

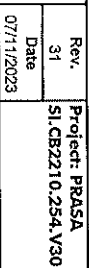
APPLICABLE FROM TRAINSET 190+ AS PER BASELINE 10.4

## SELF INSPECTION SHEET

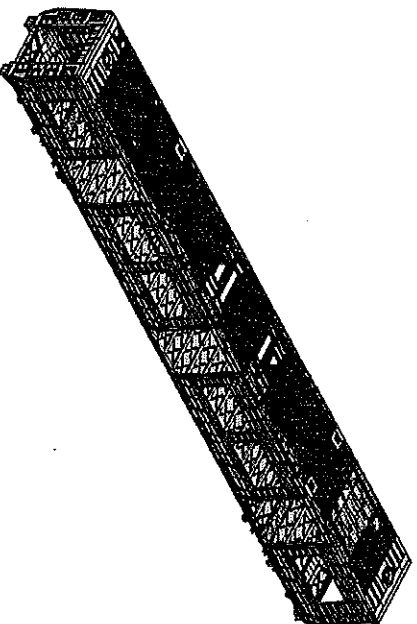
## CONFIDENTIAL INFORMATION

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

APPLICATION REFERENCE											
MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE					WORK INSTRUCTION	SAFETY ?	
				TCA	MA	MA	MA	TCA			
<input checked="" type="checkbox"/>	DTB22546/3	CARBODY-SHELL M3,M4 ASSEMBLY	CB2210		<input checked="" type="checkbox"/>				X	PSA, CB2210, DTB20225 487/3, V30	YES
<input type="checkbox"/>											
REV	DATE	MODIFICATION CONTENT		RESPONSIBLE	NAME	DATE					
0	10/01/2018	GIBELA NEW CREATION		APPROVER	Izumeleg Modiba	10/01/2018					
		Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager		CHECKER	Nosizo Pindela	10/01/2018					
				COMPLIER	Tharyani Mathegu	10/01/2018					
1	2018/05/18			APPROVER	Izumeleg Modiba	2018/05/18					
				CHECKER	Nosizo Pindela	2018/05/18					
				REVISOR BY	Ramokone Motama	2018/05/18					
2	2018/07/04	Certain dimensional checks moved to CB1220 and CB1230		APPROVER	Izumeleg Modiba	2018/07/04					
				CHECKER	Nosizo Pindela	2018/07/04					
				REVISOR BY	Ramokone Motama	2018/07/04					
3	2018/12/12	Added dimensional check points to CB2210		APPROVER	Izumeleg Modiba	2018/12/12					
				CHECKER	Nosizo Pindela	2018/12/12					
				REVISOR BY	Ramokone Motama	2018/12/12					
5	22/01/2019	As per Baseline 10.2		APPROVER	Izumeleg Modiba	22/01/2019					
				CHECKER	Nosizo Pindela	22/01/2019					
				REVISOR BY	Vanessa Ntuli	22/01/2019					
6	13/03/2019	Added D1 and D2 on Self - Inspection		APPROVER	Izumeleg Modiba	13/03/2019					
				CHECKER	Nosizo Pindela	13/03/2019					
				REVISOR BY	Nosizo Pindela	13/03/2019					
10	21/08/2019	New Baseline 10.2.5		APPROVER	Izumeleg Modiba	21/08/2019					
				CHECKER	Nosizo Pindela	21/08/2019					
				REVISOR 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					
				REVISOR 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					
				REVISOR BY	Bongane Masina	19/04/2021					
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING		APPROVER	Mkhombi Collins	17/08/2021					
				CHECKER	Mpho Mulaudzi	17/08/2021					
				REVISOR BY	Mpho Mulaudzi	17/08/2021					
25	19/02/2022	New Baseline change 10.3.1		APPROVER	Mkhombi Collins	19/02/2022					
				CHECKER	Andani Muthlele	19/02/2022					
				REVISOR BY	Andani Muthlele	19/02/2022					
26	14/04/2023	Addition of welding consumable traceability		APPROVER	Ntuli Vanessa	14/04/2023					
				CHECKER	Mohlampe Amogelang	14/04/2023					
				REVISOR BY	Mohlampe Amogelang	14/04/2023					
30	20/07/2023	New Baseline change 10.4		APPROVER	Nyobeni Tyson	28/07/2023					
				CHECKER	Mohlampe Amogelang	28/07/2023					
				REVISOR BY	Mohlampe Amogelang	28/07/2023					
31	07/11/2023	Added traceability for welding sections		APPROVER	Nyobeni Tyson	07/11/2023					
				CHECKER	Mohlampe Amogelang	07/11/2023					
				REVISOR BY	Ntsokezo Zwane	07/11/2023					
TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER				PAGES			
150000114	Pan/Bo	2018/11/14	409964	SI.CB2210.254.V30				17			



**Work station:**



## 1 - Documentation and Instruments Control

## L1 - Documentation Control

Document	Type of car					Revision	Observation	OK	Signature/Date (Auditing)	Signature/Date (Quality)	
	TC1	M1	M2	M3	M4						TC2
DTP30225648/73					X				13/	2/	 6/10/19

### 1.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Processes

specimens	Serial number	Calibration or Verification Validated Date	OK	Signature/Done (Handwriting)	Signature/Date (Quality)
LUBRICANT	3833-2	15/03/25	✓	[Signature]	16/4/25
CASSEL MAPPE	BASIC904	08/01/25	✓	[Signature]	16/4/25
SOM - MAPPE	GUSTFBI03	18/11/25	✓	[Signature]	16/4/25

### 1.3 Consumables

Welding Consumable Control - Used for Special Process

[illegible]






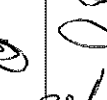

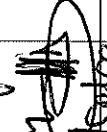

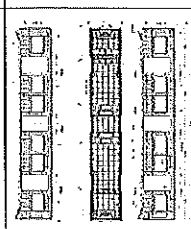
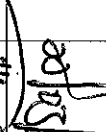


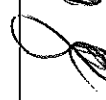


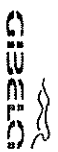
CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

Rev.  
31Project: PRASA  
SLCB2210.254.V30Date  
07/11/2023

## II - Self Inspection - Items to Check

## II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Manufacturer)	Signature/Date (Quality)
01	N/A	Castshell free of significant flaws which compromise the appearance or functionality	DTD00000210675	<input checked="" type="checkbox"/>	 22/03/24	 22/03/24
02	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD00000210675	<input checked="" type="checkbox"/>	 22/03/24	 22/03/24
03	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	<input checked="" type="checkbox"/>	 22/03/24	 22/03/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	<input checked="" type="checkbox"/>	 22/03/24	 22/03/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	<input checked="" type="checkbox"/>	 22/03/24	 22/03/24
06	N/A	Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and filler sampling as described in DTD00000210658.	As the welding procedure IND-SAL-WMS-018 and DTD00000210658.	<input checked="" type="checkbox"/>	 22/03/24	 22/03/24

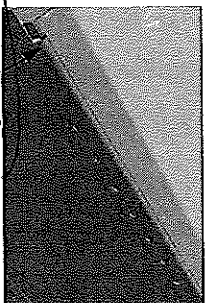


CARBODYSHELL M3, M4 ASSEMBLY DTR302254873

Rev.	31	Project: PRASA
Date	07/11/2023	SI CB2210.254.V30

### Welding Traceability

Roof ring welds



Boiler maker (Name & Sign): Thobias K. K. K.

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

END 1

Boiler maker (Name & Sign): Justice D.

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

Boiler maker (Name & Sign): Thobias K. K. K.

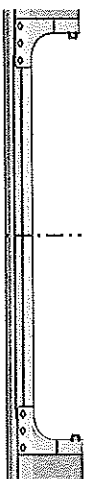
Welder (Name & Sign): Thobias K. K. K.

END 2

Boiler maker (Name & Sign): Justice D.

