





CARBODYSHELL M1 ASSEMBLY DTR30225487/3

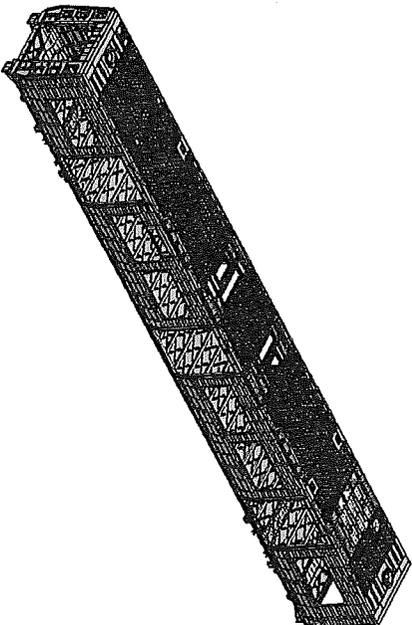
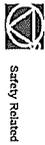
Rev. 28  
Date 07/11/2023  
Project: PRASA  
SI.CB1210.254.V28

Cur: M1

NCR:

Work station:

CB1210



1 - Documentation and Instruments Control

1.1 - Documentation Control

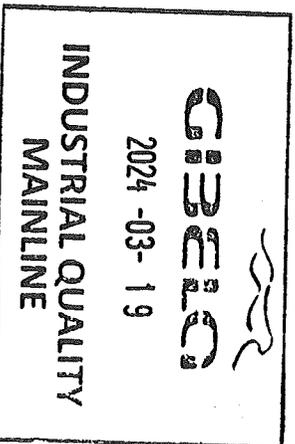
Document	Type of car				Revision	Observation	OK	NON	Signature/Date (Manufacturing)	Signature/Date (Quality)
	TC1	M	M2	M3						
DTR30225487/3							<input checked="" type="checkbox"/>		<i>[Signature]</i>	18/05/24

1.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process		Monitoring and Measuring Instrument Control - Used for Special Process				
Instruments	Serial number	Calibration or Verification Validation Date	OK	NON	Signature/Date (Manufacturing)	Signature/Date (Quality)
TURBUDE	32823-7	15/03/24	<input checked="" type="checkbox"/>		<i>[Signature]</i>	18/05/24
30M TAPE	618TP 0084	14/03/24	<input checked="" type="checkbox"/>		<i>[Signature]</i>	18/05/24
LASER TAPE	125425924	08/01/24	<input checked="" type="checkbox"/>		<i>[Signature]</i>	18/05/24

1.3 Consumables

Welding Consumable Control - Used for Special Process						
Filler Material	Heat Number	Welding Process	OK	NON	Signature/Date (Manufacturing)	Signature/Date (Quality)
AUTRON 308LS1	E22880	M19	<input checked="" type="checkbox"/>		<i>[Signature]</i>	18/05/24
E2 308LS1	318394	M19	<input checked="" type="checkbox"/>		<i>[Signature]</i>	18/05/24





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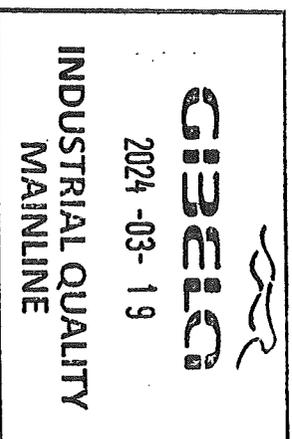
Rev. 28  
Date 07/11/2023

Project: PRASA  
SI-CB1210.254.V28

**II - Self Inspection - Items to check**

**II.1 - Items to check**

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	IPN	IPW	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	DTD00000311225	✓			M/10 18/03/24	 18/03/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD00000210675	✓			M/10 18/03/24	 18/03/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD00000210675	✓			M/10 18/03/24	 18/03/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			M/10 18/03/24	 18/03/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			M/10 18/03/24	 18/03/24
06		Functional's dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓			M/10 18/03/24	 18/03/24
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 DTD00000210658.	As the welding procedure IND-SAL-WMS-018 and DTD00000210658.	✓			M/10 18/03/24	 18/03/24





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Welder Traceability

Roof ring welds



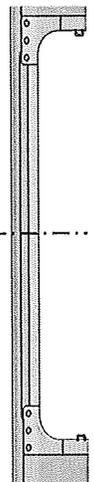
Boiler maker (Name & Sign): <u>Tim Edele</u>	LHS	Welder (Name & Sign): <u>Robert Budek</u>	LHS
Boiler maker (Name & Sign): <u>MUNGA M/M</u>	RHS	Welder (Name & Sign): <u>Robert Budek</u>	RHS

END 1

Boiler maker (Name & Sign): <u>Tim Edele</u>	LHS	Welder (Name & Sign): <u>Robert Budek</u>	LHS
Boiler maker (Name & Sign): <u>MUNGA M/M</u>	RHS	Welder (Name & Sign): <u>Robert Budek</u>	RHS

END 2

Door ring welds



Boiler maker (Name & Sign): <u>Robert Budek</u>	LHS
Welder (Name & Sign): <u>Mtshokozisi Gaba</u>	LHS

Boiler maker (Name & Sign): <u>MUNGA M/M</u>	RHS
Welder (Name & Sign): <u>Mtshokozisi Gaba</u>	RHS

INDUSTRIAL QUALITY  
MAINLINE



2024-03-19

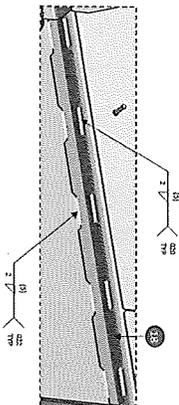
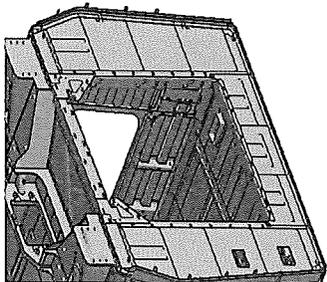


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EUF Reinforcement Plates

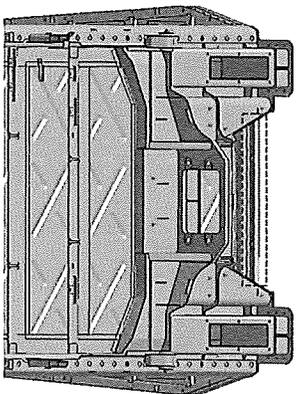


END 1

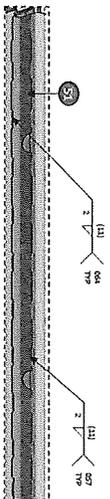
Boiler maker (Name & sign): *Laurence Jolyer*

Welder (Name & Sign): *Matteo Zisigian*

END 2



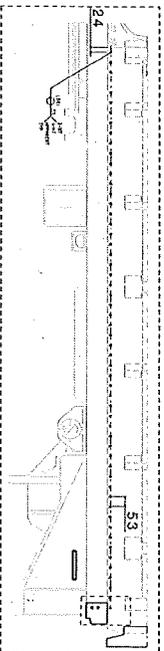
Underneath the CAR



END 2

Boiler maker (Name & sign): *Leopoldo Motta*

Welder (Name & Sign): *SIRIKAZI*



FEDOLI

OPERATOR:

*Laurence Jolyer*

  
**GIBELCO**  
 2024-03-19  
**INDUSTRIAL QUALITY**  
**MAINLINE**

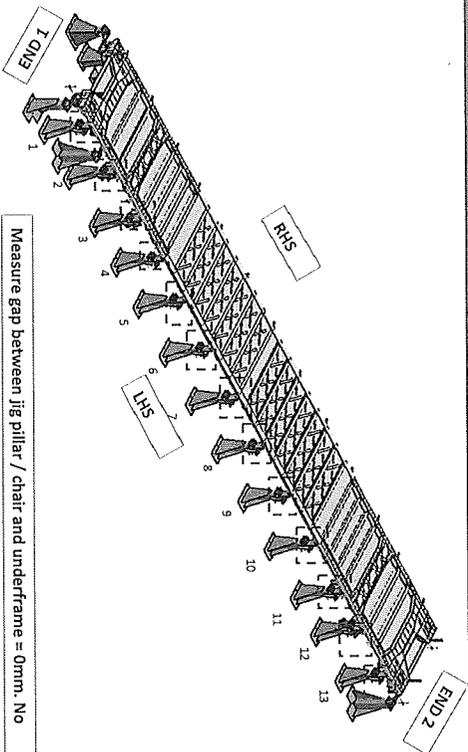


CARBODYSHELL M1 ASSEMBLY DTR302254673

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Specifications of Details for GBS measurement



After loading and clamping

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

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

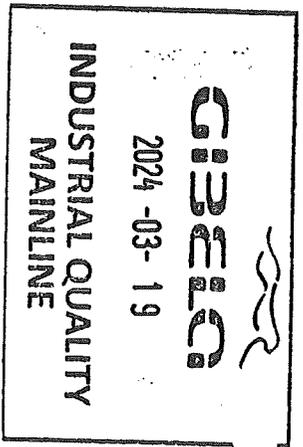
Signature Operators: *[Signature]* Date: 18/05/24

After Welding:

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

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

Signature Industrial Quality: *[Signature]* Date: 18/05/24



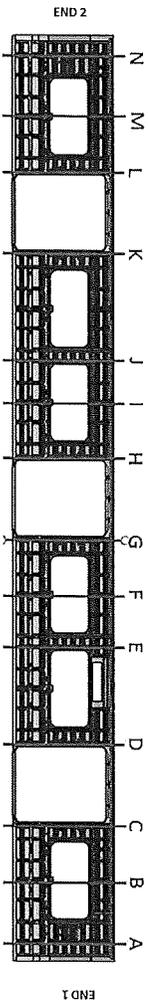


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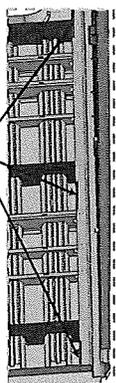
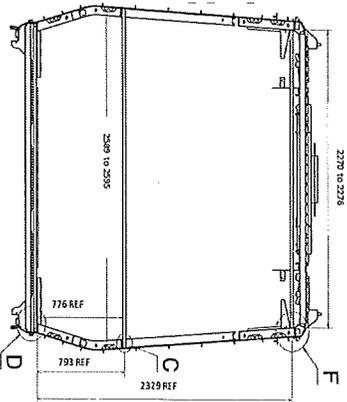
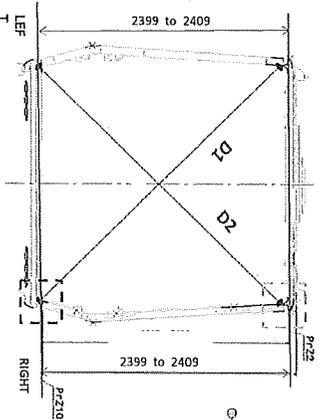
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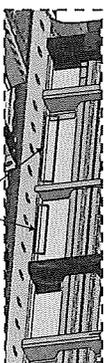
Specifications of Details for GBS measurement



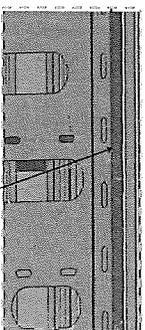
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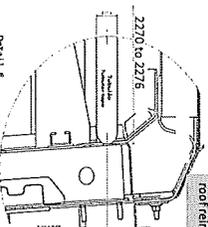
Measurement positions on roof rail and sidewall omega corner.



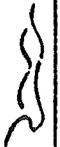
Measurement positions on sidewall and side sill corner.



Reinforcement area measurement positions on roof reinforcement area.



