator (Name&sign):		
(C-rails, Luggage and earth bushes)	: Operator (Name&sign):	LINDO 	
C (Seat brackets)	: Operator (Name&sign):		
(C-rails, Luggage and earth bushes)	: Operator (Name&sign):		
D (Seat brackets)	: Operator (Name&sign):		
(C-rails, Luggage and earth bushes)	: Operator (Name&sign):		
ENDS			
END 1 TAPPING PADS WELDING:	Operator (Name&sign):	LINDO 	
END 2 TAPPING PADS WELDING:	Operator (Name&sign):		

	<b>CARBODYSHELL M1,M3,M4 ASSEMBLY</b> DTR30226487/2	Rev.	Project: PRASA  <b>SI.CB1220.250.V29</b>
		29	
		Date	
		28/10/2023	
<b>II - Self Inspection - Items to Check</b>			

**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:**  
 C-RAILS 2 OFF EACH END  
 EARTH BUSH 6 OFF EACH END

VERIFICATION BY: \_\_\_\_\_

LHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	2		
	B	6		
	C	11		
	D	8		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	5		
	C	6		
	D	2		

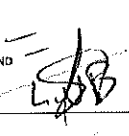
**ROOF ENDS:**  
 C-RAILS 2 OFF EACH END  
 EARTH BUSH 6 OFF EACH END

VERIFICATION BY: \_\_\_\_\_

**QUANTITIES (M1)**

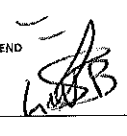
RHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	7	✓	
	B	4	✓	
	C	8	✓	
	D	6	✓	
SEAT BRACKETS	A	13	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	3	✓	
	B	5	✓	
	C	4	✓	
	D	3	✓	

**ROOF ENDS:**  
 C-RAILS 2 OFF EACH END  
 EARTH BUSH 6 OFF EACH END

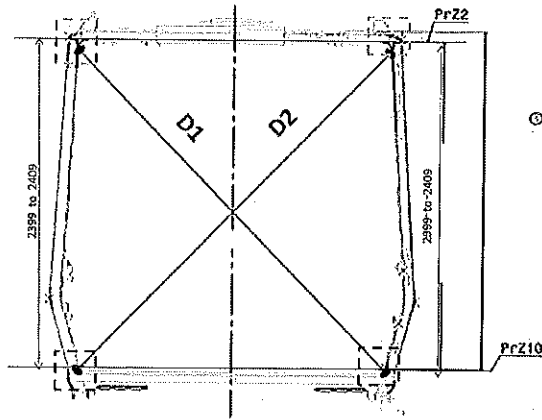
VERIFICATION BY: 

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	✓	

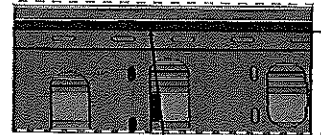
**ROOF ENDS:**  
 C-RAILS 2 OFF EACH END  
 EARTH BUSH 6 OFF EACH END

VERIFICATION BY: 

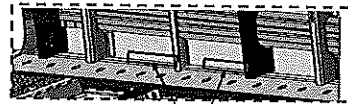
Specifications of Details for CBS measurement



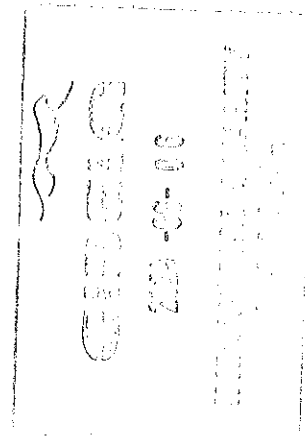
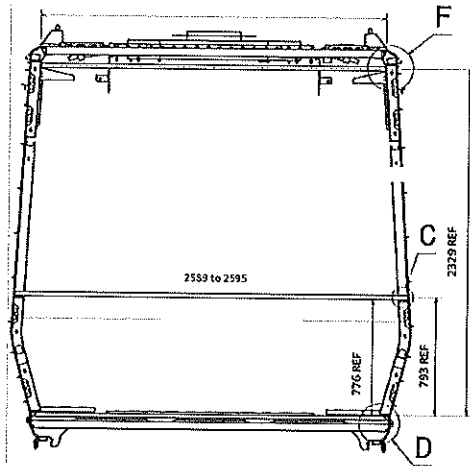
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.

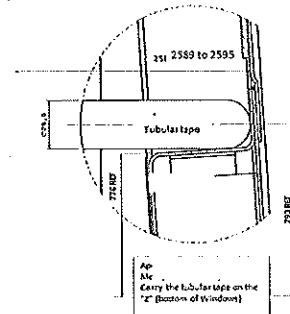
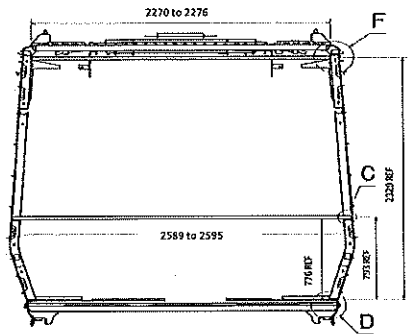


Measurement positions on sidewall and side sill corner.