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

Door ring welds



LHS

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

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

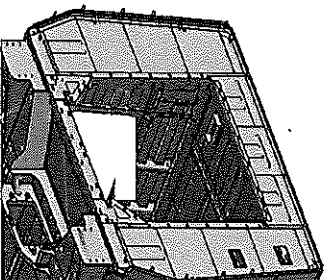
RHS

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

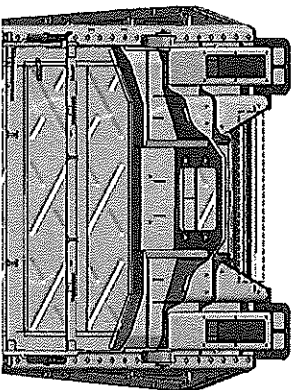
Welder (Name & Sign): Thobias K. K. K.

Boiler maker (Name & Sign): Laurence Miller

Thibault

Boiler maker (Name & Sign): WMO

Kenia (Kenya)



## Underneath the CAR

**FEDOLI**

**Operator:**

Lunga

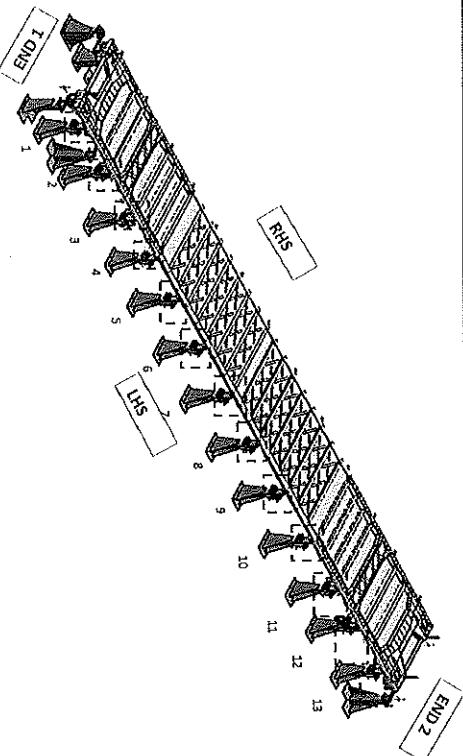


CARBODYSHELL M3,M4 ASSEMBLY DTR302254873

Rev. 31 Project: PRASA  
SI:CB2210.254.V30

Date  
07/11/2023

Specifications of Details for CTS measurement



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

After loading and clamping

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

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

Signature Operator

Date:

20/03/2024

After Welding

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

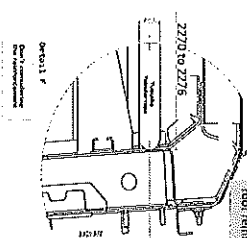
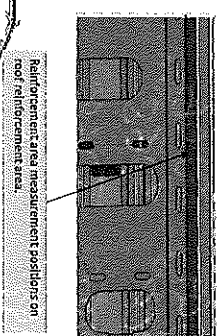
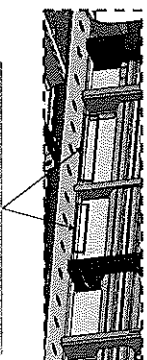
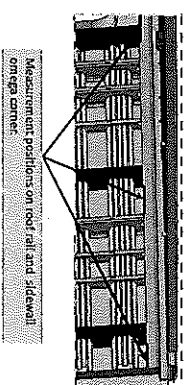
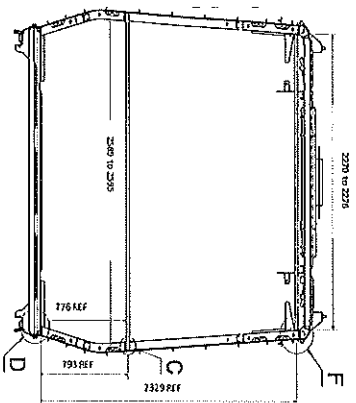
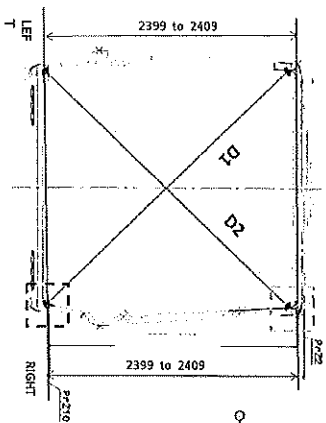
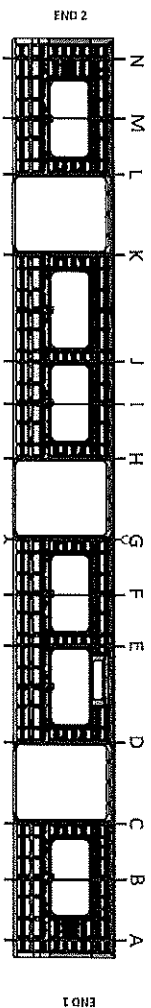
	1	2	3	4	5	6	7	8	9	10	11	12	13
Left Hand Side	0	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	0	5	4	6	0	0	0

Signature Industrial Quality:

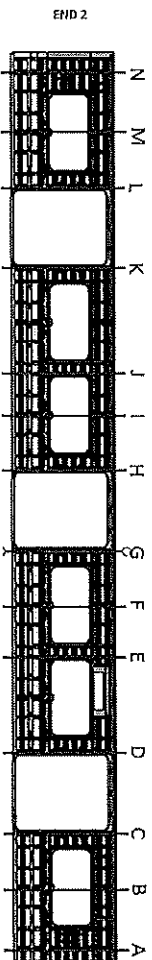
Date:

20/03/24

Specifications of Details for CBS measurement



## Specifications of Details for CBS measurement

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

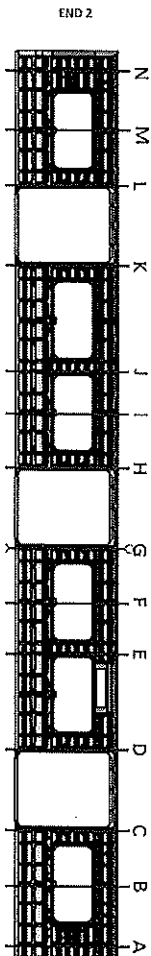
## BEFORE WELDING

Record D1 values		Record D2 values		D1-D2 ≤ 5mm		2399 to 2409		2399 to 2409 (RHS)		LHS-RHS ≤ 2
A	3269	3268	1	2	2404	2404	0			
B	3269	3269	2	2	2406	2404	2			
C	3266	3264	1	1	2405	2404	1			
D	3269	3270	1	2	2404	2406	2			
E	3271	3269	2	2	2404	2405	1			
F	3270	3270	0	0	2404	2403	1			
G	3269	3266	3	2	2403	2405	2			
H	3268	3268	0	2	2406	2404	2			
I	3269	3268	1	2	2405	2404	1			
J	3269	3269	0	2	2406	2405	1			
K	3270	3269	1	2	2404	2406	2			
L	3271	3270	1	2	2405	2404	1			
M	3269	3268	1	0	2404	2404	0			
N	3270	3269	1	2	2406	2404	2			

Handwritten signature and date: 2409964  
22/03/24




## Specifications of Details for CBS measurement

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

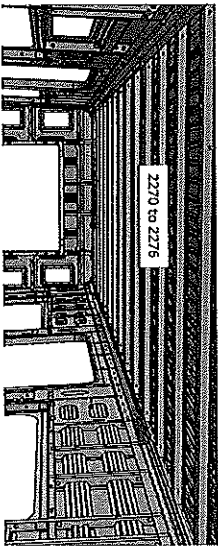
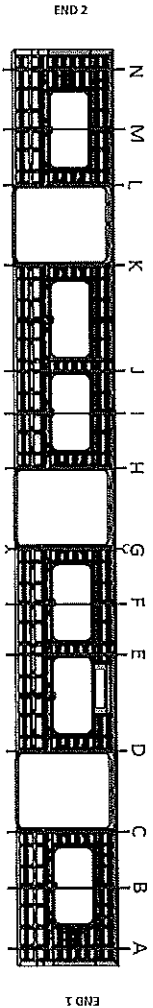
## AFTER WELDING