Detail F  
Corner Reinforcement  
Detail F

  
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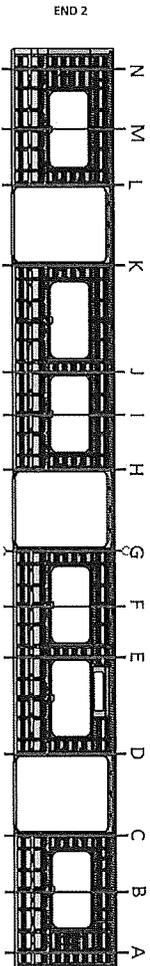


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Specifications of Details for GBS measurement



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

BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 $\leq 5mm$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS $\leq 2$
A	3269	3269	0	2408	2407	1
B	3266	3269	3	2406	2406	0
C	3269	3268	1	2405	2407	2
D	3261	3261	0	2408	2406	2
E	3266	3266	0	2407	2405	2
F	3266	3265	1	2406	2405	1
G	3261	3268	7	2404	2405	1
H	3268	3269	1	2406	2406	0
I	3264	3266	2	2404	2405	1
J	3266	3266	0	2406	2406	0
K	3267	3268	1	2407	2405	2
L	3268	3268	0	2405	2407	2
M	3269	3265	4	2406	2405	1
N	3268	3269	1	2409	2408	1

  
**INDUSTRIAL QUALITY**  
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**MAINLINE**

  
 18/05/24

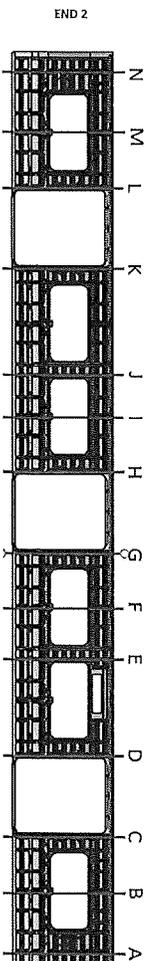


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Specifications of Details for GBS measurement



END 2

END 1

PME Column LHS - RHS should be  $\leq 21MM$  on each point.

AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 $\leq 5mm$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS $\leq 2$
A	3295	3296	1	2408	2408	0
B	3264	3266	2	2406	2405	1
C	3295	3296	1	2407	2405	2
D	3297	3295	2	2406	2405	1
E	3266	3266	0	2404	2404	0
F	3265	3264	1	2406	2407	1
G	3295	3295	0	2405	2404	1
H	3294	3296	2	2406	2406	0
I	3265	3266	1	2405	2407	2
J	3266	3265	1	2407	2406	1
K	3295	3296	1	2404	2405	1
L	3296	3296	0	2405	2406	1
M	3265	3268	3	2407	2406	1
N	3294	3296	2	2409	2408	1

  
**GIBBEL**  
 2024-03-19  
 INDUSTRIAL QUALITY  
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18/03/24

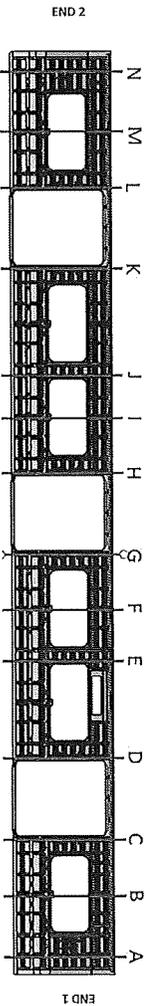


CARBODYSHELL M1 ASSEMBLY DTR30225487/3

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GBS measurement  
BEFORE WELDING

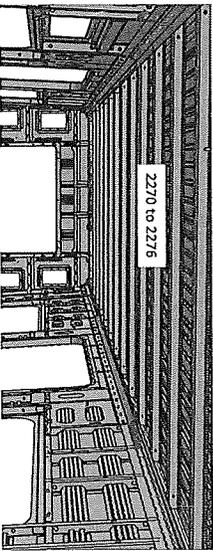


2270 to 2276

A 2271

B 2270

1990 to



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

C 2270

D 2271

E 2271

F 2275

G 2274

H 2272

I 2275

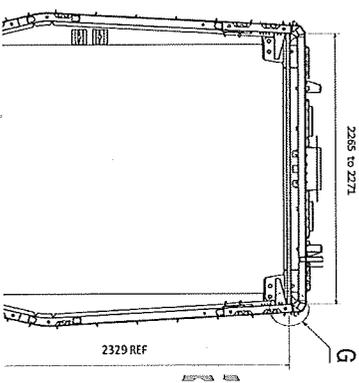
J 2278

K 2272

L 2273

M 2275

N 2271



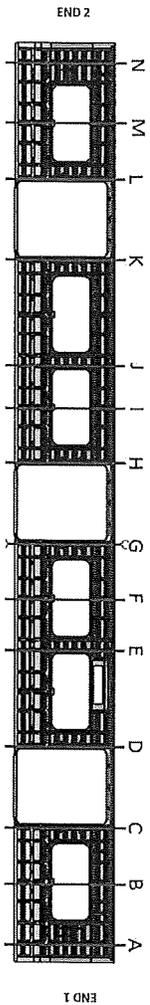
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18/03/24

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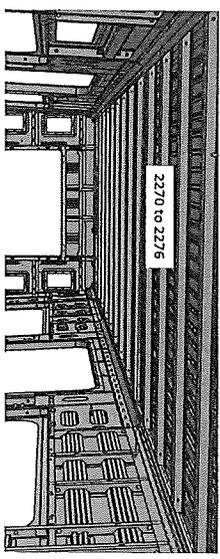
2024-03-19

**GBS measurement**

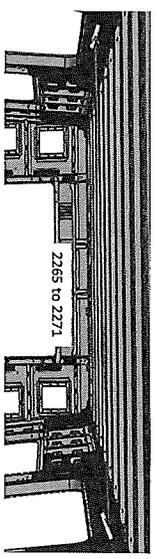


AFTER WELDING

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

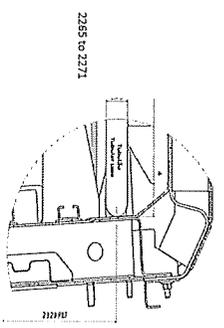
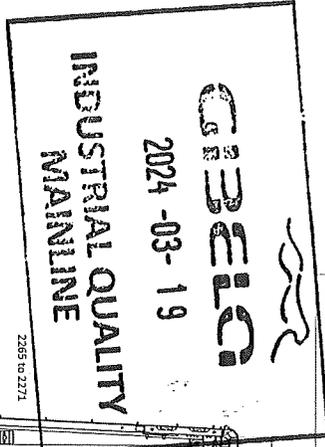


Do not consider reinforcement (Take measurements top area of zee profile)



Take measurement close to radius (considering reinforcement)

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



2265 to 2271

2329 REF



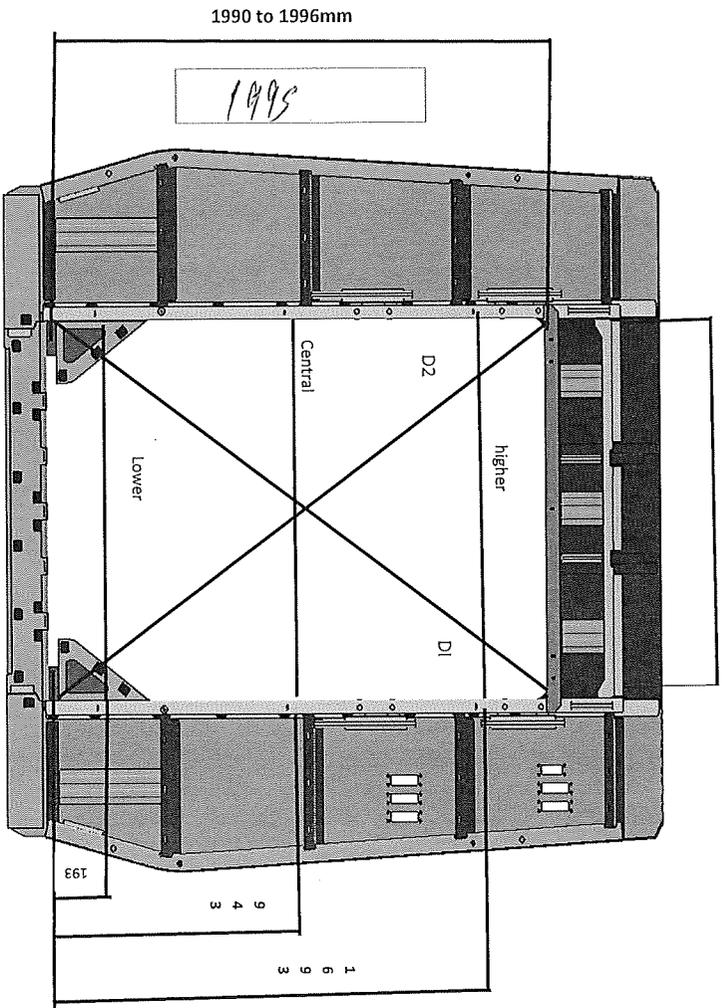
CARBODYSHELL M1 ASSEMBLY DTR302254873

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07/11/2023

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Specifications of Details for GBS measurement

End frame 1



1380 to 1382 mm

DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension

1382

D1

2415

Central Dimension

1382

D2

2444

Lower Dimension

1381

D1-D2

1



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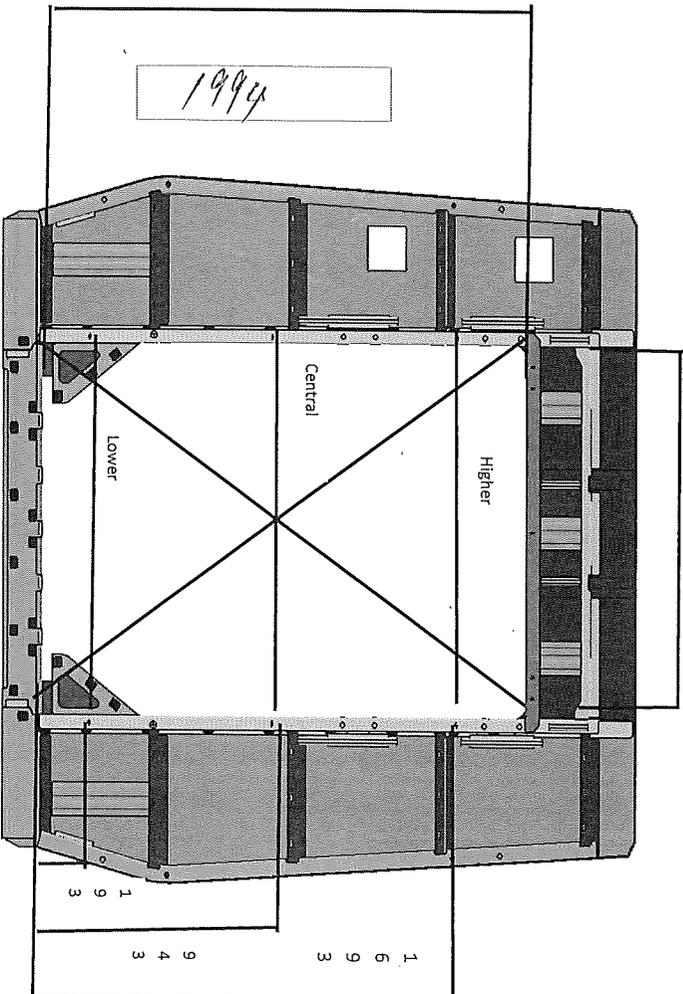
Specifications of Details for GBS measurement