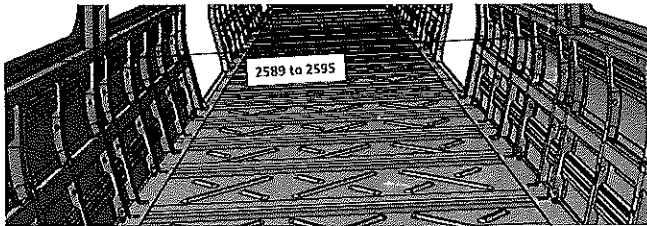




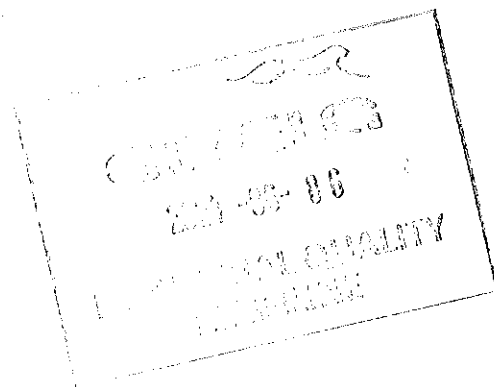
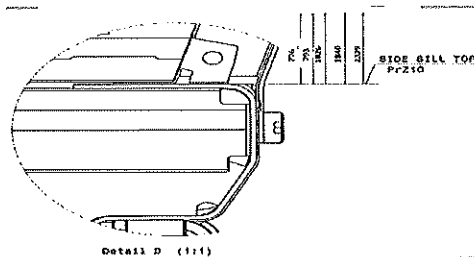
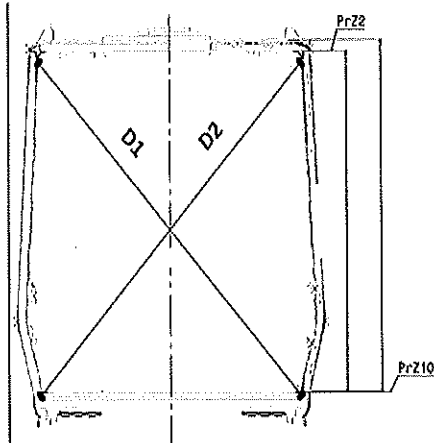
### CBS measurement




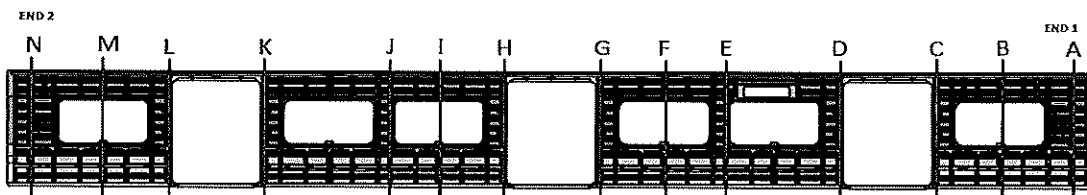
### Detail C



Take measurement close to radius

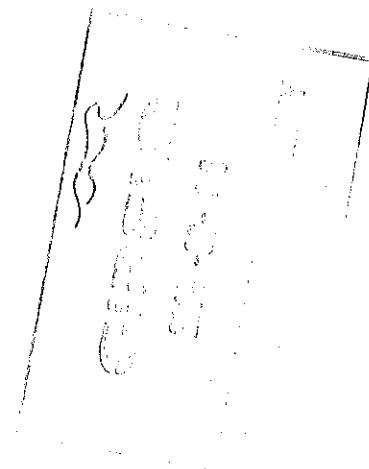



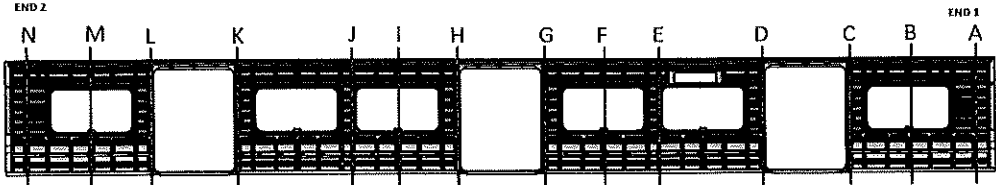
	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRASA  SI.CB1220.250.V29
		29	
		Date	
		28/10/2023	
CBS measurement			



**BEFORE WELDING**

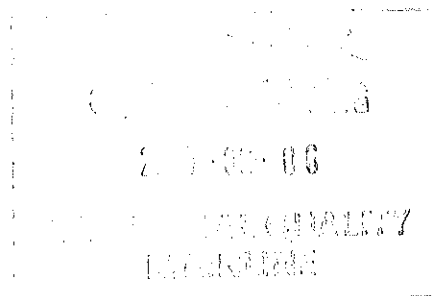
	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3292	3293	1	—
B	3262	3261	5	—
C	3290	3292	2	—
D	3293	3295	2	—
E	3263	3267	4	—
F	3262	3264	2	—
G	3292	3296	4	—
H	3296	3299	1	—
I	3262	3264	2	—
J	3263	3267	4	—
K	3291	3292	5	—
L	3296	3291	5	—
M	3265	3265	0	—
N	3294	3293	1	—