Record D1 values		Record D2 values		D1-D2 ≤ 5mm		2399 to 2409		2399 to 2409 (RHS)		LHS-RHS ≤ 2
A	3296	3298	2	2	2404	2405	0			
B	3269	3268	1	1	2404	2405	1			
C	3295	3296	1	1	2406	2404	2			
D	3297	3298	1	1	2405	2404	1			
E	3269	3269	0	0	2404	2404	0			
F	3271	3270	1	1	2406	2404	2			
G	3296	3298	2	2	2405	2404	1			
H	3297	3297	0	0	2404	2406	2			
I	3269	3270	1	1	2404	2405	1			
J	3268	3268	0	0	2404	2403	1			
K	3296	3298	2	2	2406	2405	1			
L	3299	3297	2	2	2405	2403	2			
M	3268	3269	1	1	2406	2405	1			
N	3296	3297	1	1	2404	2404	0			

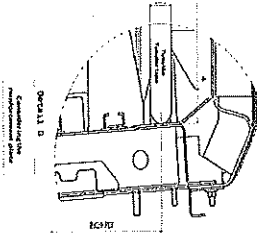
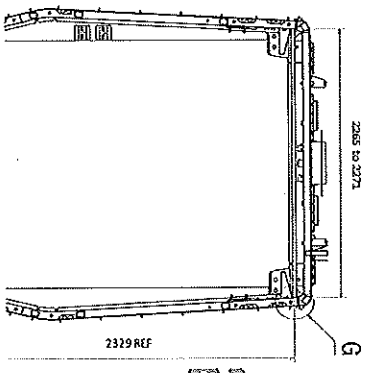
409969  
2210364

	CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3		Rev. 31	Project: PRASA
	CBS measurement		Date 07/11/2023	SI.CB2210.254.V30


BEFORE WELDING



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

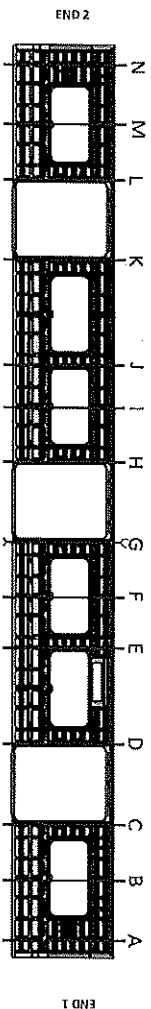


A	2270 to 2276
B	2271
C	2276
D	2276
E	2275
F	2274
G	2276
H	2275
I	2274
J	2276
K	2275
L	2276
M	2271
N	2276

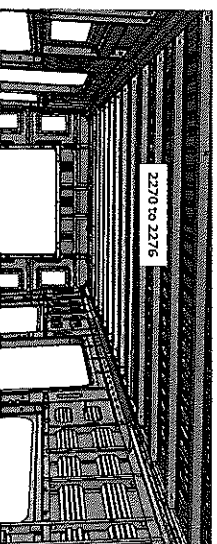
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2270 to 2276  
2271 to 2276

CBS measurement

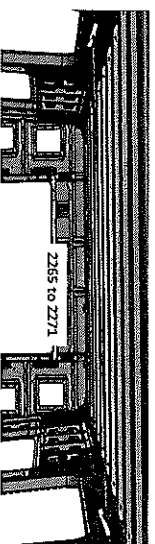
AFTER WELDING



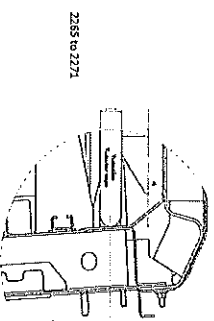
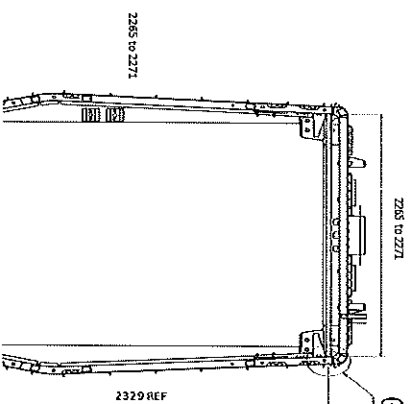
	2265 to 2271	2270 to 2276
A	2269	
B		2275
C	2270	
D	2270	
E		2274
F		2275
G	2269	
H	2265	
I		2270
J		2271
K	2269	
L	2268	
M		2274
N	2265	



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



Take measurement close to radius ( considering reinforcement)

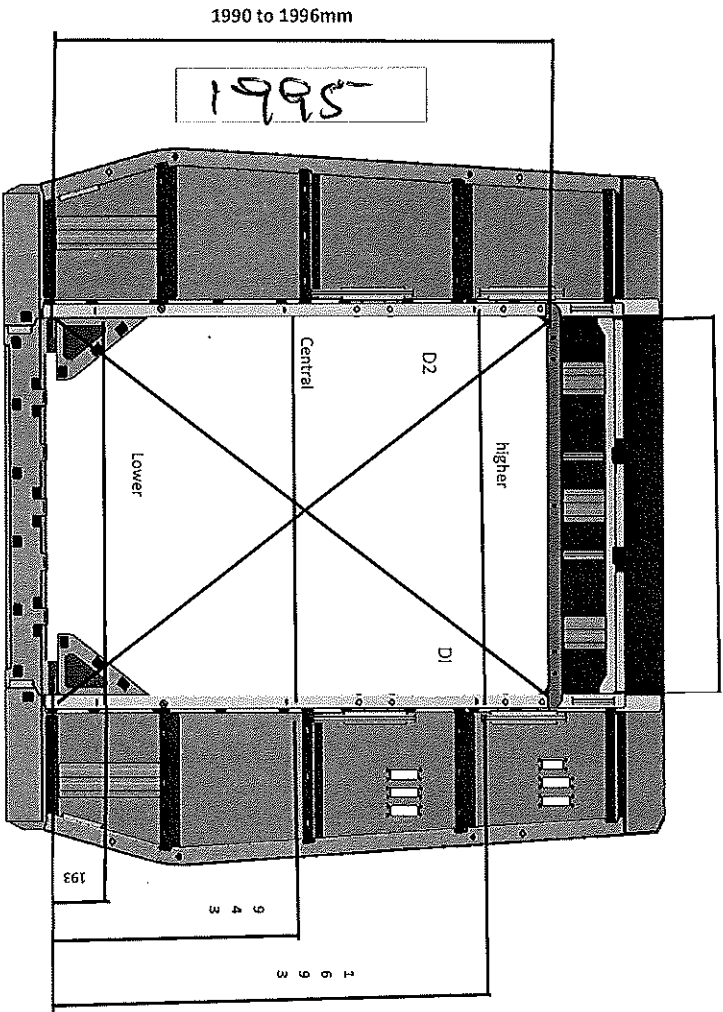


Handwritten notes and signature:

226969  
226969  
226969

Specifications of Details for CBS measurement

End frame 1



Higher Dimension

1381

D1

2416

Central Dimension

1380

D2

2415

Lower Dimension

1381

D1-D2

1

Handwritten signature and date: 20/07/2023



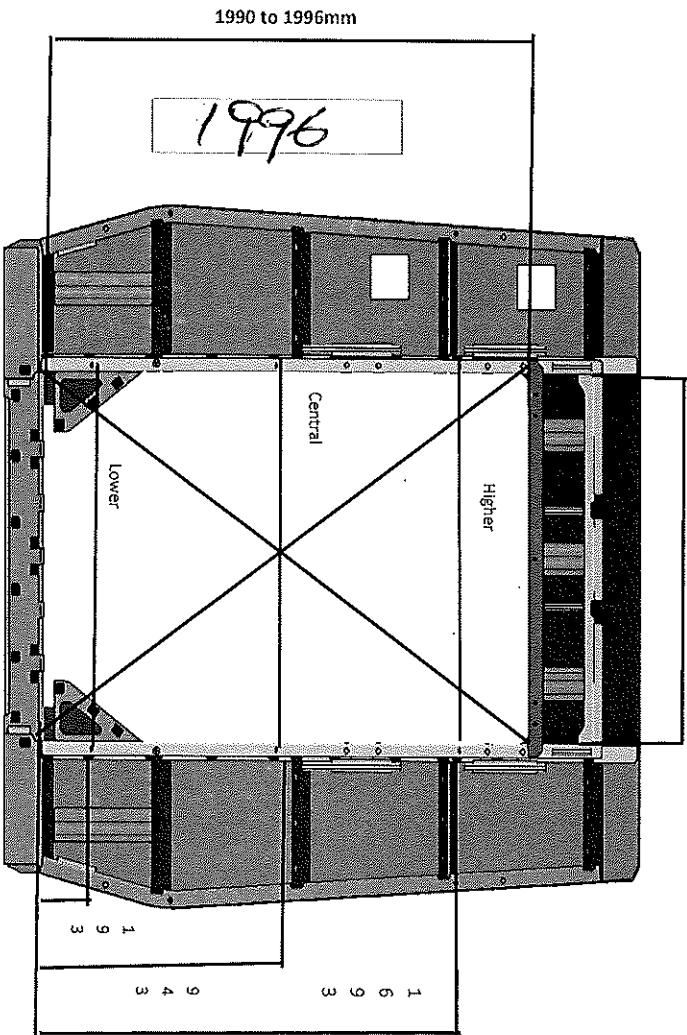
CARBOYSHELL M3,M4 ASSEMBLY DTR3022548/3

Rev.	Project: PRASA
31	SI-CB2210.254.V30
Date	
07/11/2023	

Specifications of Details for CBS measurement

Endframe 2

1380 to 1382 mm



1350 to 1352 mm

DIAGONAL DIFFERENCE D1-D2  $\pm$  3mm

HIGHER DIMENSION

1380

D1

2414

CENTRAL DIMENSION

1381

D2

2415

LOWER DIMENSION

1380

D1-D2

1

Handwritten notes and signature:

4099610  
20103 b4

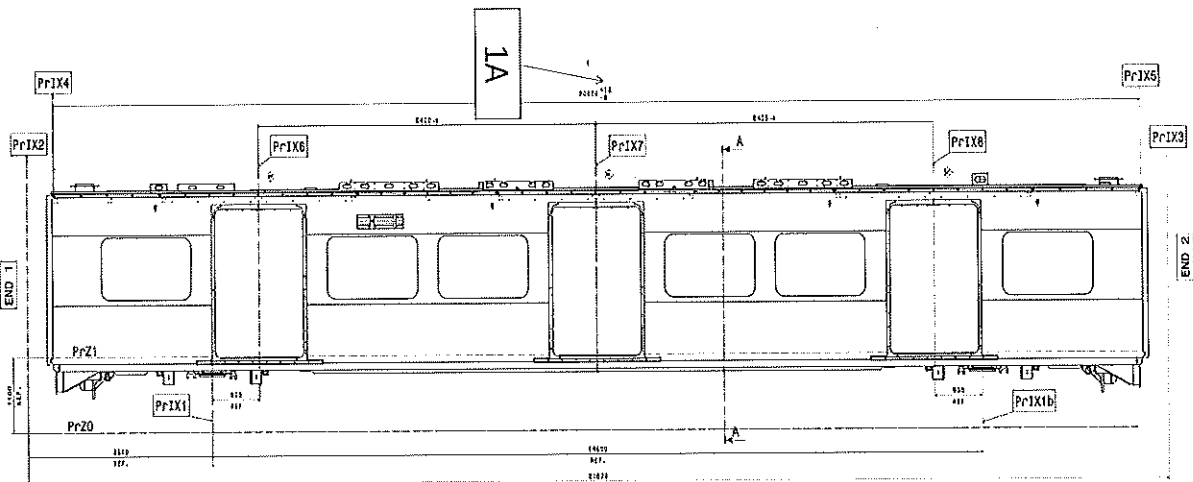
*[Signature]*

**Specifications of Details for CBS measurement**

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

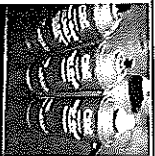
RIGHT SIDE	
SPECIFICATION SIZE	ACTUAL SIZE
1A 20632 - 20614	20615

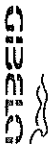
*Handwritten signature and date:*  
 2009064  
 20103124



**Dye penetrant test**

Dye-penetration test to be performed by quality personnel





CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

Rev.

31

Project: PRASA  
SI.CB2210.254.V30

[illegible]

## 11.2 - Check List REX

## Check List Items

Item	Picture/Drawings	Description	Criteria /Mount	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to EC3. New devices must be added on the REX			



CARBODYSHELL M3,M4 ASSEMBLY DTR30225487/3

Rev.	31	Project: PRASA
Date	07/11/2023	SI.CB2210.254.V30

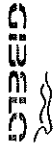
Self Inspection - Final Result

		DATE	NAME	SIGNATURE
HOLD POINT				
	GO			
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

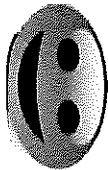
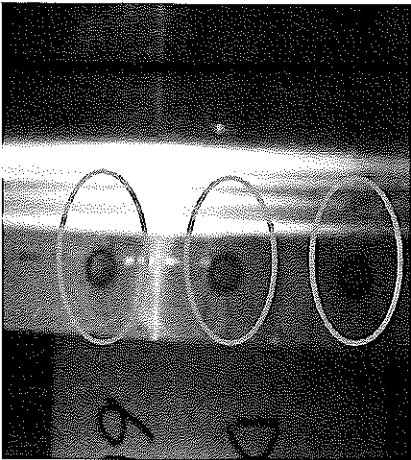
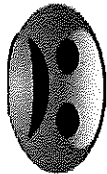
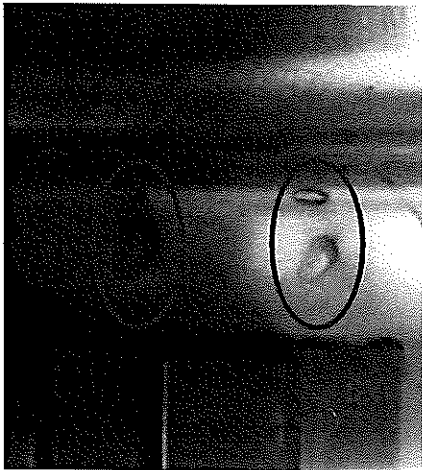
Operations

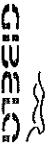
Quality



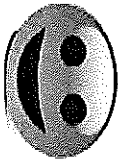
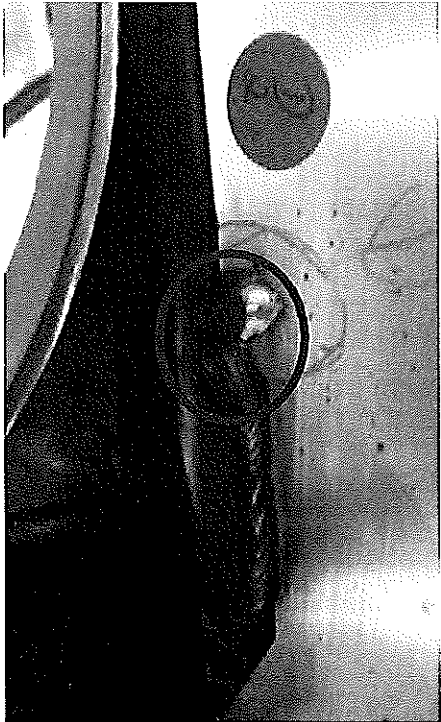
	CARBODY SHELL M3, M4 ASSEMBLY DTR30225487/3		Rev. 31 Date 07/11/2023	Project: PRASA SI, CB2210.254, V30
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**ANNEXURE A: Spot Welding Quality Acceptance Standard**