Endframe 2

1380 to 1382 mm

1990 to 1996mm

1994



HIGHER DIMENSION

1381

D1

2415

CENTRAL DIMENSION

1381

D2

2415

LOWER DIMENSION

1381

D1-D2

0

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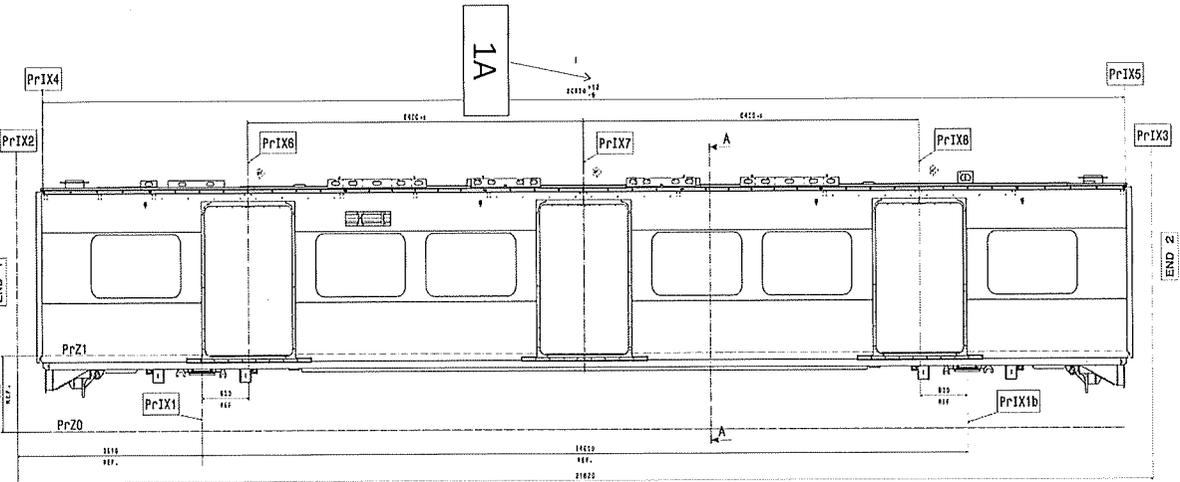
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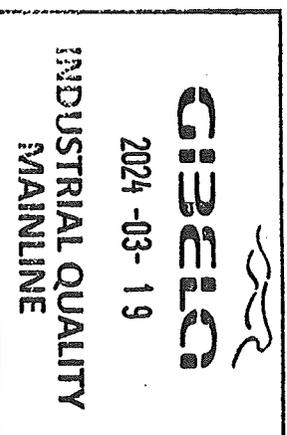
Rev.	28	Project: PRA5A
Date	07/1/2023	SI.CB1210.254.V28

Specifications of Details for GBS measurement



LEFT SIDE	
SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614
	<i>20615</i>

RIGHT SIDE	
SPECIFICATION SIZE	ACTUAL SIZE
1A	20632 - 20614
	<i>20616</i>



Dye penetrant test

Dye-penetration test to be performed by quality personnel







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Self Inspection - Final Result

	DATE	NAME	SIGNATURE
HOLD POINT	18/03/24	LMGA Operations	NO/10
	18/03/24	Arno Industrial Quality	
GO			
NO GO			

In case of "NO GO", describe blocking problems

(If activities are not complete, the missing activities must not impact the next stage)  
 Every auto inspection performed confirms to specification or in case of discrepancy, the same is approved by the competent party.)  
 There are non-conformities that impact the quality of the next process Ops. (To describe problems below)  
 There are non-conformities impact the quality of the product and there is no corrective action defined yet)

Industrial Quality

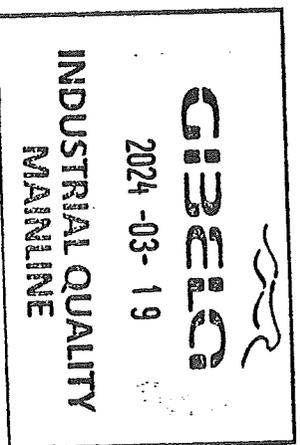
In case of "NO GO", the operations manager must define below action plan to ensure "GO":

Item	Description	Responsible	Due date	Status

Operations

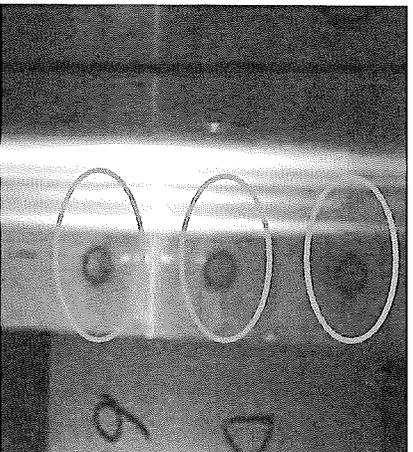
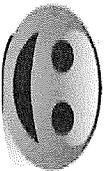
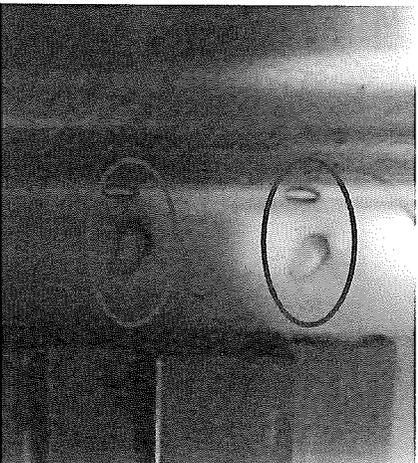
Quality

9



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

**ANNEXURE A: Spot Welding Quality Acceptance Standard**



  
**GIBELG**  
 2024-03-19  
**INDUSTRIAL QUALITY**  
**MAINLINE**



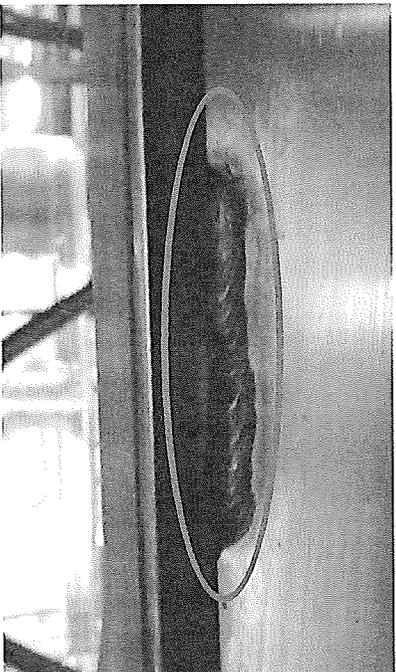
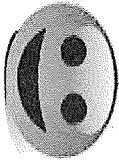
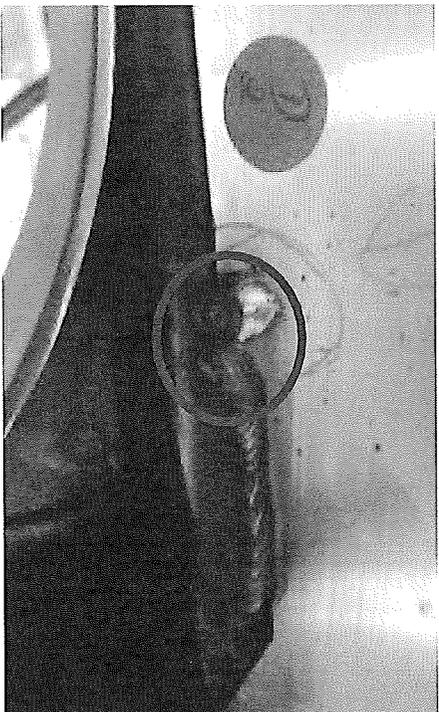
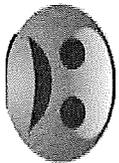
CARBODYSHELL M1 ASSEMBLY DTR30224873

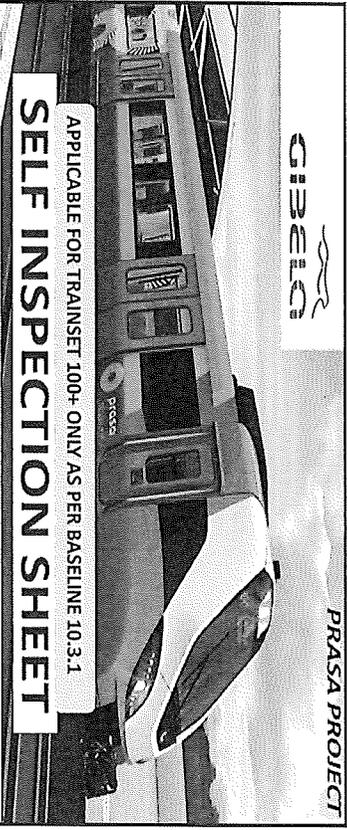
Rev.  
28  
Date

Project: PRA5A  
SI.CB1210.25A.V28

07/11/2023

**ANNEXURE B: Arc Welding Quality Acceptance Standard**





REV	DATE	MODIFICATION CONTENT	RESPONSIBLE NAME	DATE	SAFETY ?	APPLICATION REFERENCE		CARTER				WORK INSTRUCTION	SAFETY ?
						TC1	TC2	TC3	TC4	TC5	TC6		
0	01/02/2018	GIBELA NEW CREATION	APPROVER: <i>[Signature]</i> Tumeleng Modiba CHECKER: <i>[Signature]</i> Nosiso Phindla COMPILED: <i>[Signature]</i> Thanyani Vekiso	01/02/2018								PRASA CB1220 DTR3021548 712/V21	YES
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PWE Manager to Quality manager	APPROVER: <i>[Signature]</i> Ramokone Mozama CHECKER: <i>[Signature]</i> Nosiso Phindla	18/05/2018									
2	2018/07/05	Certain dimensional checks added and others moved to CB1210	CHECKER: <i>[Signature]</i> Nosiso Phindla REVISOR BY: <i>[Signature]</i> Izumbano Modiba	2018/07/05									
3	2018/06/12	Width tolerance as per DTR000338500	APPROVER: <i>[Signature]</i> Izumbano Modiba CHECKER: <i>[Signature]</i> Nosiso Phindla REVISOR BY: <i>[Signature]</i> Nosiso Phindla	2018/06/12									
5	24/01/2019	As per Baseline 10.2	REVISOR BY: <i>[Signature]</i> Vanessa Ntuli	24/01/2019									
6	13/03/2019	Added D1 and D2 on Self - Inspection length measurements	APPROVER: <i>[Signature]</i> Tumeleng Modiba CHECKER: <i>[Signature]</i> Nosiso Phindla REVISOR BY: <i>[Signature]</i> Nosiso Phindla	13/03/2019									
10	22/08/2019	New Baseline 10.2.5	APPROVER: <i>[Signature]</i> Tumeleng Modiba CHECKER: <i>[Signature]</i> Nosiso Phindla REVISOR BY: <i>[Signature]</i> Nosiso Phindla	22/08/2019									
15	08/08/2020	New Baseline 10.2.6	APPROVER: <i>[Signature]</i> Bongane Masina CHECKER: <i>[Signature]</i> Bongane Masina REVISOR BY: <i>[Signature]</i> Timothy Maimela	08/08/2020									
20	19/04/2021	New Baseline change 10.3	APPROVER: <i>[Signature]</i> Timothy Maimela CHECKER: <i>[Signature]</i> Bongane Masina REVISOR BY: <i>[Signature]</i> Bongane Masina	19/04/2021									
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER: <i>[Signature]</i> Mkhombi Collins CHECKER: <i>[Signature]</i> Mpho Mulaudzi REVISOR BY: <i>[Signature]</i> Mpho Mulaudzi	17/08/2021									
25	20/02/2022	New Baseline change 10.3.1	APPROVER: <i>[Signature]</i> Mkhombi Collins CHECKER: <i>[Signature]</i> Andani Muthelo REVISOR BY: <i>[Signature]</i> Andani Muthelo	19/02/2022									
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER: <i>[Signature]</i> Mkhombi Collins CHECKER: <i>[Signature]</i> Andani Muthelo REVISOR BY: <i>[Signature]</i> Andani Muthelo	14/06/2022									
27	17/10/2022	Addition of traceability for sealant application and welding	APPROVER: <i>[Signature]</i> Mkhombi Collins CHECKER: <i>[Signature]</i> Nickozo Zwane REVISOR BY: <i>[Signature]</i> Amogelang Mkhamphe	17/10/2022									
28	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER: <i>[Signature]</i> Vanessa Ntuli CHECKER: <i>[Signature]</i> Nickozo Zwane REVISOR BY: <i>[Signature]</i> Amogelang Mkhamphe	14/04/2023									
29	28/10/2023	Addition of bracket quantity	APPROVER: <i>[Signature]</i> Nqobeni Tyson CHECKER: <i>[Signature]</i> Nickozo Zwane REVISOR BY: <i>[Signature]</i> Amogelang Mkhamphe	28/10/2023									
TRAINSET	CUR	OPERATOR NUMBER, ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES								
219	M01	Asa-09140971419-03-24		SI_CB1220.250.V29	14								