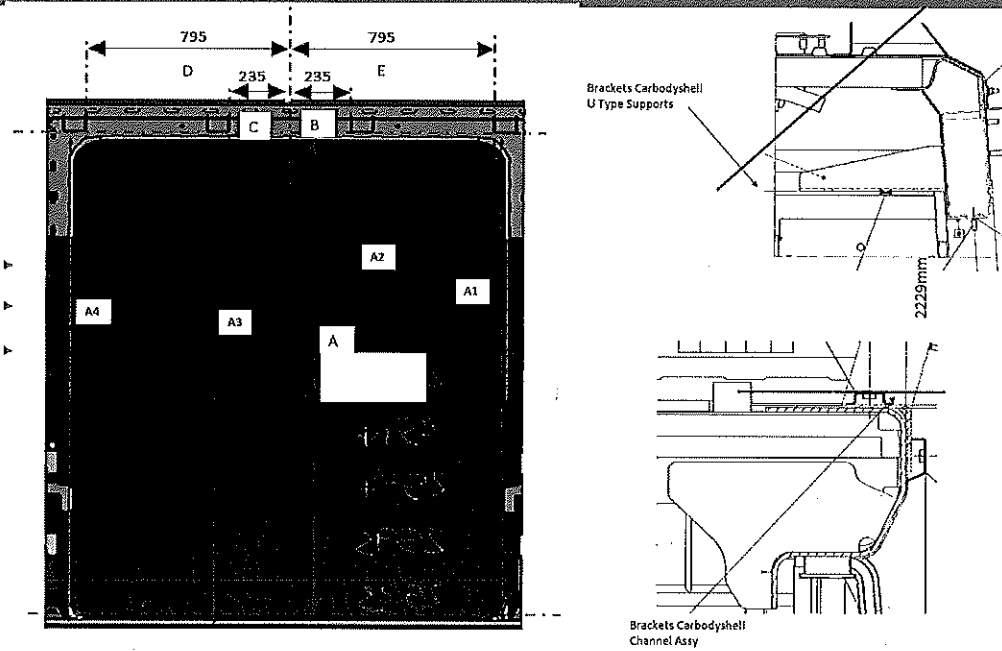
	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30225487/2	Rev.	Project: PRASA  SI.CB1220.250.V29
		29	
		Date	
		28/10/2023	
CBS measurement			
			

**AFTER WELDING**

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3292	3293	1	2595
B	3263	3262	1	2594
C	3293	3292	1	2594
D	3295	3295	0	2595
E	3263	3262	1	2593
F	3264	3262	2	2591
G	3295	3296	1	2590
H	3295	3296	1	2592
I	3265	3264	1	2593
J	3264	3265	1	2594
K	3293	3295	2	2589
L	3293	3294	1	2595
M	3263	3262	1	2589
N	3294	3293	1	2595



Specifications of Details for CBS measurement CB1220



DOOR 1 - LHS		
	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 - LHS		
	VALUE	ACTUAL
A1	2230 to 2232	2232
A2	2230 to 2232	2231
A3	2230 to 2232	2231
A4	2230 to 2232	2231
B	234 to 236	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795

DOOR 2 - RHS		
	VALUE	ACTUAL
A1	2230 to 2232	2230
A2	2230 to 2232	2230
A3	2230 to 2232	2230
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 1 - RHS		
	VALUE	ACTUAL
A1	2230 to 2232	2231
A2	2230 to 2232	2231
A3	2230 to 2232	2231
A4	2230 to 2232	2231
B	234 to 236	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795

DOOR 2 - RHS		
	VALUE	ACTUAL
A1	2230 to 2232	2232
A2	2230 to 2232	2231
A3	2230 to 2232	2232
A4	2230 to 2232	2232
B	234 to 236	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	2230
A2	2230 to 2232	2231
A3	2230 to 2232	2231
A4	2230 to 2232	2231
B	234 to 236	235
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795



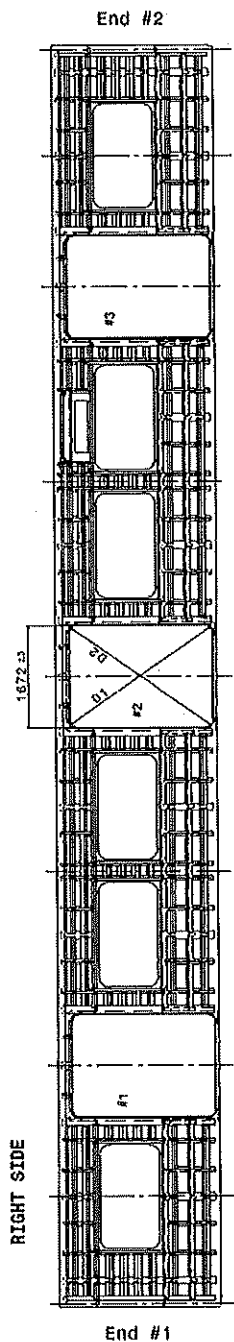
CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR30226487/2