		CARBODYSHELL M3,M4 ASSEMBLY DTR3025487/3		Rev. 31 Date 07/11/2023	Project: PRASA SI.CB2210.254.V30
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**ANNEXURE B: Arc Welding Quality Acceptance Standard**





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

**CONFIDENTIAL INFORMATION**  
This document and the information contained 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	
				TOL	ML	ML	ML			
<input type="checkbox"/>	DTB022548/17	CARBODY-SHEL	C2220		X	X		P8.CB2220.DTB022548 7/1.V21	YES	
<input type="checkbox"/>		ML/K3M/ASS/96V								
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
<input type="checkbox"/>										
REV	DATE	MODIFICATION CONTENT						RESPONSIBLE	NAME	DATE
0	01/02/2018	GIBELA NEW CREATION						APPROVER	Imreling Modiba	01/02/2018
								CHECKER	Nesozo Pindela	01/02/2018
								COMPLIER	Thanyani Mathege	01/02/2018
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager						APPROVER	Imreling Modiba	18/05/2018
								CHECKER	Nesozo Pindela	18/05/2018
								REVISED BY	Ramokone Madama	18/05/2018
2	2018/07/05	Certain dimensional checks added and others moved to CB2210						APPROVER	Imreling Modiba	2018/07/05
								CHECKER	Nesozo Pindela	2018/07/05
								REVISED BY	Ramokone Madama	2018/07/05
3	2018/06/12	Width tolerance as per DT0000396600						APPROVER	Imreling Modiba	2018/06/12
								CHECKER	Nesozo Pindela	2018/06/12
								REVISED BY	Nesozo Pindela	2018/06/12
5	24/01/2019	As per Baseline 10.2						APPROVER	Imreling Modiba	24/01/2019
								CHECKER	Nesozo Pindela	24/01/2019
								REVISED BY	Vanessa Ntuli	24/01/2019
6	19/03/2019	Added D1 and D2 on Self - Inspection length measurements Remove						APPROVER	Imreling Modiba	19/03/2019
								CHECKER	Nesozo Pindela	19/03/2019
								REVISED BY	Nesozo Pindela	19/03/2019
10	22/08/2019	New Baseline 10.2.5						APPROVER	Imreling Modiba	22/08/2019
								CHECKER	Nesozo Pindela	22/08/2019
								REVISED BY	Nesozo Pindela	22/08/2019
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	19/04/2020
								CHECKER	Bongane Masina	19/04/2020
								REVISED BY	Bongane Masina	19/04/2020
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING						APPROVER	Mkhombi Collins	17/08/2021
								CHECKER	Mpho Mulaudzi	17/08/2021
								REVISED BY	Mpho Mulaudzi	17/08/2021
25	20/02/2022	New Baseline change 10.3.1						APPROVER	Collins Mkhombi	19/02/2022
								CHECKER	Andani Muthelo	19/02/2022
								REVISED BY	Andani Muthelo	19/02/2022
26	14/06/2022	Update minimum temperature requirement for sealant application						APPROVER	Collins Mkhombi	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 & welding						APPROVER	Collins Mkhombi	19/10/2022
								CHECKER	Nikozo Zwane	19/10/2022
								REVISED BY	Amogelang Mofinane	19/10/2022
28	14/04/2023	Added sealant batch number & welding consumables traceability						APPROVER	Vanessa Ntuli	14/04/2023
								CHECKER	Nikozo Zwane	14/04/2023
								REVISED BY	Amogelang Mofinane	14/04/2023
29	28/10/2023	Addition of bracket quantity						APPROVER	Ngoneni Tyson	28/10/2023
								CHECKER	Nikozo Zwane	28/10/2023
								REVISED BY	Amogelang Mofinane	28/10/2023
TRAINSET	CAR	OPERATOR NAME ALPS NO		DATE		SELF INSPECTION NUMBER			PAGES	
220	M04	A84, B1, D1, 467714		25-03-24		51.CB2220.250.V29			13	



CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR302234872

Rev. 29  
Date 28/02/2023  
Project: PRASA  
SI,CB2220.250.V29

Cdr: M.MENIM

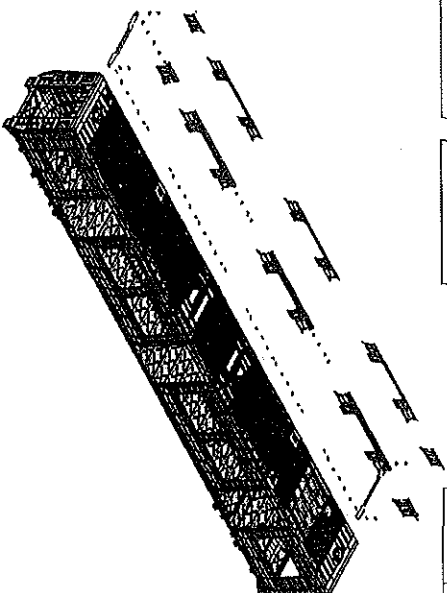
NCR:

Work station:

CB2220



Safety Related



### I - Documentation and Instruments Control

#### I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	Signature (Manufacturing)	Signature Date (Quality)
	TC1	M1	M2	M3	TC2					
DTR302234872						29	28-10-2023	X	N/A	23-03-24 23/03/24

#### I.2 - Instruments Control

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

Instruments	Serial number	Calibration or Verification Validation Date	OK	Signature Date (Manufacturing)	Signature Date (Quality)
Measuring tape	GITSAC23	30/03/2024	X	23-03-24	23/03/24
tubular	SR23	15/03/2025	X	23-03-24	23/03/24

#### 1.3 Consumables

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

Filler Material	Lot Number	Welding Process	OK	Signature Date (Manufacturing)	Signature Date (Quality)
308	231064	MIG	X	23-03-24	23/03/24

## II - Self Inspection - Items to Check

## II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB2220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	PRA.CB2220.DTR30225487/2	<input checked="" type="checkbox"/>	23/03/24 	23/03/24 
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	<input checked="" type="checkbox"/>	23/03/24 	23/03/24 
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPEDEF - ARC - 0000	<input checked="" type="checkbox"/>	23/03/24 	22/03/24 
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	<input checked="" type="checkbox"/>	23/03/24 	22/03/24 
05		Functional dimensions approved according drawing or complementary document approved by Alcom engineering and registered in this document.	Approved according specified on pages below.	<input checked="" type="checkbox"/>	23/03/24 	22/03/24 
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 fillet sampling as described in DTD0000210558.	As the welding procedure IND-SAL-WMS-018 and DTD0000210558.	<input checked="" type="checkbox"/>	23/03/24 	22/03/24 
07	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified value as per Work Instructions Specified: Temperature: 10°C - 30°C Relative humidity Max: 85% Max (t) Min-Max 30% Max (t) Min-Max 30%	Sealant Body No: 247825 Exp Date: 1/03/24 Actuals Temperature: 25 Humidity: 50	<input checked="" type="checkbox"/>	23/03/24 	23/03/24 
08	N/A	Verification of sealant application in certain regions in the assembly.	AAD0000277656	<input checked="" type="checkbox"/>	23/03/24 	22/03/24 
09		Verification of safety welds	Approved according to DTD000210658 reference and Self inspection	<input checked="" type="checkbox"/>	23/03/24 	22/03/24 



CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR30225487/2

Rev.	29
Date	28/10/2023

Project: PRASA  
SI.CB2220.250.V29

II - Self Inspection - Items to Check

SEALANT APPLICATION

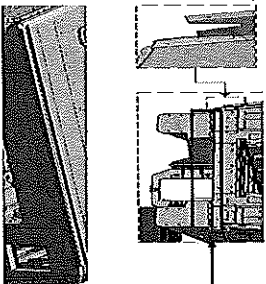
AREA 1 & 2 END 1

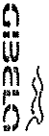
Operator (Name & sign):