CARBODYSHELL M1, M3, M4 ASSEMBLY  
DTR302254872

Rev: 29  
Date: 28/10/2023  
Project: PRASA  
SI.CB1220.250.V29

Car: W1123M4

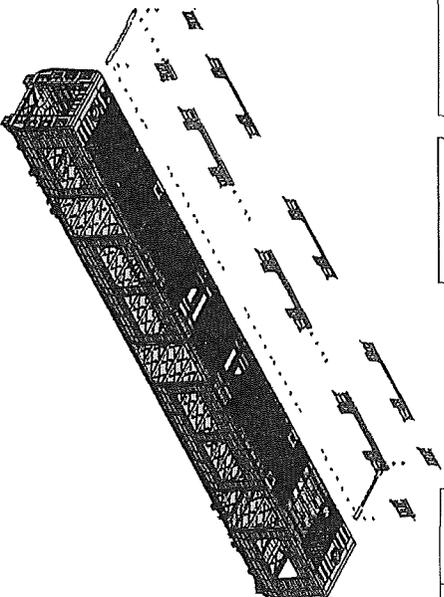
NCR:

Work station:

CB1220



Safety Related



I - Documentation and Instruments Control

1.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	NOK	Review	Signature/Date (Manufacturing)	Signature/Date (Quality)
	TC1	M1	M2	M3	TC2							
DTR302254872	X					29	28-10-2023	X		N/A		

19-03-24

1.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular	32823	15/03/2025	X			
measuring tape	3151023	03/01/2025	X			

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	231064	MIG	X			

2024-03-13

INDUSTRIAL QUALITY  
MAINLINE

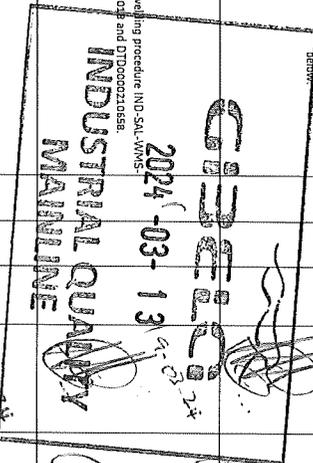


CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR30228487/2

Rev. 29  
Date 28/10/2023  
Project: PRASA  
SI.CB1220.250.V29

II - Self Inspection - Items to Check

II.1 - Items to check									
Item	Picturedrawing	Description	Acceptance criteria / Record	OK	Not OK	Signature(Date (Manufacturing))	Signature(Date (Quality))		
01	N/A	Assembly according to Instruction Engineering n° PRA.CB1220.DTR30228487/2 Verification of fitment for all reinforcement brackets.	PRA.CB1220.DTR30228487/2	/		28-10-24	19/10/24		
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DT00000210675	/		28-10-24	19/10/24		
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	/		28-10-24	19/10/24		
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	/		28-10-24	19/10/24		
05		Functional dimensions approved according drawing or complementary documents approved by Adam engineering and registered in this document.	Approved according specified on paper Drawing:	/		28-10-24	19/10/24		
06		Perform visual inspection of welds in 100% of the project. Run by penetration testing in electric arc welding (weld ring) as IND-SAL-WMS-016. Run by percent testing welds (weld ring) and fillet sampling as described in DT0000021058A.	As the welding procedure IND-SAL-WMS-016 and DT0000021058A			28-10-24	19/10/24		
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 35% - 85% Max (I)	Seglent,Berichs No. 418835 Exp Date: 1-03-24 Actuals Temperature: 24 Humidity: 45	/		28-10-24	19/10/24		
08	NA	Verification of sealant application in certain regions in the drawing.	AAD000217856	/		28-10-24	19/10/24		
09		Verification of safety welds	Approved according to DT00000210658 reference and Self Inspection			28-10-24	19/10/24		





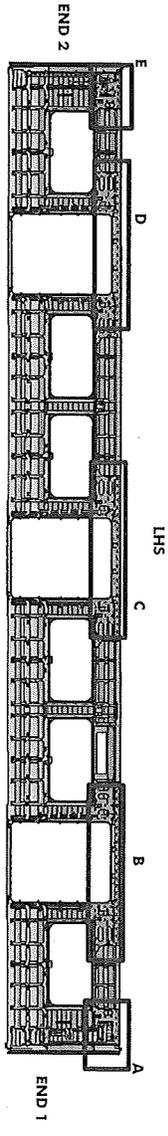
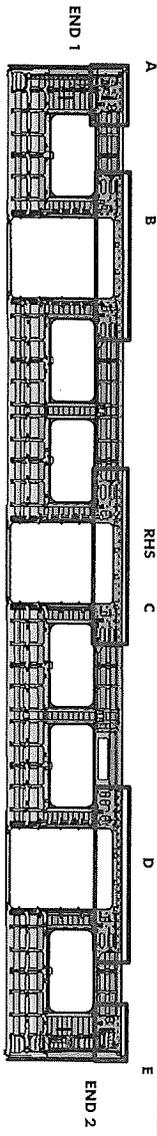


CARBODYSHELL M1 M3 M4 ASSEMBLY  
DTR30225457/2

Rev. 29  
Date 28/10/2023

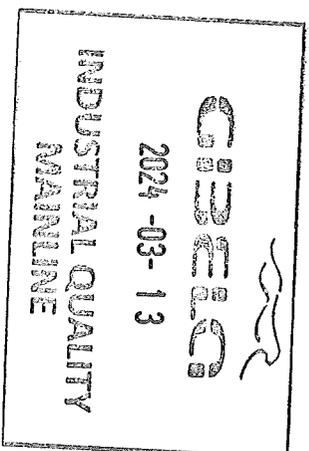
Project: PRASA  
SI.CB1220.250.V29

II - Self Inspection - Items to Check



REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>Ludo NEE</u>	<u>Toby De</u>
B	Operator (Name&sign): <u>Ludo NEE</u>	<u>Toby De</u>
C	Operator (Name&sign): <u>Stigge</u>	<u>Waldungovic</u>
D	Operator (Name&sign): <u>Martina Man</u>	<u>Martina Man</u>
E	Operator (Name&sign): <u>Martina Man</u>	<u>Martina Man</u>

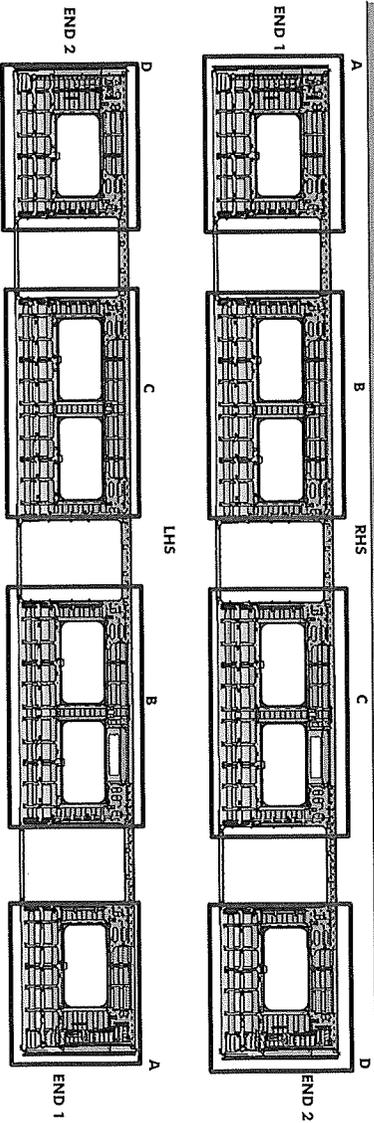




CARBOYSHELL M1, M3, M4 ASSEMBLY  
DTR302254872

Rev.	Project: PRASA
29	
Date	
28/10/2023	
SI, CB1220.250.V29	

II - Self Inspection - Items to Check



BRACKETING

INSTALLATION

Operator: Priscilla

Operator:

Operator: Leni

Operator:

Operator: Leni

Operator:

Operator: \_\_\_\_\_

Operator:

INSTALLATION & VERIFICATION

Operator: Astha

Operator: Lolo

Operator: ASHISH

Operator:

Operator:

WELDING

AREA

LHS

RHS

A (Seat brackets)

: Operator (Name&sign):

LINDA

LINDA

(C-rails, Luggage and earth bushes) : Operator (Name&sign):

LINDA

LINDA

B (Seat brackets)

: Operator (Name&sign):

LINDA

LINDA

(C-rails, Luggage and earth bushes) : Operator (Name&sign):

LINDA

LINDA

C (Seat brackets)

: Operator (Name&sign):

Mastersite Mwan

Mastersite Mwan

(C-rails, Luggage and earth bushes) : Operator (Name&sign):

Mastersite Mwan

Mastersite Mwan

D (Seat brackets)

: Operator (Name&sign):

Mastersite Mwan

Mastersite Mwan

(C-rails, Luggage and earth bushes) : Operator (Name&sign):

Mastersite Mwan

Mastersite Mwan

ENDS

2024-03-13

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

Mastersite Mwan

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

Mastersite Mwan

QUALITY

MANLINE



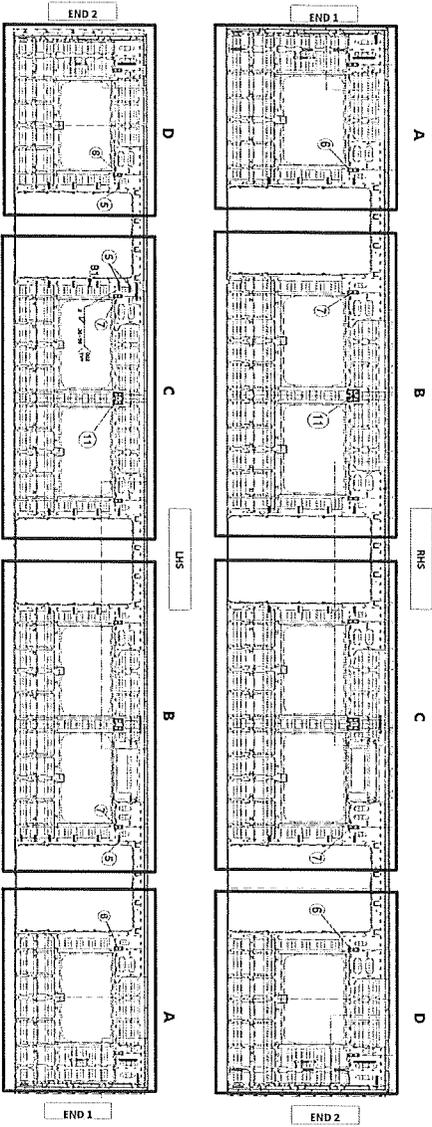
CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR3022548712

Rev. 29  
Date 29/10/2023

Project: PRASA  
SI.CB1220.250.V29

II - Self Inspection - Items to check

M1/M3/M4 BRACKET INSTALLATION



QUANTITIES (M3/M4)

RHS

SECTION	QUANTITY	OK	NOK
<b>C-RAILS</b>			
A	7	✓	
B	4	✓	
C	8	✓	
D	6	✓	
<b>SEAT BRACKETS</b>			
A	13	✓	
B	21	✓	
C	13	✓	
D	3	✓	
<b>EARTH BUSH</b>			
A	6	✓	
B	4	✓	
C	4	✓	
D	3	✓	

ROOF ENDS:

CRAILS 2 OFF EACH END  
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: NR

LHS

SECTION	QUANTITY	OK	NOK
<b>C-RAILS</b>			
A	2	✓	
B	8	✓	
C	11	✓	
D	8	✓	
<b>SEAT BRACKETS</b>			
A	13	✓	
B	21	✓	
C	21	✓	
D	13	✓	
<b>EARTH BUSH</b>			
A	3	✓	
B	5	✓	
C	6	✓	
D	2	✓	

ROOF ENDS:

CRAILS 2 OFF EACH END  
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: NR