Rev.  
29  
Date  
28/10/2023

Project: PRASA

SI.CB1220.250.V29

Specifications of Details for CBS measurement CB1220

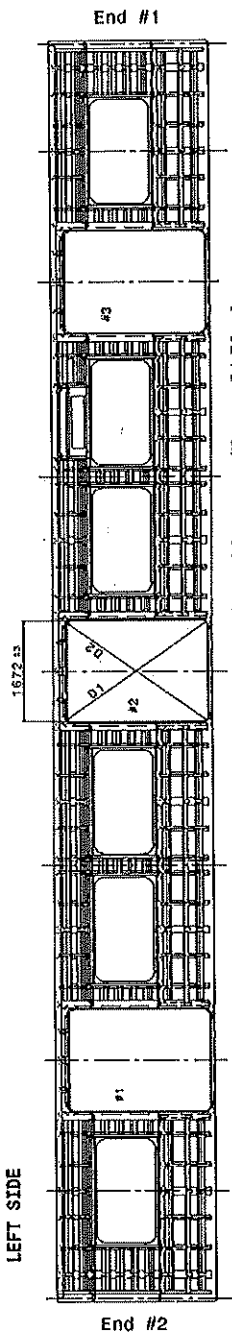


Doors diagonal D1-D2 maximum difference  $\leq 4\text{mm}$

	#1	#2	#3
D1	1672	1672	1672
D2	1672	1671	1672
D1-D2	1671	1671	1672

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

Doors length - 1672 mm

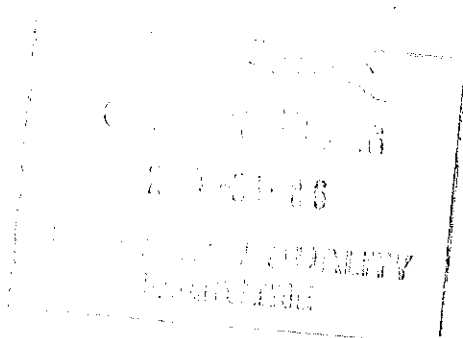



Doors diagonal D1-D2 maximum difference  $\leq 4\text{mm}$

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


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

Doors length - 1672 mm



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

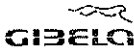

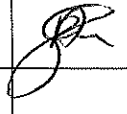
CBS measurement (Manufacturing)					
Dye penetrant test					
Dye-penetration test to be performed by quality personnel					
					

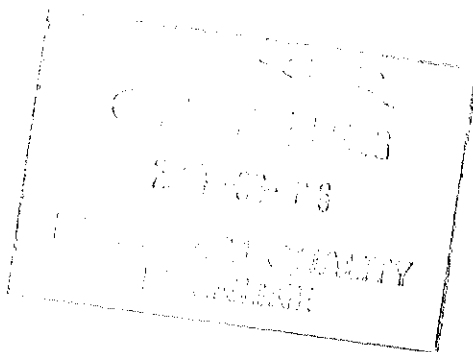
  


Item	Description of the Issue	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)

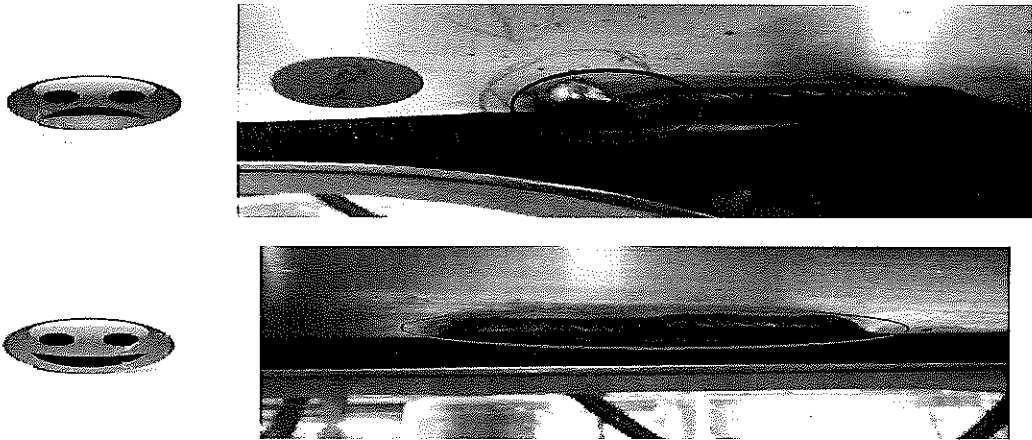
II.2 - Check List REX							
Check List Items							
Item	Picture/Drawing	Description	Criteria /Record	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)	
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX				

	<b>CARBODYSHELL M1,M3,M4 ASSEMBLY</b> DTR30225487/2	Rev.	Project: PRASA		
		29			
		Date	SI.CB1220.250.V29		
		28/10/2023			
<b>Self Inspection - Final Result</b>					
Is the car good to advance to the next workstation/process? (Approval of Operations Manager and Industrial Quality)		DATE	NAME	SIGNATURE	
<b>HOLD POINT</b>	<b>GO</b>	(If activities are not complete, the missing activities must not impact the next stage)	18/05/24	Leni	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	16/05/24	Ntoko20	
	<b>NO GO</b>	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-around;"> <div>Operations</div> <div>Quality</div> </div>			

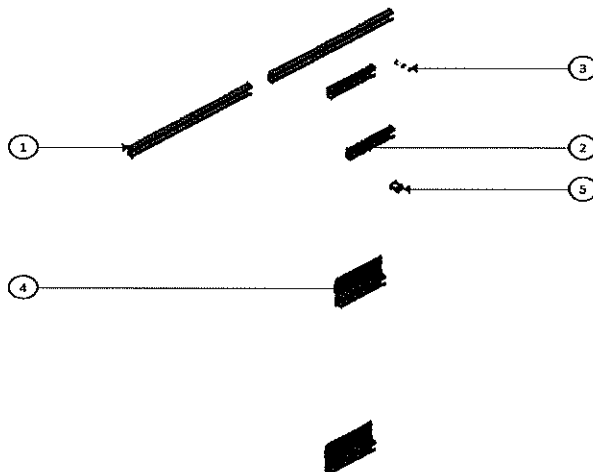


	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30226487/2	Rev.	Project: PRASA SI.CB1220.250.V29
		29	
		Date 28/10/2023	

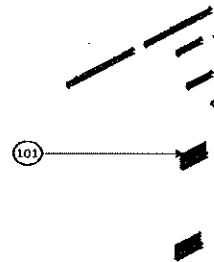
### ANNEXURE A: Arc Welding Quality Acceptance Standard