M. Kozia

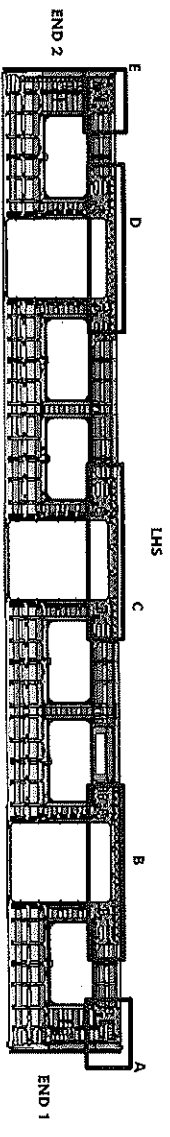
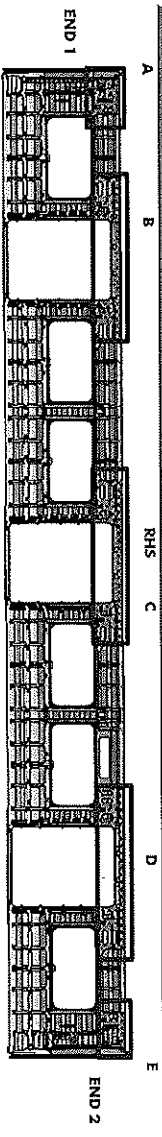
Operator (Name & sign):

M. Kozia










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

II - Self Inspection - Items to Check



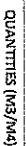
REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>LINDO</u> 	<u>S. H. A. S. I.</u> 
B	Operator (Name&sign): <u>LINDO</u> 	<u>S. H. A. S. I.</u> 
C	Operator (Name&sign): <u>Roberto</u> 	<u>Roberto</u> 
D	Operator (Name&sign): 	<u>Manoelito Mac</u>
E	Operator (Name&sign): <u>Manoelito Mac</u>	<u>Manoelito Mac</u>





### M1/M3/M4 BRACKET INSTALLATION



	SECTION	QUANTITY	OK	NOK
C-ROLLS	B	1		
	B	6		
	C	8		
SEALED BRICKETS	D	1		
	A	21		
	B	21		
	C	21		
EARTH BUSH	D	15		
	A	3		
	B	6		
	C	3		
	D	2		

25

24

QUANTITIES (M1)

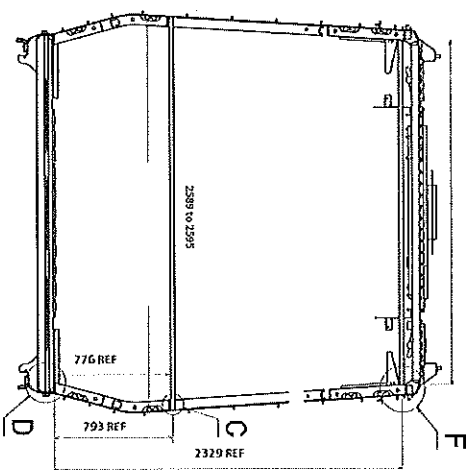
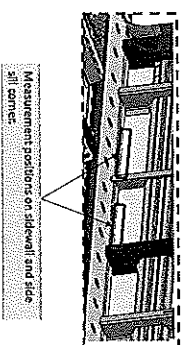
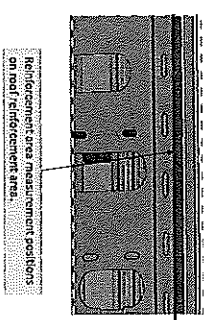
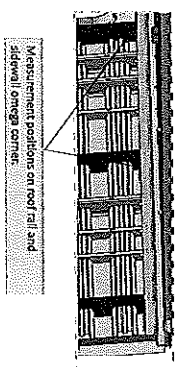
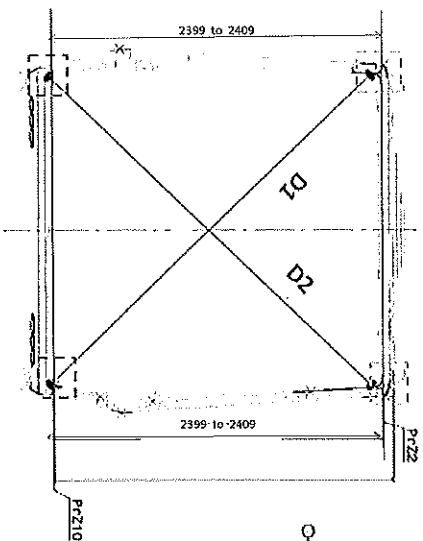
	SECTION	QUANTITY	ON	NO.
C-SHULS	B	10		
	C	11		
	D	8		
	A	13		
SEAV BRACKET'S	A	21		
	C	21		
	D	13		
	A	3		
EARTH BUSH	A	6		
	C	2		
	D	2		
	A	1		

ASAD

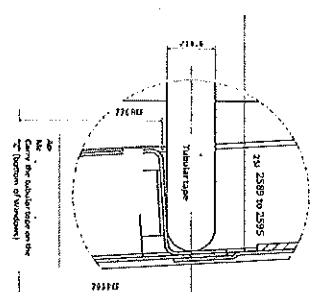
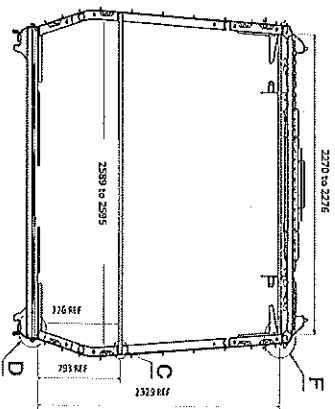
**VERIFICATION BY:**

15th

Specifications of Details for CBS measurement

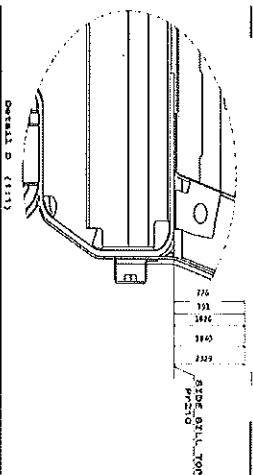
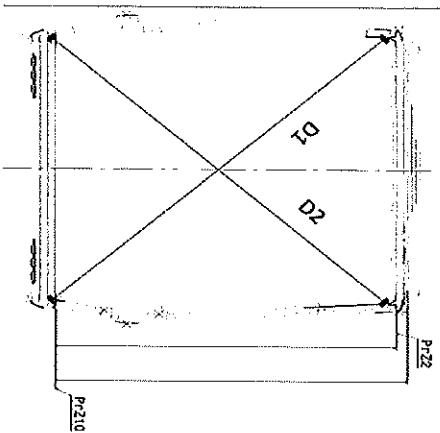
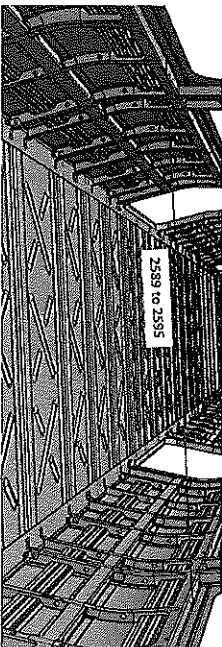