QUANTITIES (M1)

RHS

SECTION	QUANTITY	OK	NOK
<b>C-RAILS</b>			
A	7	✓	
B	8	✓	
C	8	✓	
D	13	✓	
<b>SEAT BRACKETS</b>			
A	21	✓	
B	21	✓	
C	21	✓	
A	2	✓	
B	4	✓	
C	5	✓	
D	3	✓	

ROOF ENDS:

CRAILS 2 OFF EACH END  
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: ASARIDA

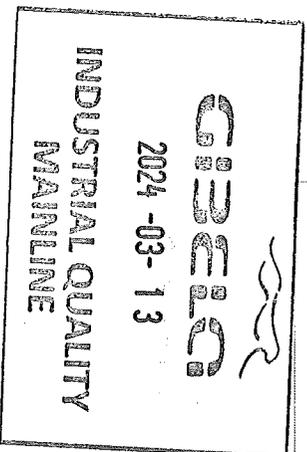
LHS

SECTION	QUANTITY	OK	NOK
<b>C-RAILS</b>			
A	2	✓	
B	10	✓	
C	11	✓	
D	9	✓	
<b>SEAT BRACKETS</b>			
A	13	✓	
B	21	✓	
C	21	✓	
D	13	✓	
<b>EARTH BUSH</b>			
A	3	✓	
B	7	✓	
C	6	✓	
D	2	✓	

ROOF ENDS:

CRAILS 2 OFF EACH END  
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: ASARIDA



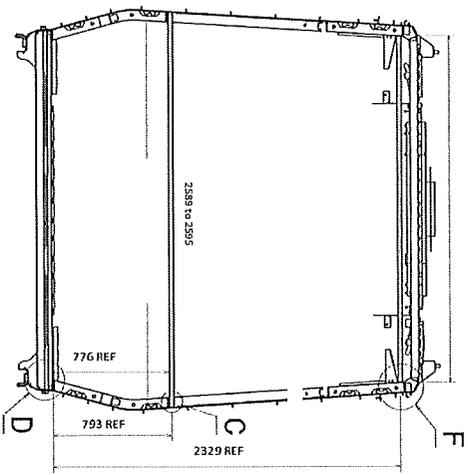
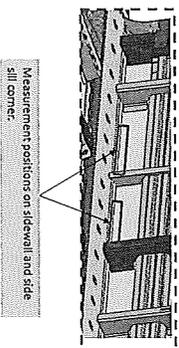
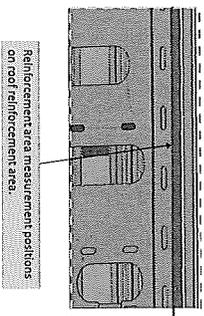
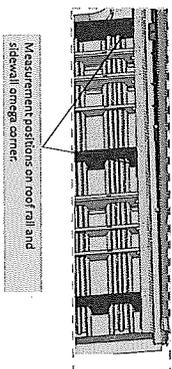
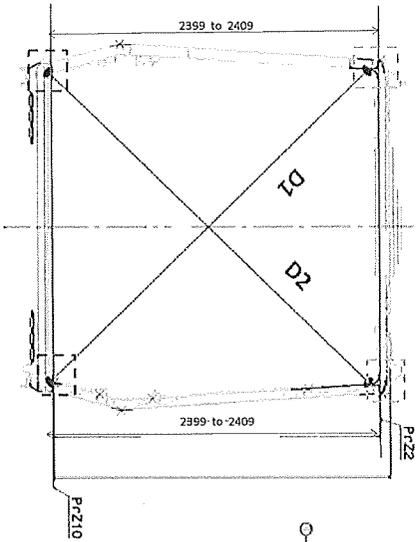


CARBOYSHELL M1,M3,M4 ASSEMBLY  
DTR3022548712

Rev.	Date
29	28/10/2023

Project: PRASA  
SI\_CB1220.250.V29

Specifications of Details for GBS measurement



2024-03-13

INDUSTRIAL QUALITY  
MAINTENANCE

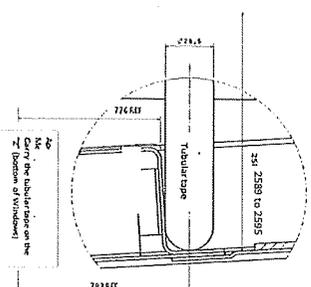
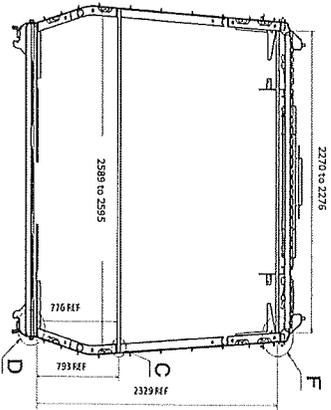


CARBODYSHELL M1 M3 M4 ASSEMBLY  
DIR30225487Z

Rev.  
29  
Date  
28/10/2023

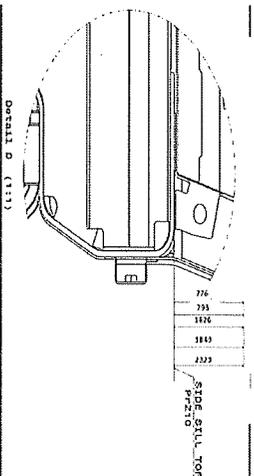
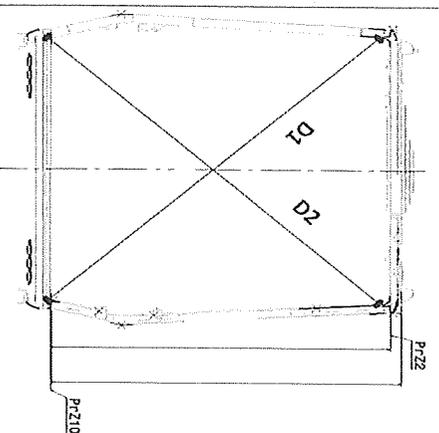
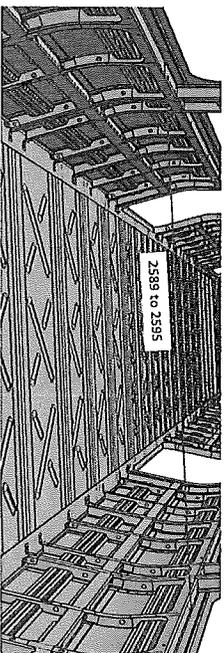
Project: PRASA  
SI.CB1 220.250.V29

CBS measurement

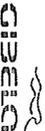


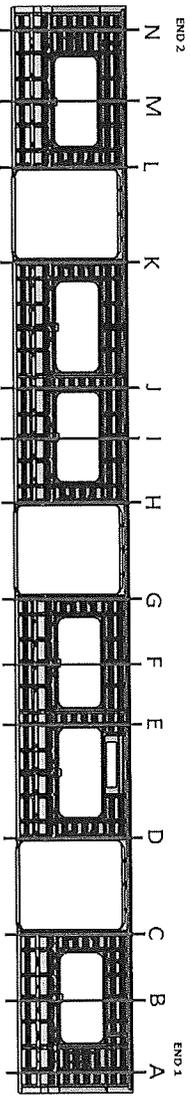
Detail C

Take measurement close to radius



  
**GIBELCO**  
2024-03-13  
**INDUSTRIAL QUALITY**  
**MANLINE**

		CARBODYSHELL M1,M3,M4 ASSEMBLY DTR30223487/2		Rev. 29	Project: PRASA
				Date 28/10/2023	SI, CB1220, 250, V29
GBS measurement					



	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3295	3297	2	
B	3260	3260	0	
C	3294	3294	0	
D	3293	3295	2	
E	3262	3265	3	
F	3262	3264	2	
G	3294	3298	4	
H	3294	3297	3	
I	3260	3264	4	
J	3264	3264	0	
K	3297	3297	0	
L	3298	3296	2	
M	3266	3265	3	
N	3296	3299	6	

Handwritten signature and initials, including '01-03' and '03'.

  
 2024-03-13  
 INDUSTRIAL QUALITY  
 MANLINE

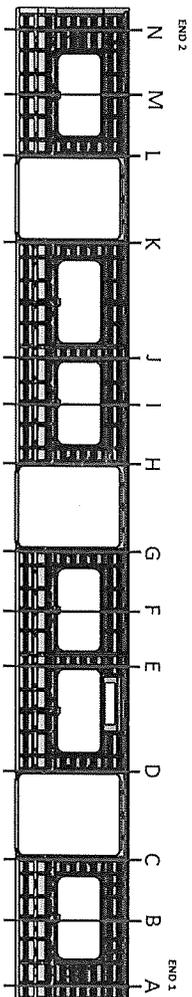


CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR3022548/12

Rev. 29  
Date 28/10/2023

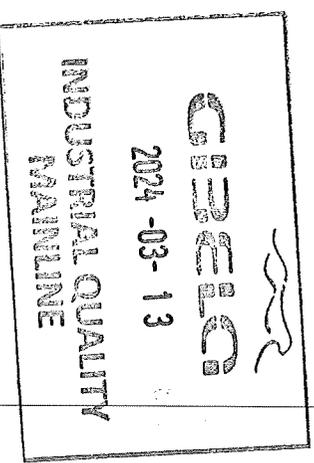
Project: PRASA  
SI.CB1220.250.V29

GBS measurement



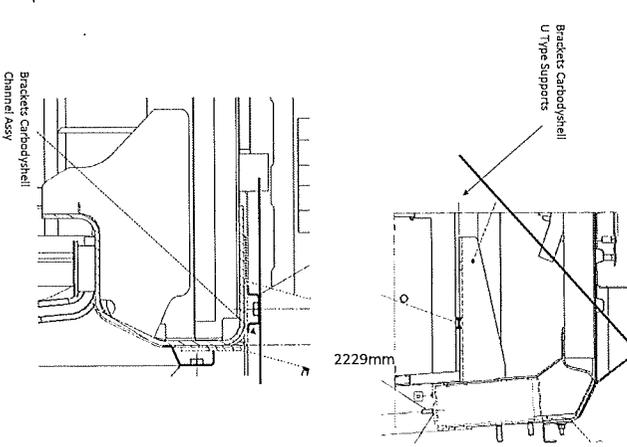
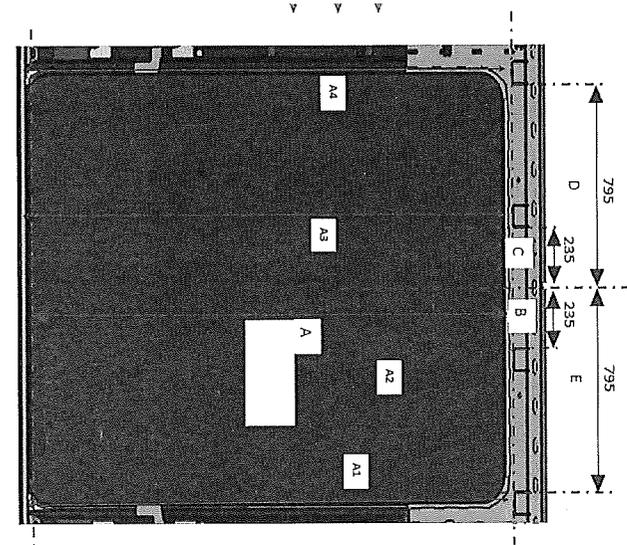
AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3296	3300	4	2595
B	3265	3269	6	2589
C	3291	3296	5	2589
D	3300	3294	6	2589
E	3265	3266	1	2591
F	3263	3263	0	2589
G	3294	3294	3	2591
H	3300	3298	2	2589
I	3262	3262	0	2592
J	3266	3299	3	2593
K	3299	3294	5	2590
L	3294	3300	3	2589
M	3269	3265	6	2589
N	3294	3295	1	2594



10-03-24  
*[Signature]*

Specifications of Details for G85 measurement CB1220



DOOR 1 - LHS

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

DOOR 2 - LHS

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

DOOR 2 - LHS

VALUE	ACTUAL	
A1	2230 to 2232	2231
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 1 - RHS