Station: CB1220-004- U108 & U107



PART NO.	ITEM NO.	QTY	DESCRIPTION	MASS [KG]
DTE0020074053	5	6	EARTH STUD 6	0.038
AA00001201648	4	6	ASSEMBLY SUPPORT	0.371
DTE0000343305	3	12	WELDING STUD ISO13318 PT-MSC20-SS7	0.007
AA00001160124	2	12	ASSEMBLY SUPPORT	0.193
AA00001184318	1	14	ASSEMBLY SUPPORT	0.522
AA00001161080	101	6	CARBODYSHELL BRACKETS CARBODYSHELL M1/M3/M4 CASE(SIDE FRAME MODULE END - DPF)	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	M3	M2	M3	TC2				
<input type="checkbox"/>	DT00000225487	AAD0001278566	CARBODYSHELL M1,M3,M4 ASSEMBLY	CB1230		X	X			X		PRA.CB1230.DT000002 25487.V20	YES
<input type="checkbox"/>													
<input type="checkbox"/>													
	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	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		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						
25	20/02/2022	New Baseline change 10.3.1		APPROVER	Collins Mbombhi		20/02/2022						
				CHECKER	Andani Muthelo		20/02/2022						
				REVISED BY	Andani Muthelo		20/02/2022						
26	14/06/2022	Update minimum temperature requirement for sealant application		APPROVER	Collins Mbombhi		14/06/2022						
				CHECKER	Andani Muthelo		14/06/2022						
				REVISED BY	Andani Muthelo		14/06/2022						
27	19/10/2022	Addition of traceability for sealant application		APPROVER	Collins Mbombhi		19/10/2022						
				CHECKER	Ntokozo Zwane		19/10/2022						
				REVISED BY	Amogelang Mohlampe		19/10/2022						
28	14/04/2023	Added sealant batch number & welding consumables traceability		APPROVER	Vanessa Ntuli		14/04/2023						
				CHECKER	Ntokozo Zwane		14/04/2023						
				REVISED BY	Amogelang Mohlampe		14/04/2023						
29	06/11/2023	Added thresholds traceability for boiler makers and welders		APPROVER	Tyson Ngobeni		06/11/2023						
				CHECKER	Andani Muthelo		06/11/2023						
				REVISED BY	Ntokozo Zwane		06/11/2023						
TRAINSET	CAR	OPERATOR NAME & ALPS NO		DATE	SELF INSPECTION NUMBER		PAGES						
226	M01	Ntshonani hla 4271423		20/05/24	SI.CB1230.256.V28		11						

GIBELA

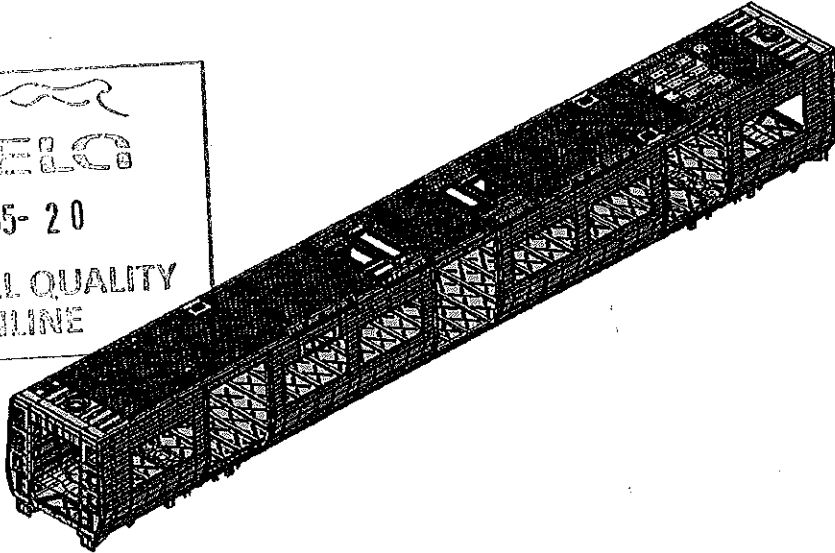
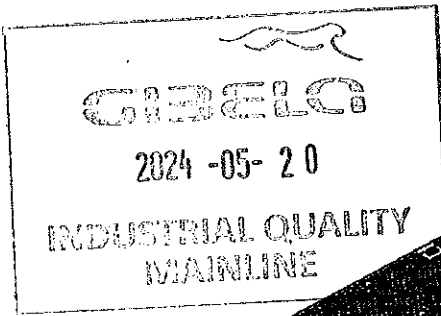
2024-05-20

INDUSTRIAL QUALITY  
MAINLINE

	<b>CARBODYSHELL M1,M3,M4 ASSEMBLY</b> DT00000225487	Rev. 29	Project: PRASA  <b>SI.CB1230.256.V28</b>
		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	NOK	Signature/Date (Operations)	Signature/Date (Quality)
	M1	M2	M3	M4	TC2						
PRA.CB1230.DT00000225487	X					29		✓		N/A	20/05/24

#### I.2 - Instruments Control

##### Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Tubular	12062-2	2025/02/19	✓		20/05/24	20/05/24
Measuring Tape	GIRSTP080	07/03/2025	✓		20/05/24	20/05/24
Combination Square	GIRST082	20/03/2025	✓		20/05/24	20/05/24

#### 1.3 Consumables

##### Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 LSI	ER231057	MIG	✓		20/05/24	20/05/24



CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.