CBS measurement

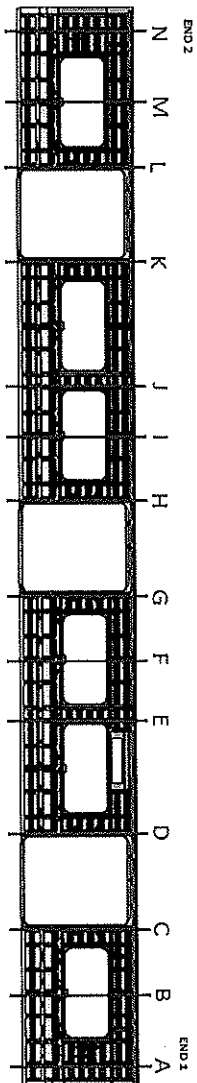


Detail C

Take measurement close to radius



**GBS measurement**



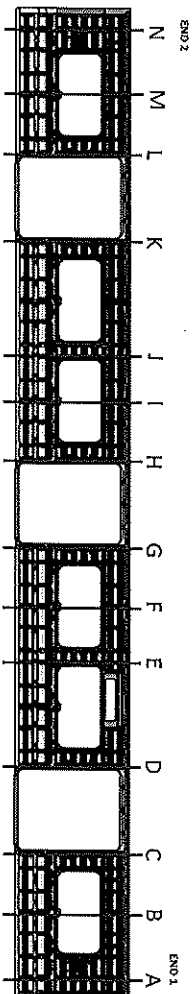
**BEFORE WELDING**

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3293	3299	6	
B	3268	3260	8	
C	3295	3284	8	
D	3294	3293	1	
E	3264	3263	1	
F	3263	3263	0	
G	3281	3294	7	
H	3289	3294	5	
I	3264	3265	1	
J	3263	3267	4	
K	3292	3298	6	
L	3290	3293	3	
M	3261	3263	2	
N	3294	3294	0	

MR

23-03-24

**CBS measurement**

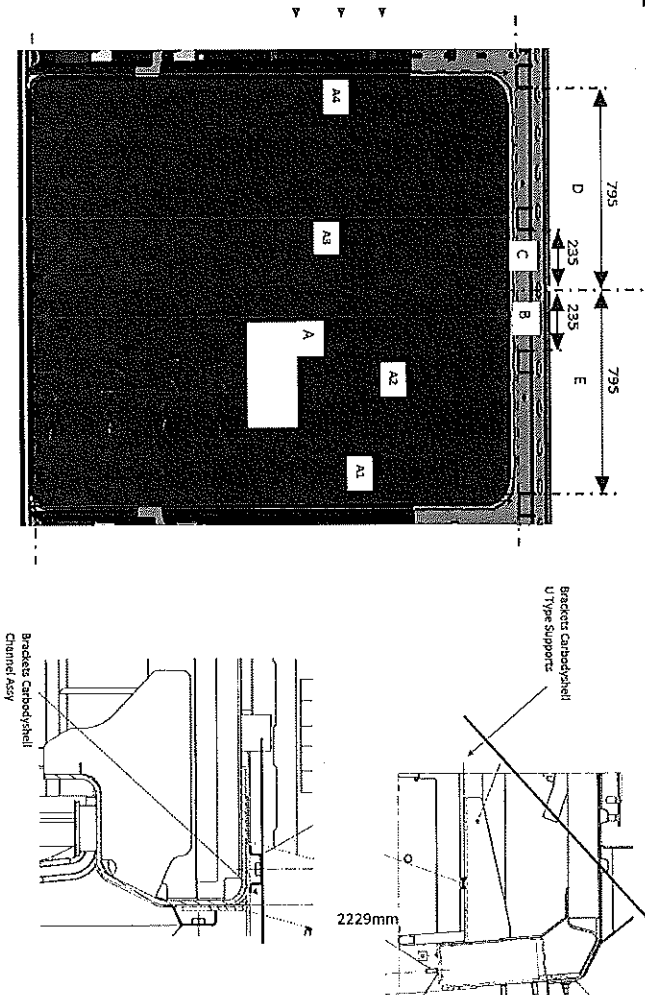


**AFTER WELDING**

Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A 3301	3296	5	2595
B 3266	3261	5	2589
C 3300	3295	5	2589
D 3296	3295	1	2590
E 3266	3266	0	2589
F 3265	3265	0	2589
G 3294	3292	2	2589
H 3296	3294	2	2590
I 3265	3266	5	2591
J 3264	3268	4	2591
K 3299	3294	5	2593
L 3290	3296	6	2591
M 3262	3264	2	2589
N 3294	3295	1	2595

22-03-26  
23

## Specifications of Details for CB5 measurement: GB1220



DOOR 1 - LHS

VALUE	ACTUAL
A1 2230 to 2232	2231
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	794

DOOR 2 - LHS

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	234
C 234 to 236	234
D 794 to 796	795
E 794 to 796	794

DOOR 2 - RHS

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

DOOR 1 - RHS

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

DOOR 2 - RHS

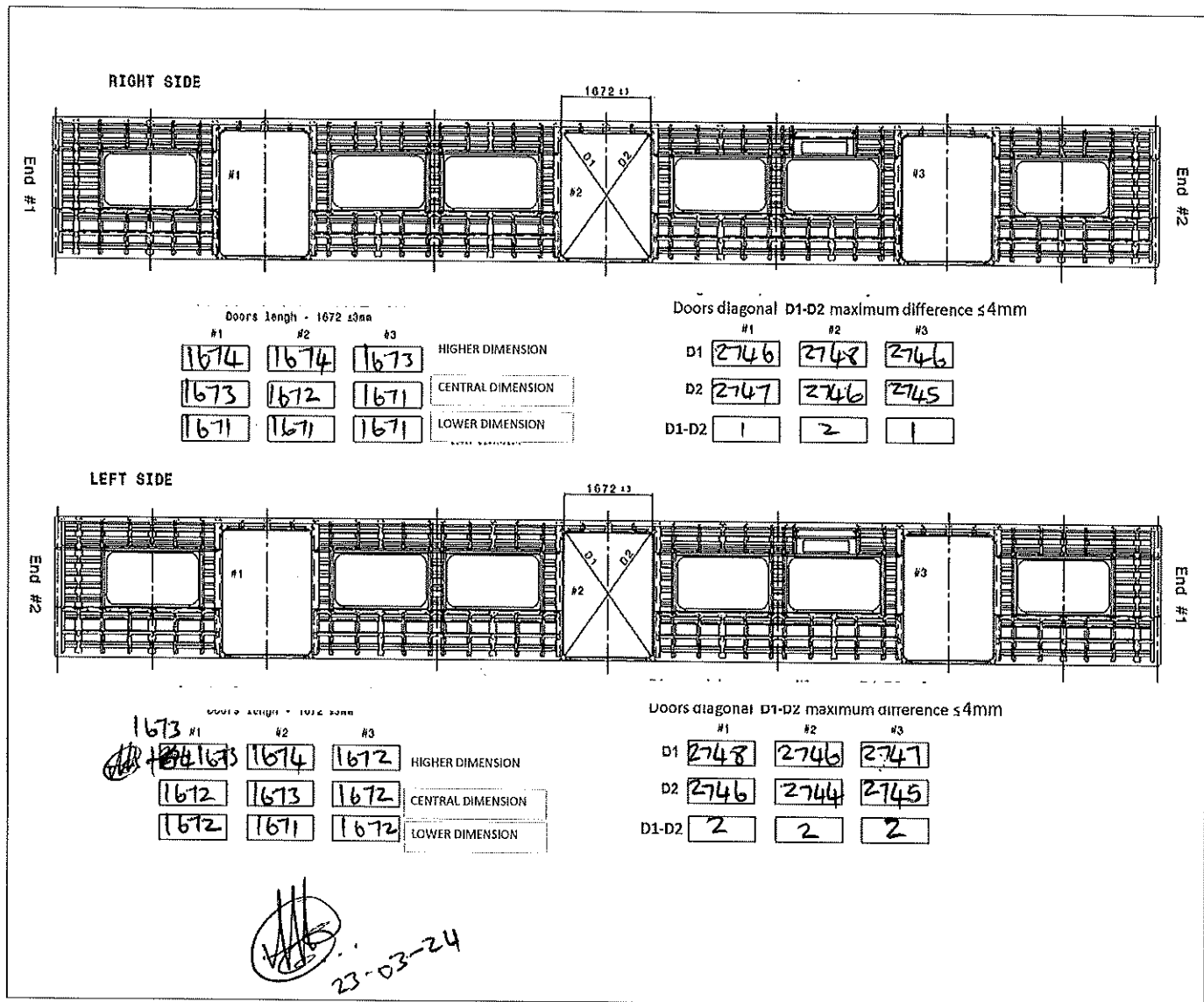
VALUE	ACTUAL
A1 2230 to 2232	2232
A2 2230 to 2232	2232
A3 2230 to 2232	2231
A4 2230 to 2232	2232
B 234 to 236	235
C 234 to 236	235
D 794 to 796	794
E 794 to 796	795