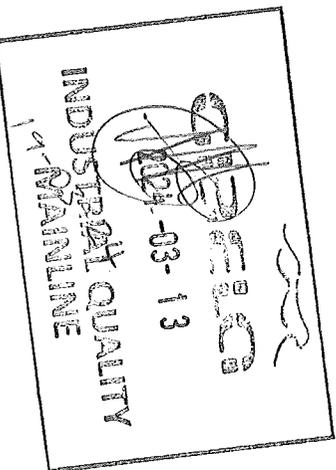
VALUE	ACTUAL	
A1	2230 to 2232	2232
A2	2230 to 2232	2232
A3	2230 to 2232	2232
A4	2230 to 2232	2231
B	234 to 236	235
C	234 to 236	235
D	794 to 796	794
E	794 to 796	795

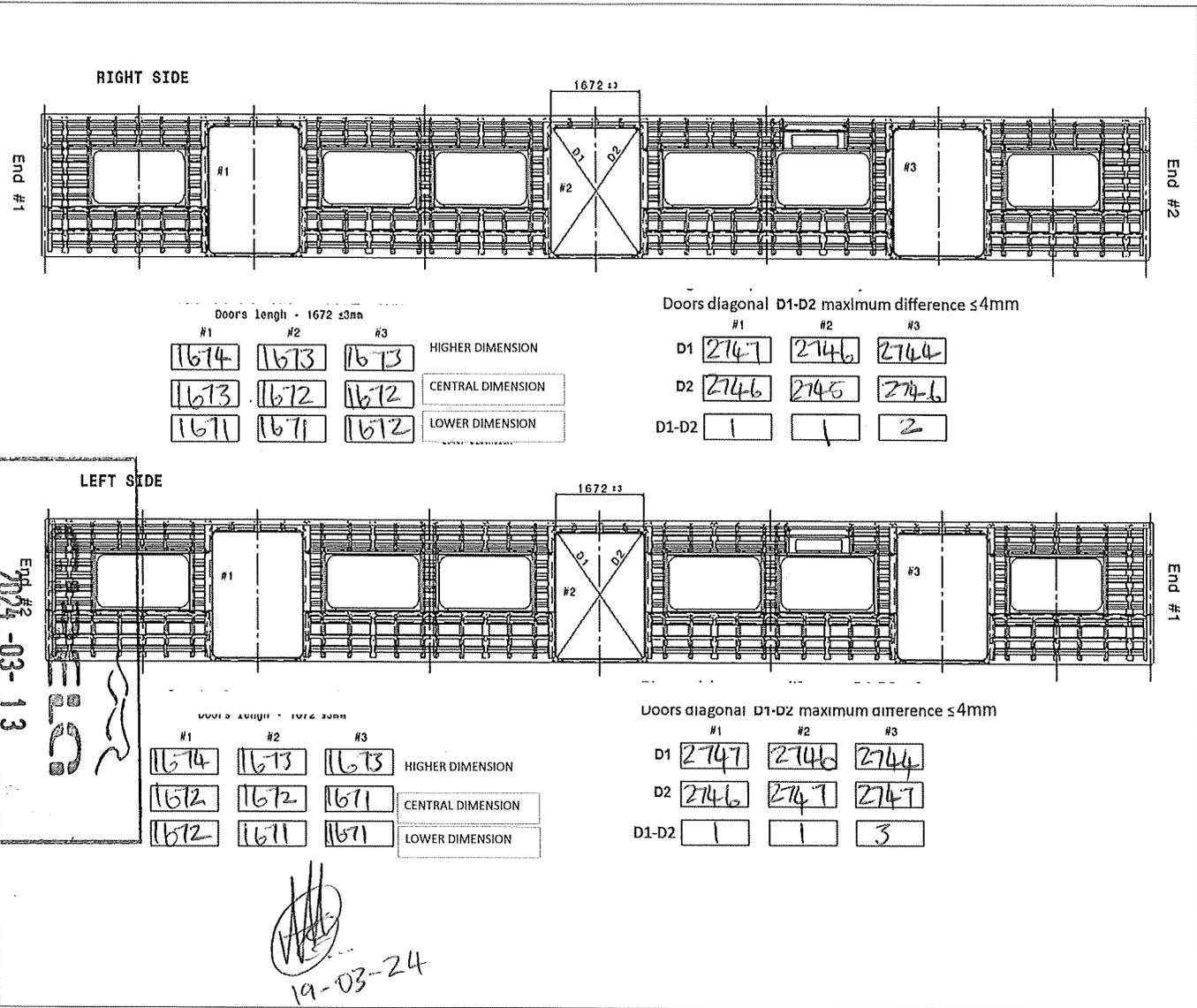
DOOR 2 - RHS

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

DOOR 3 - RHS

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





INDUSTRIAL QUALITY MARINE

End #2  
2024-03-13





CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR302Z5487/2

Rev. 29  
Date 28/10/2023

Project: PRASA  
SI.CB1220.250.V29

Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations Manager and Industrial Quality)		DATE	NAME	SIGNATURE
HOLD POINT	GO	19-03-24	Ag. M. 124 Operations	
	NO GO	19/03/24	Ntklano Industrial Quality	
<small>(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.) There are activities pending that impact the quality of the product and there is no corrective action defined yet) There are non-conformities that impact the quality of the product and there is no corrective action defined yet)</small>			Operations Industrial Quality	

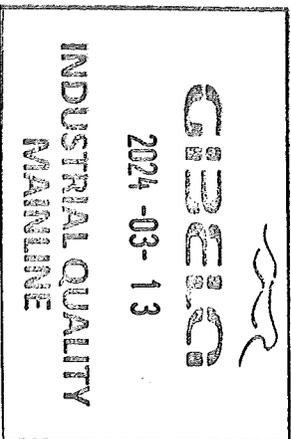
In case of "NO GO", describe blocking problems

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

Item	Description	Responsible	Due date	Status

Operations

Quality



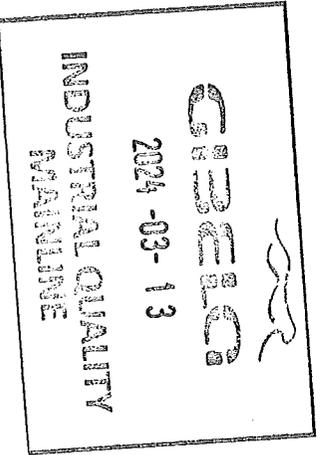
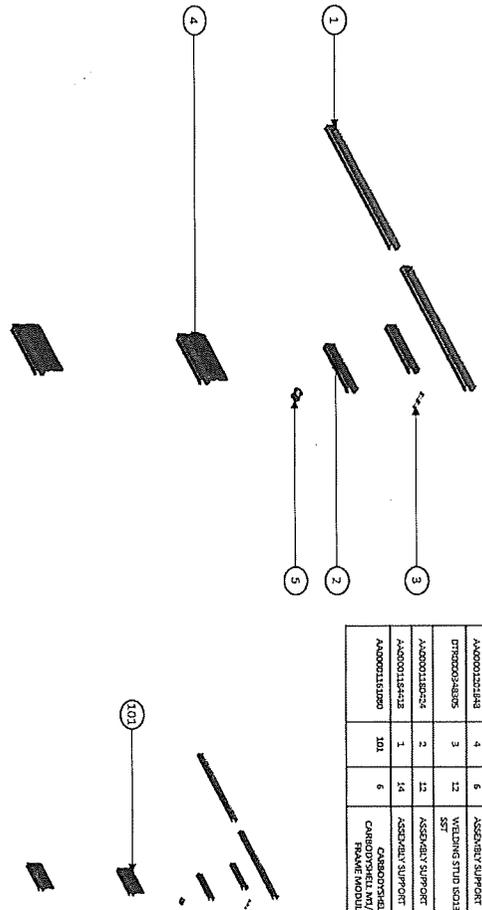
	CARBODY/SHELL M1,M3,M4 ASSEMBLY DTR30225487/2		Rev. 29	Project: PRASA
	Date 29/10/2023		SI:CB1 220.250.V29	

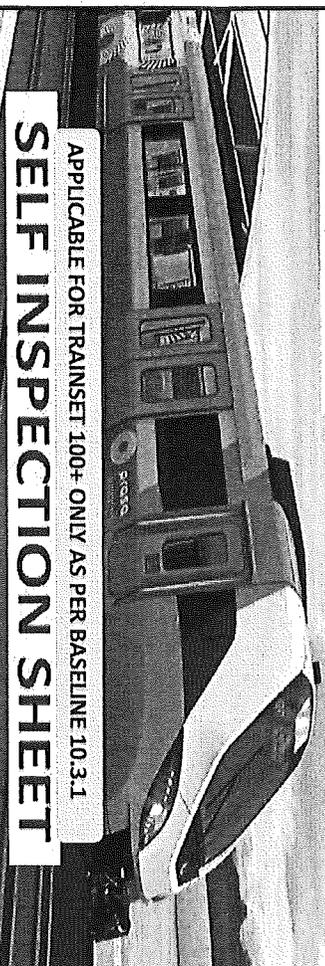
**ANNEXURE A: Arc Welding Quality Acceptance Standard**



Station: CB1220-004- U108 & U107

PART NO.	ITEM NO.	QTY	DESCRIPTION	MASS (KG)
DTM000070628	5	6	BAR/PI STUD 6	0.256
A-000001271543	4	6	ASSEMBLY SUPPORT	0.271
DTM000004805	3	12	WELDING STUD (0.0394 FT - M20) - SST	0.007
A-0000118024	2	12	ASSEMBLY SUPPORT	0.193
A-0000118412	1	14	ASSEMBLY SUPPORT	0.52
A-0000118120	101	6	CARBODY/SHELL BRACKETS FOR CARBODY/SHELL MODULE END - 0791	12.112





**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**

DRAWING	DESCRIPTION	STATION	CAR TYPE				WORK INSTRUCTION	SAFETY ?
			TCL	M4	M2	M3		
DT000023487	CHARBOT/SHELL M.M.M.A ASSEMBLY	1230	X	(X)		X	PRASA CB2230 DT000002 25487 V20	YES
RE	DATE	MODIFICATION CONTENT	RESPONSIBLE				NAME	DATE
0	2018/08/02	GIBELA NEW CREATION	APPROVER	Phillipe Marques	2018/08/02			
			CHECKER	Nosizo Pindela	2018/08/02			
			COMPLIER	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	Izumeleng 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	Izumeleng Modiba	2018/05/07			
			CHECKER	Nosizo Pindela	2018/05/07			
			REVISED BY	Ramokone Motema	2018/05/07			
5	24/01/2019	As per Baseline 10.2	APPROVER	Izumeleng Modiba	24/01/2019			
			CHECKER	Nosizo Pindela	24/01/2019			
			REVISED BY	Vanessa Nkufi	24/01/2019			
6	13/03/2019	Added Twist and Door Bracket Measurements Remove Door Measurements	APPROVER	Izumeleng 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	Izumeleng Modiba	23/08/2019			
			CHECKER	Nosizo Pindela	23/08/2019			
			REVISED BY	Nosizo Pindela	23/08/2019			
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020			
			CHECKER	Bongane Masina	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 Mhombhi	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 Mhombhi	14/06/2022			
			CHECKER	Andani Muthelo	14/06/2022			
			REVISED BY	Andani Muthelo	14/06/2022			
27	26/07/2022	Threshold measurements addition	APPROVER	Collins Mhombhi	26/07/2022			
			CHECKER	Andani Muthelo	26/07/2022			
			REVISED BY	Andani Muthelo	26/07/2022			
28	17/10/2022	Added traceability of sealant application	APPROVER	Collins Mhombhi	17/10/2022			
			CHECKER	Ntokozo Zwane	17/10/2022			
			REVISED BY	Amogelang Mhlangpe	17/10/2022			
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Nkufi	14/04/2023			
			CHECKER	Ntokozo Zwane	14/04/2023			
			REVISED BY	Amogelang Mhlangpe	14/04/2023			
30	06/11/2023	Added threshold traceability for boiler makers and welders	APPROVER	Nqobeni Tyson	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			
219	M1	Chooz LH17409	2018124	SI.CB2230.256.V29	12			