29

Project: PRASA

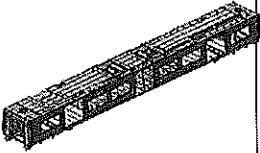
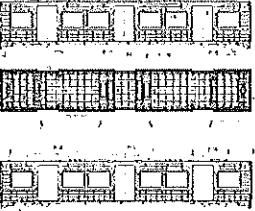
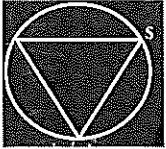
Date

06/11/2023

SI.CB1230.256.V28

## II - Self Inspection - Items to Check

### II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Not OK	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° PRA.CB1230.DT00000225487 Verification of fillet for all brackets.	PRA.CB1230.DT00000225487	✓		Kapote 20/05/24	
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓		Tham 20/05/24	
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		Zanele 20/05/24	
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		Tshang 20/05/24	
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below. 2024-05-20 INDUSTRIAL QUALITY MAINTENANCE			Tham 20/05/24	
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.	✓		Zanele 20/05/24	
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 (I) Min-Max 10°C - 35°C Relative humidity Min - Max (I) Min-Max 25% - 80%	Sealant Batch No: 1053228 Exp Date: June 2024 Actuals Temperature: 21°C Humidity: 61%	✓		Bulle Tshang Sihle Lerato 20/05/24	
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	✓		Tshang 20/05/24	

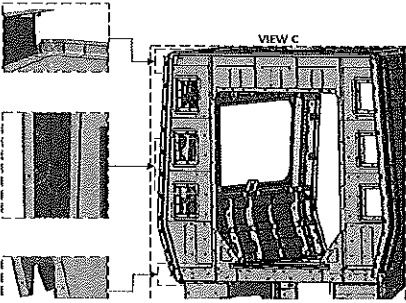
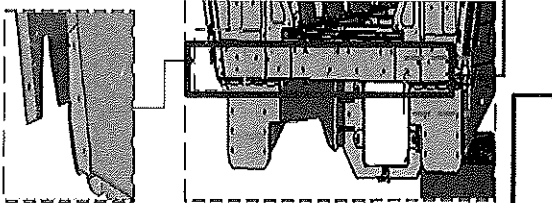


CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

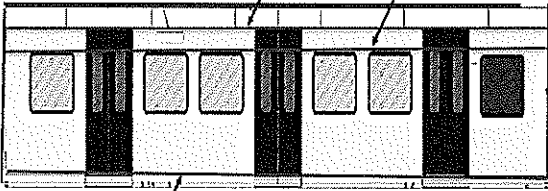
Rev.  
29  
Date  
06/11/2023

Project: PRASA  
SI.CB1230.256.V28

AREA 1



H



END 2 SEALANT

OPERATOR  
(Name & sign):

Levoy

OPERATOR  
(Name & sign):

Levoy

OPERATOR  
(Name & sign):

Levoy

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

Operator (Name & sign):

LHS

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

RHS

F, E, H, G

Operator (Name & sign):

Shenolo

Shenolo

Operator (Name & sign):

Operator (Name & sign):

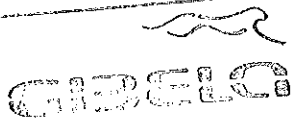
Sihle

Sihle.

Operator (Name & sign):

Operator (Name & sign):

D Buhle



2024-05-20

INDUSTRIAL QUALITY  
MAINLINE



CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.  
29

Date

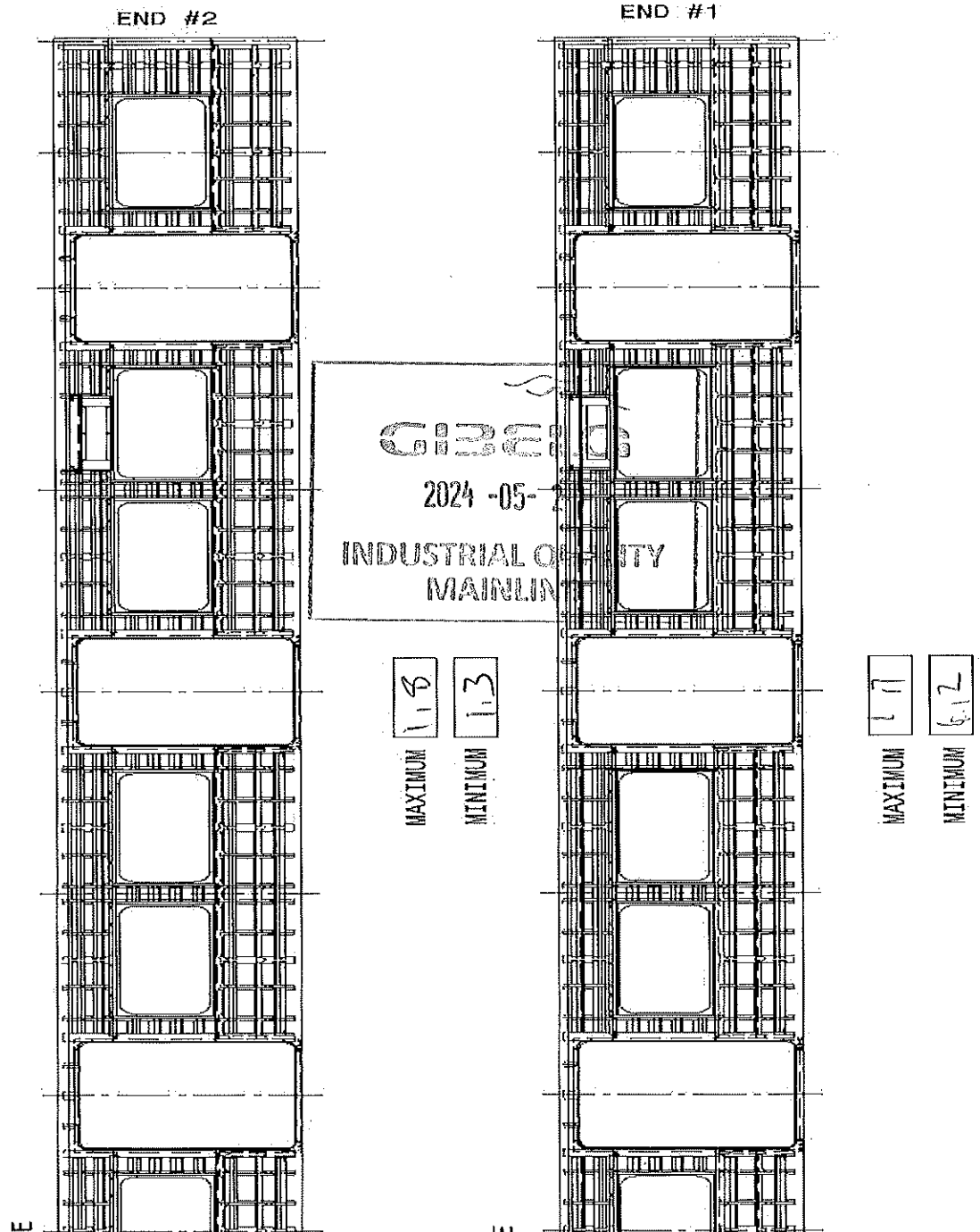
06/11/2023

Project: PRASA

SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230

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.



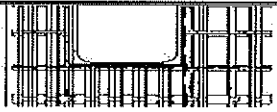


CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

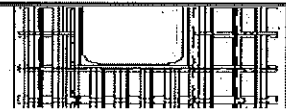
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Date  
06/11/2023