2023-11-15  
15:00  
15:00



CARBODYSHELL M1, M3, M4 ASSEMBLY  
DT00000225487

Rev.  
30  
Date  
06/11/2023

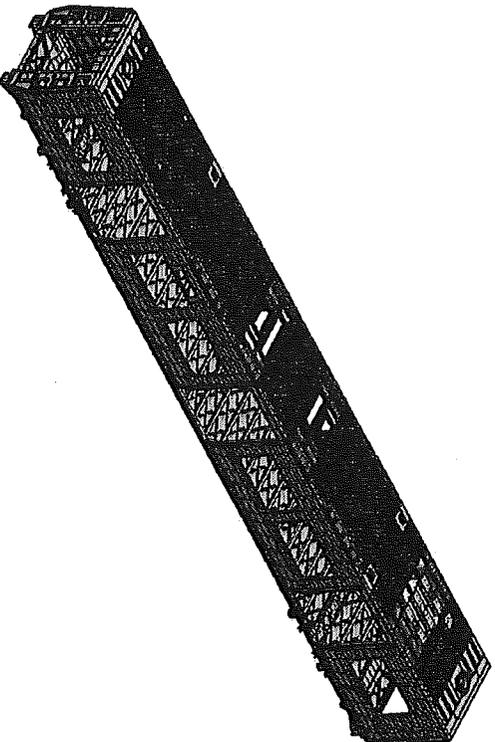
Project: PRASA  
SI.CB2230.256.V29

Car: NCR:

Work station: CB2230



Safety Related



**I - Documentation and Instruments Control**

**I.1 - Documentation Control**

Document	Type of car					Revision	Observation	OK	NOK	Drawn	Signature/Date (Operations)	Signature/Date (Quality)
	M1	M2	M3	M4	TOT							
PR.A.CB2230.DT00000225487	X					V30		OK		N/A	<i>[Signature]</i> 20/03/24	<i>[Signature]</i> 20/03/24

**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)					
REGULAR	22615	2024/08/02	OK		<i>[Signature]</i> 20/03/24	<i>[Signature]</i> 20/03/24					
COMBINATION SQUARE	GIBELD 131	2024/10/04	OK		<i>[Signature]</i> 20/03/24	<i>[Signature]</i> 20/03/24					
MEASURING TAPE	GIBELD 514	2024/04/05	OK		<i>[Signature]</i> 20/03/24	<i>[Signature]</i> 20/03/24					

**1.3 Consumables**

Welding Consumable Control - Used for Special Process						
Fiber Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 LS1	E237067	MIG	OK		<i>[Signature]</i> 20/03/24	<i>[Signature]</i> 20/03/24

GIBELD QUALITY CONTROL  
 INSPECTION DEPARTMENT  
 FITTING QUALITY  
 2024-02-15  
 Signature .....



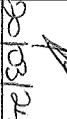
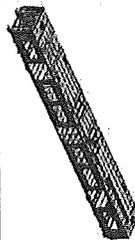
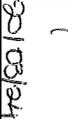
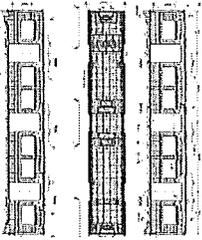
CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.  
30  
Date  
06/11/2023

Project: PRASA  
SI.CB2230.256.V29

**II - Self Inspection - Items to Check**

**II.1 - Items to check**

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	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	OK	 20/03/24	 20/03/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD00000210675	OK	 20/03/24	 20/03/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	OK	 20/03/24	 20/03/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	OK	 20/03/24	 20/03/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	OK	 20/03/24	 20/03/24
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 filler sampling as described in DTD00000210658.	As the welding procedure IND-SAL-WMS-018 and DTD00000210658.	OK	 20/03/24	 20/03/24
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 (%) : Min-Max 25% - 80%	Sealant batch No: <u>152-70</u> 08 Exp Date: <u>05/24</u>  Actuals Temperature: <u>33°C</u> Humidity: <u>30%</u>	OK	 20/03/24	 20/03/24
08	N/A	Verification of sealant application on the roof and sidewall finishers.	Sealant must be: -Applied straight and even -Free of gaps, cracks, damage and debris (flashes, dirt, dust)  Refer to Annexure B	OK	 20/03/24	 20/03/24
09	N/A	Verification of sealant application in certain regions in the drawing.	AAD0001278566	OK	 20/03/24	 20/03/24

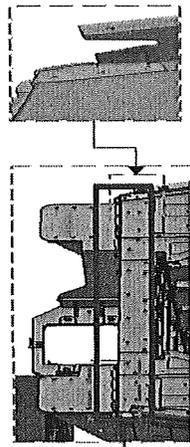
Signature

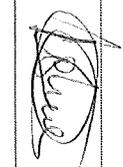
2024-02-15

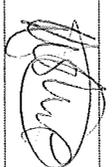
**II - Self Inspection - Items to Check**

**END 2 SEALANT**

**AREA 1**

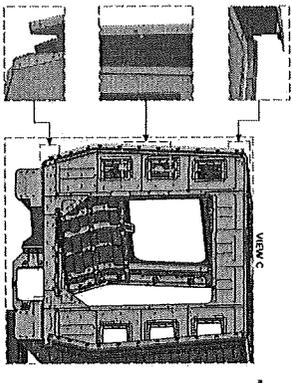


OPERATOR (Name & sign): Levy 

OPERATOR (Name & sign): Levy 

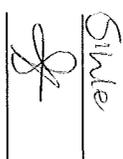
OPERATOR (Name & sign): Levy 

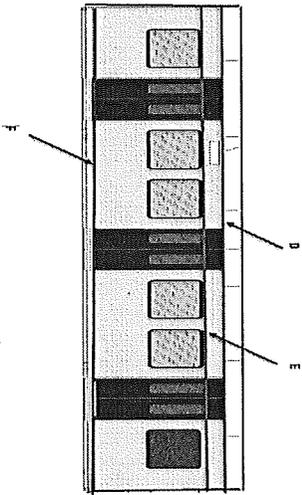
**AREA 2 (VIEW G)**



OPERATOR (Name & sign): \_\_\_\_\_

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

Operator (Name & sign):	<u>D.E.F.G.H.I</u>	<b>LHS</b>	<u>D.E.F.G.H.I</u>	<b>RHS</b>
Operator (Name & sign):	<u>Sinle</u> 		<u>Sinle</u> 	
Operator (Name & sign):	<u>Ishevolo</u> 		<u>Ishevolo</u> 	
Operator (Name & sign):	_____		_____	



REVISIONS

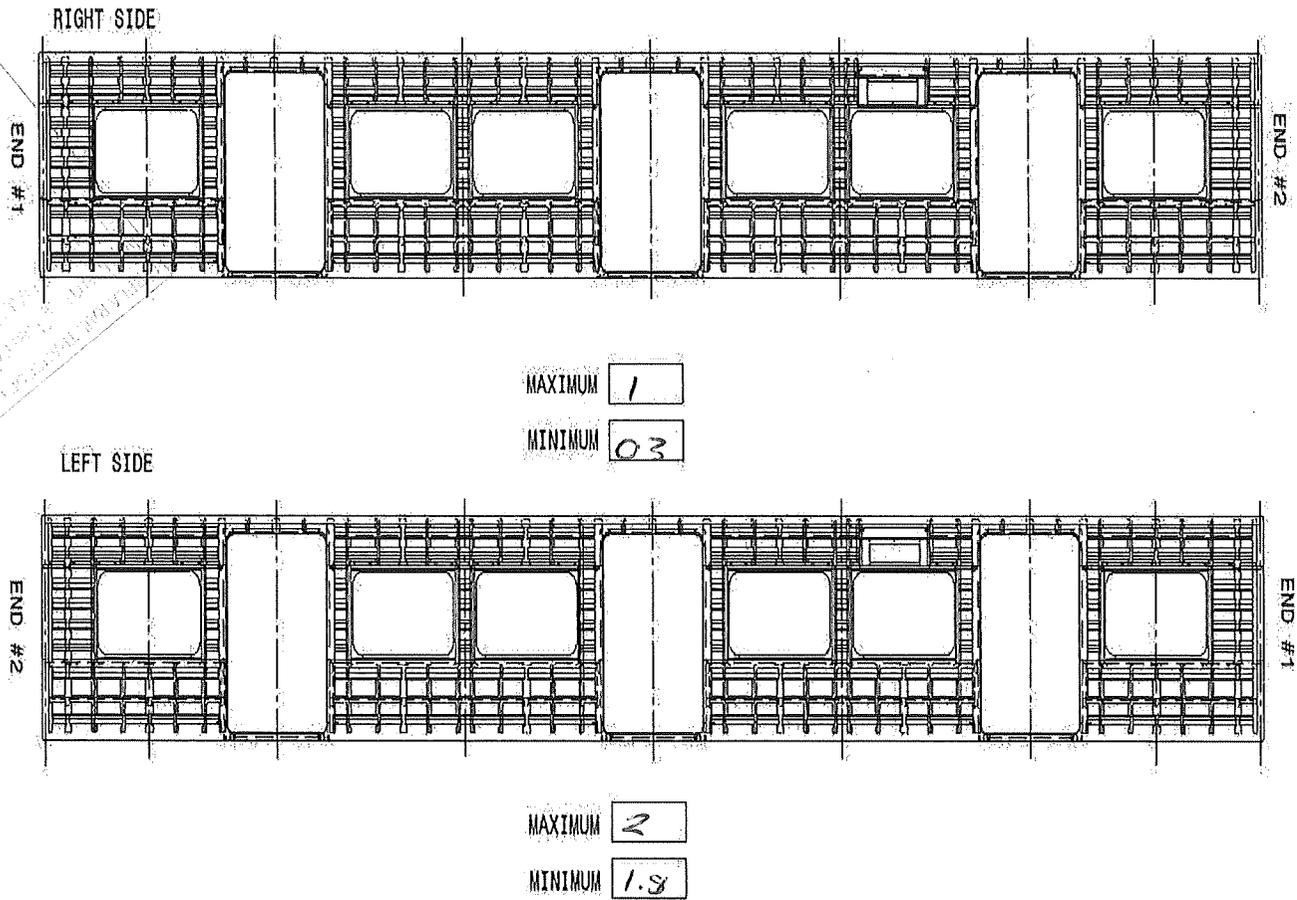
NO. 1

DATE: 2023-06-15

Signature: \_\_\_\_\_

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.