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SI.CB1230.256.V28

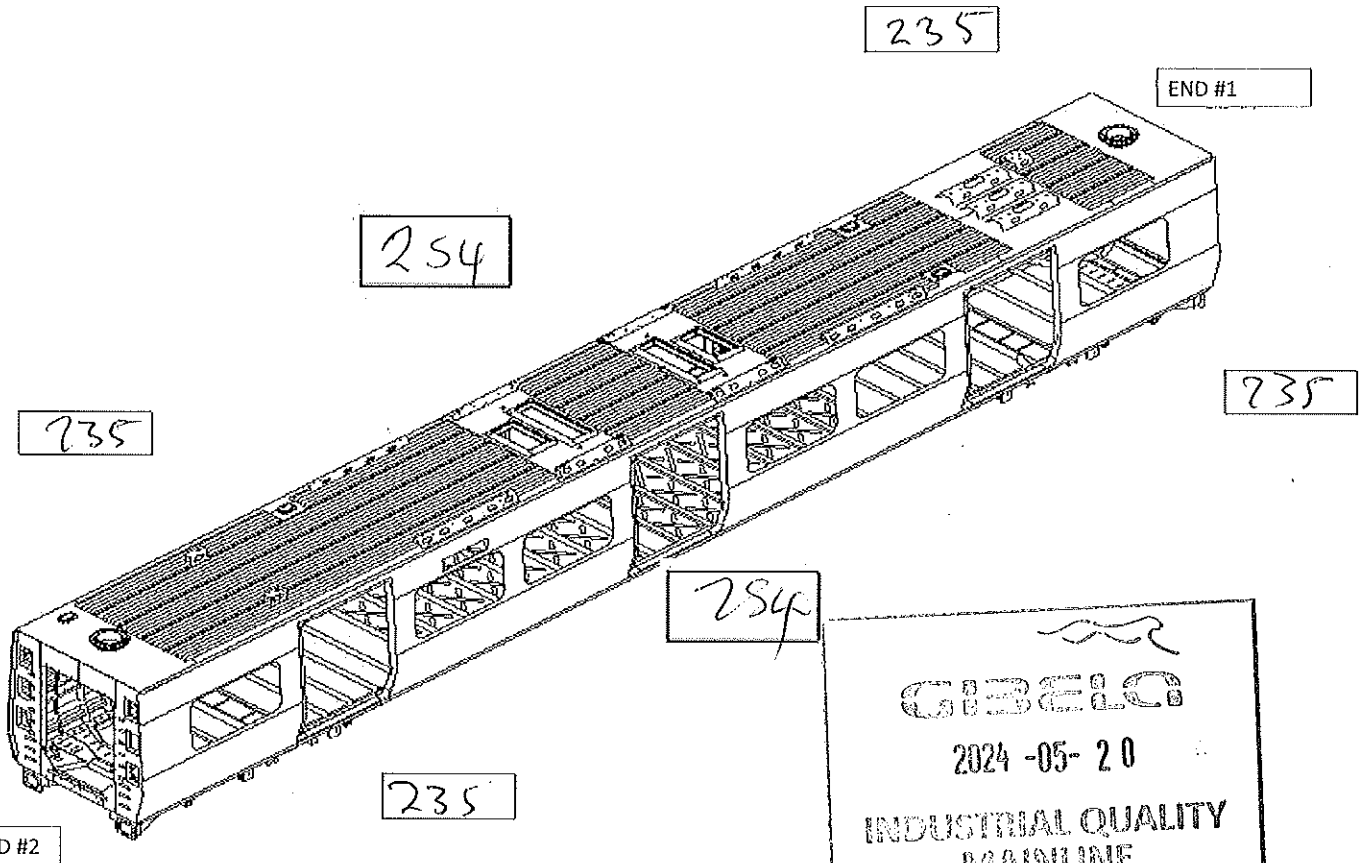
RIGHT SIDE



LEFT SIDE



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



MEASURED CAMBER VALUES

RIGHT <sup>1</sup> 19  
LEFT <sup>a1</sup> 19



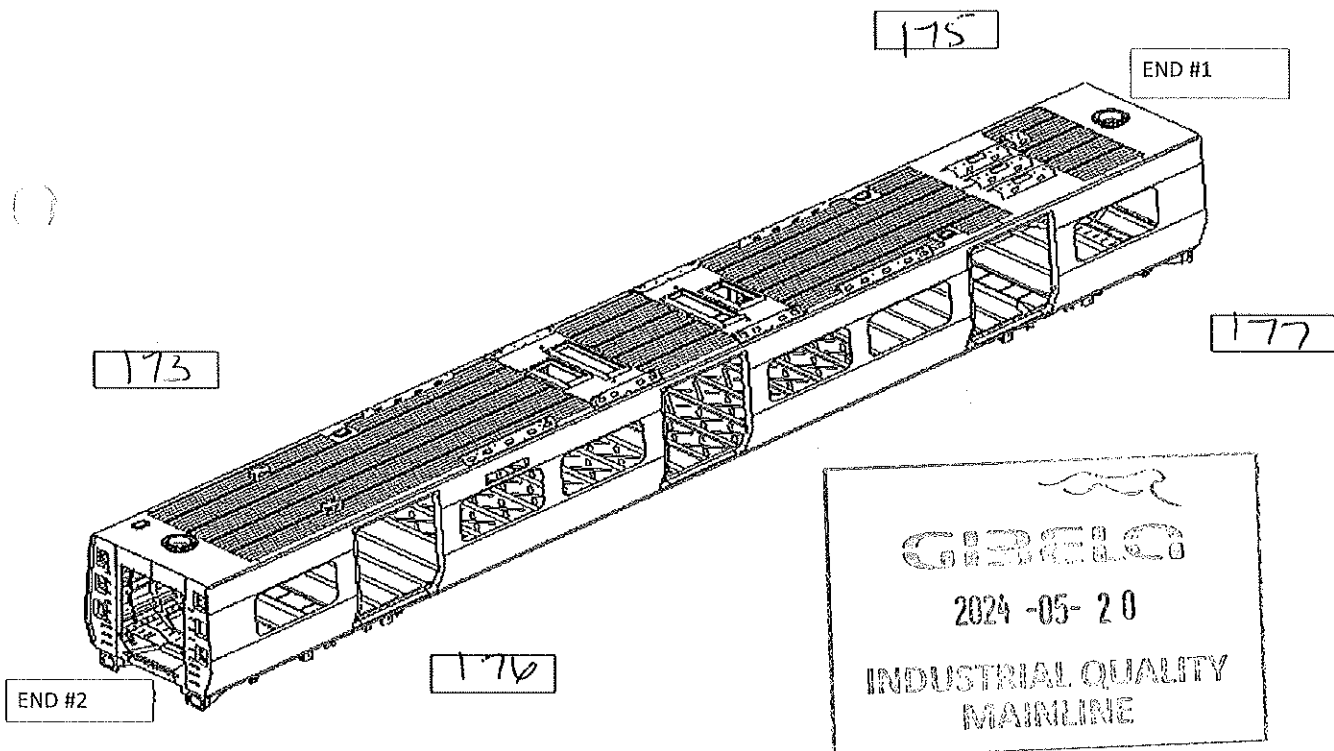
CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.  
29  
Date  
06/11/2023

Project: PRASA  
**SI.CB1230.256.V28**

### Specifications of Details for CBS measurement CB1230

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



TWIST FOUND ON END 1

TRANVERS

3

LONGITUDIN

2

TWIST FOUND ON END 2

TRANVERSE

2

LONGITUDINAL

1







CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.  
29

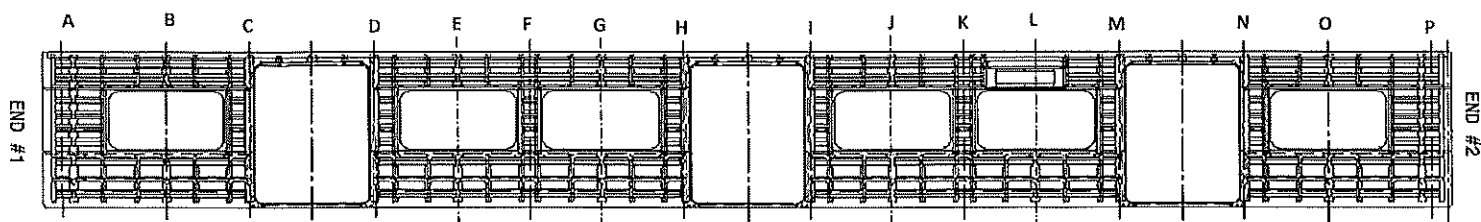
Date

06/11/2023

Project: PRASA

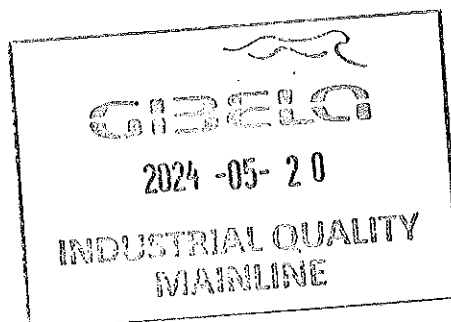
SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



Threshold verification

Nominal value :38

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

BOILER MAKER:

1090650

WELDER:

Zancle





CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

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Date  
06/11/2023

Project: PRASA  
SI.CB1230.256.V28

### Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT	GO	(If activities are not complete, the missing activities must not impact the next stage)		20/05/24	Houhlanla	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)		20/05/24	Nfokoro	
	NO GO	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



ANNEXURE A: Arc Welding Quality Acceptance Standard