Signature: \_\_\_\_\_  
 2024-02-15  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





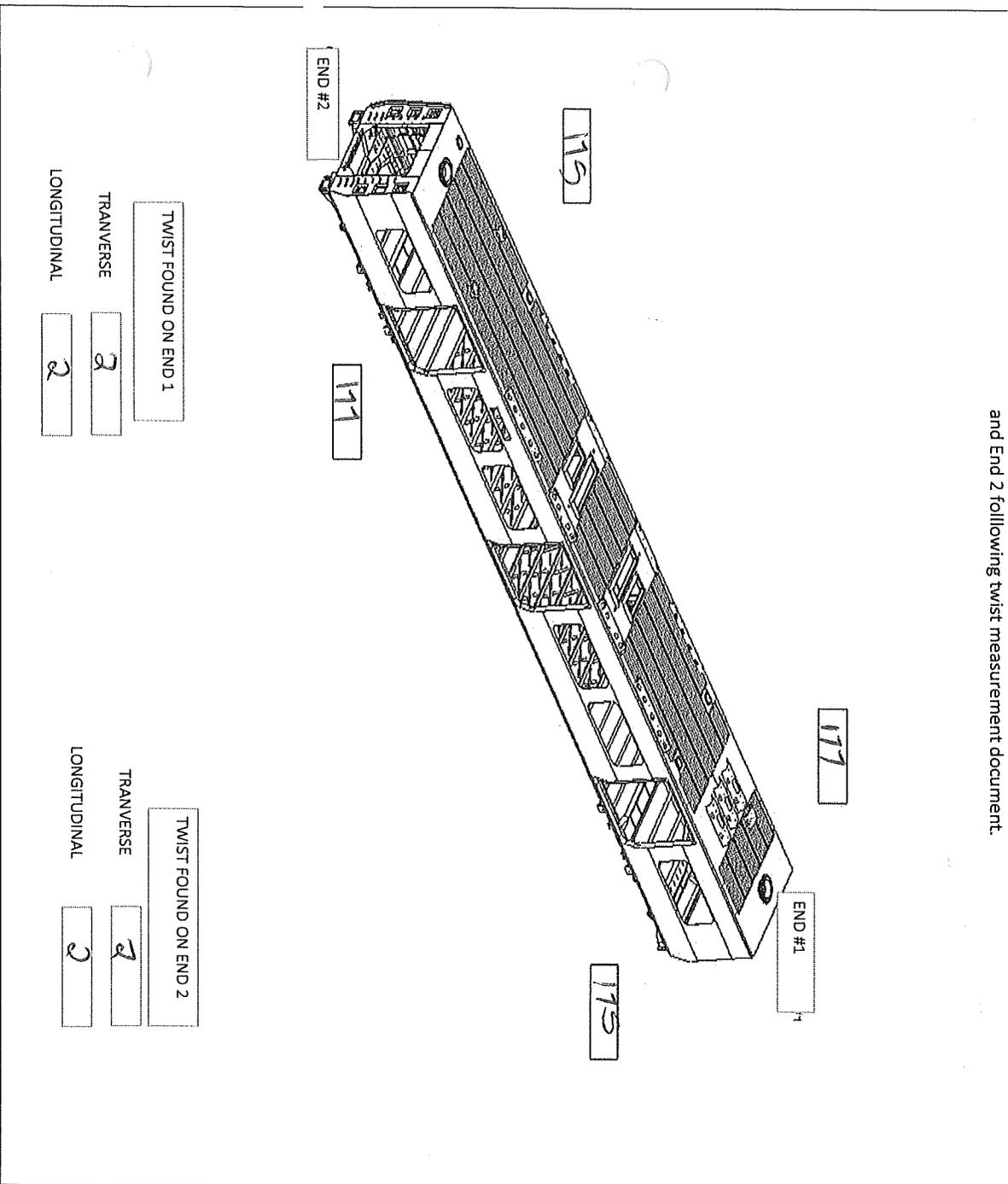
CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.  
30  
Date  
09/11/2023

Project: PRASA  
SI.CB2230.256.V29

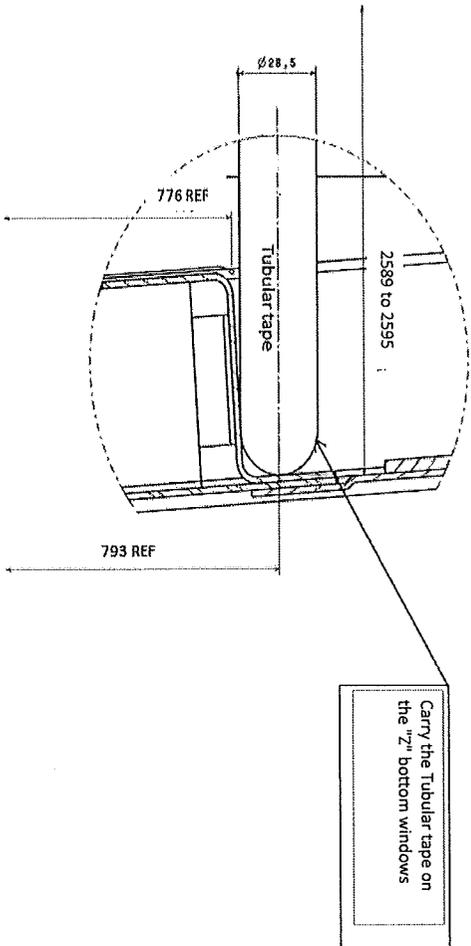
Specifications of Details for GBS measurement CB1230

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.

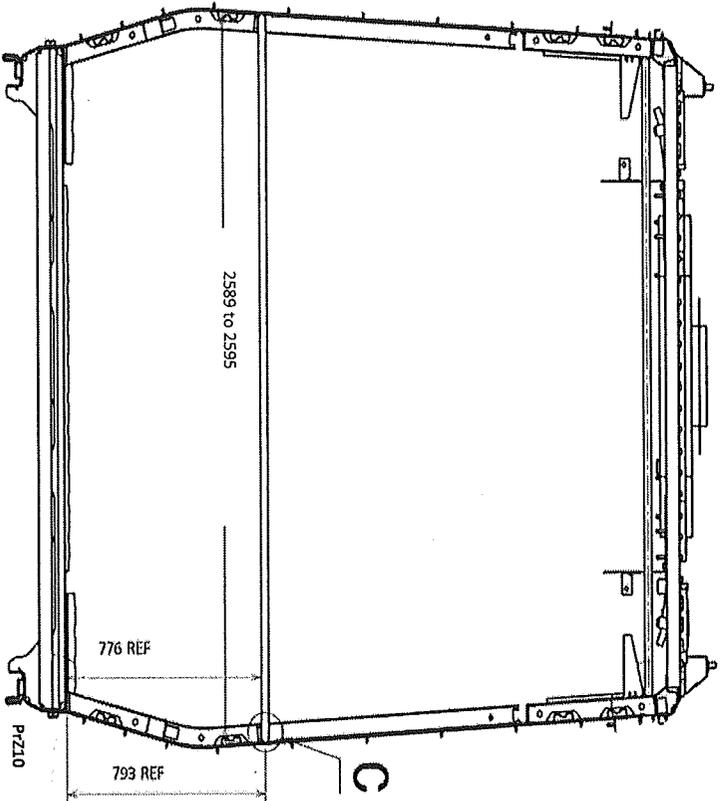


2024-02-15

Specifications of Details for CBS measurement GB1230

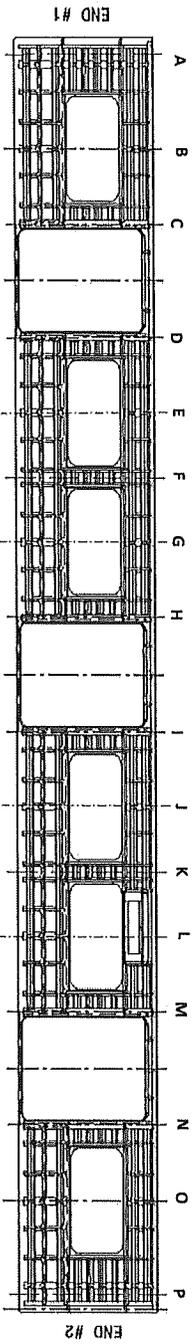


Detail C



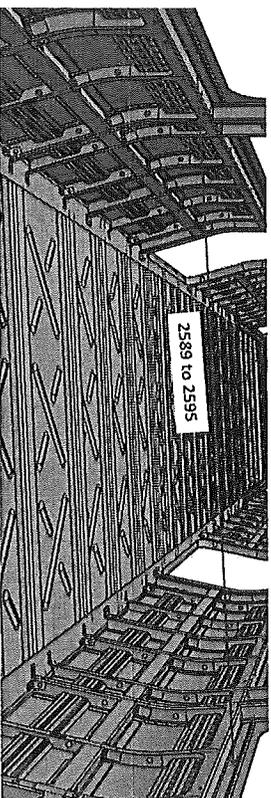
2024-02-15

Specifications of Details for GBS measurement CB1230



2589 to 2595mm

- A 2596
- B 2590
- C 2590
- D 2590
- E 2591
- F 2592
- G 2590
- H 2590
- I 2590
- J 2593
- K 2592
- L 2589
- M 2594
- N 2592
- O 2590
- P 2594



Threshold verification		Nominal value :38	
Door 1		Door 2	
L	R	L	R
38	38	38	38
Door 4		Door 5	
L	R	L	R
38	38	38	38
Door 3		Door 6	
L	R	L	R
38	38	38	38

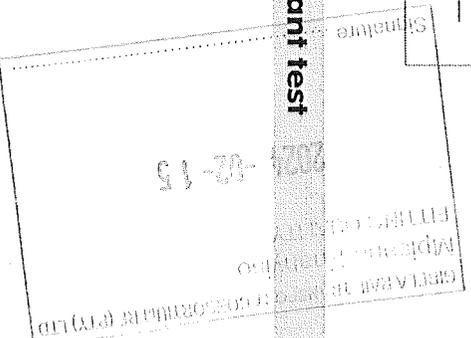
BOILER MAKER: EMMANUEL CONDORZI

WELDER: MANOHOZISI

Signature

Dye penetrant test

Dye-penetration test to be performed by quality personnel







CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.  
30  
Date  
08/11/2023

Project: PRASA  
SI.CB2230.256.V29

Self Inspection - Final Result

Is the car good to advance to the next workstation/process?  
(Approval of Operations and Industrial Quality)

HOLD POINT	GO	DATE	NAME	SIGNATURE
		(If activities are not complete, the missing activities must not impact the next stage)	Operations	
Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)  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)	<input checked="" type="checkbox"/>	20.03.24	CHOSY	
		20/03/24	Andemini	
Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)  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)	<input checked="" type="checkbox"/>	20/03/24	Andemini	
		20/03/24	Andemini	

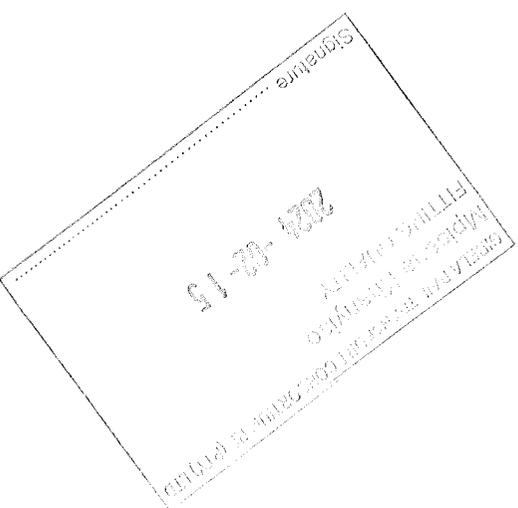
In case of "NO GO", describe blocking problems

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

Item	Description	Responsible	Due date	Status

Operations

Quality



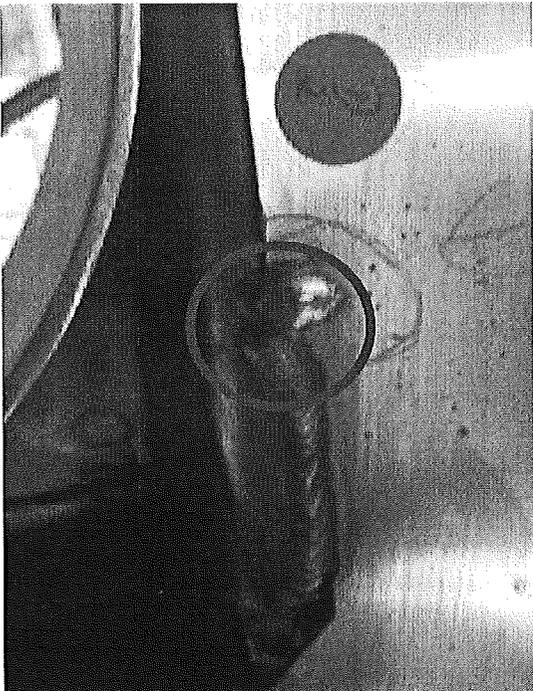
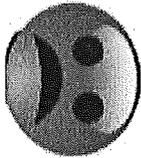


CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.	30
Date	06/11/2023

Project: PRASA  
SI.CB2230.256.V29

**ANNEXURE A: Arc Welding Quality Acceptance Standard**



 <b>GIBELL</b>	<b>CARBODYSHELL M1,M3,M4 ASSEMBLY</b> DT00000225487	Rev. 30	Project: PRASA <b>S1.CB2230.256.V29</b>
		Date 06/11/2023	

**ANNEXURE B: Sealant**