DOOR 3 - RHS

VALUE	ACTUAL
A1 2230 to 2232	2232
A2 2230 to 2232	2231
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	796

Handwritten signature and date: 23-03-24

Specifications of Details for CB5 measurement CB1220



### Dye penetrant test

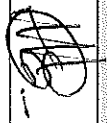

[illegible]

### Check List Items

Item	Parent/Opening	Description	Critical Record	OK	Signature/Date (Manufacturing)	Signature/Date Quality
01	N/A	To complete RBX	Refer to RBX, New defects must be added on the RBX			



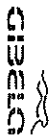
Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations Manager and Industrial Quality)		DATE	NAME	SIGNATURE
HOLD POINT	GO	25-05-24	ASHADH Operations	
	NO GO	24/05/24	Richardson Industrial Quality	
	NO GO		Operations	
In case of "NO GO", describe blocking problems			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

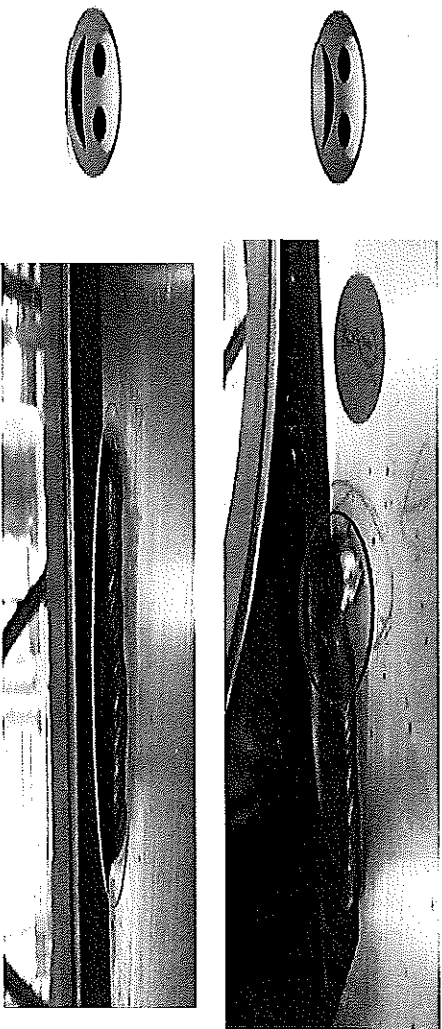
Quality



CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT8302254872

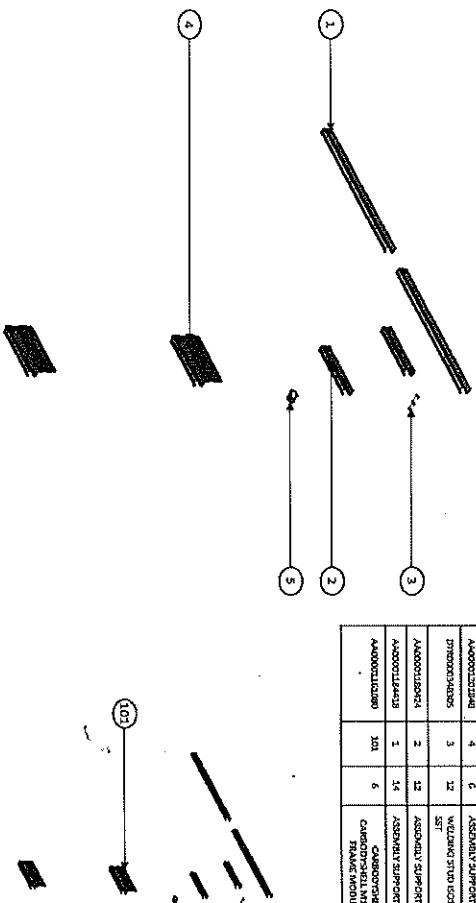
Rev.	Project: PRASA
29	
Date	
28/10/2023	
	<b>SI.CB2220.250.V29</b>

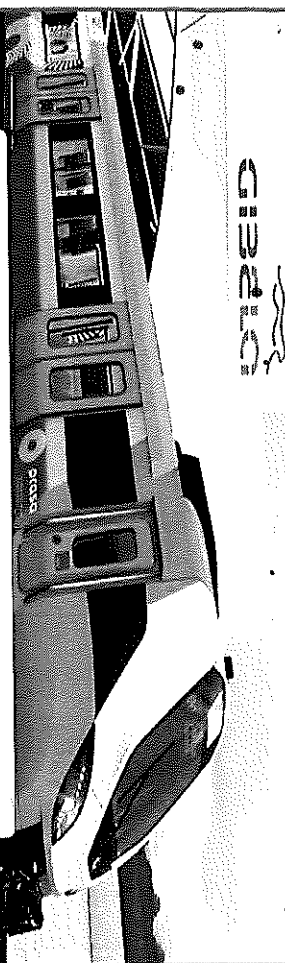
**ANNEXURE A: Arc Welding Quality Acceptance Standard**



Station: CB1220-004- U108 & U107

PART NO.	ITEM NO.	QTY	DESCRIPTION	MASS [kg]
DT8302254872	5	6	SAFETY STRAP G	0.236
AA0000118024	4	6	ASSEMBLY SUPPORT	0.271
DT8302254872	3	12	WELDING STRAP ISOLATED PT - M8X20-SET	0.007
AA0000118024	2	12	ASSEMBLY SUPPORT	0.261
AA0000118428	1	14	ASSEMBLY SUPPORT	0.252
AA0000110180	101	6	CARBODYSHELL BRACKET CARBODYSHELL BRACKET FRAME MODULE END - 079	12.182





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	CARTYPE				WORK INSTRUCTION	SAFETY?
				TG	M1	M2	M3		
<input type="checkbox"/>	DT0000025487	CARBODYSHELL ML,M3,M4,ASSEMBLY	CB2230		X	X	X	PRA,CB2230,DT000002 25487 V20	YES
<input type="checkbox"/>									
<input type="checkbox"/>									
MODIFICATION CONTENT									
	DATE	RESPONSIBLE						NAME	DATE
	2018/08/02	GIBELA NEW CREATION						Philip Marques	2018/08/02
								CHECKER	2018/08/02
								COMPIER	2018/08/02
								APPROVER	30/5/2018
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager					CHECKER	Nodzo Pindela	30/5/2018
							REVISOR BY	Nodzo Pindela	30/5/2018
							APPROVER	Amogelang Modiba	2018/05/07
2	2018/05/07	Certain dimensional checks moved to CB1230					CHECKER	Nodzo Pindela	2018/05/07
							REVISOR BY	Ramphane Motema	2018/05/07
							APPROVER	Amogelang Modiba	24/01/2019
							CHECKER	Nodzo Pindela	24/01/2019
5	24/01/2019	As per Baseline 10.1					REVISOR BY	Vanessa Rutli	24/01/2019
							APPROVER	Imvumelo Modiba	19/03/2019
							CHECKER	Nodzo Pindela	19/03/2019
6	13/03/2019	Adder Twist and Door Bracket Measurements Remove Door Measurements					REVISOR BY	Nodzo Pindela	13/03/2019
							APPROVER	Imvumelo Modiba	23/08/2019
							CHECKER	Nodzo Pindela	23/08/2019
10	23/08/2019	New Baseline 10.2.5					REVISOR BY	Nodzo Pindela	23/08/2019
							APPROVER	Timothy Maimela	06/08/2020
							CHECKER	Bongane Masina	
15	06/08/2020	New Baseline 10.3.6					REVISOR BY	Bongane Masina	
							APPROVER	Timothy Maimela	15/04/2021
							CHECKER	Bongane Masina	
20	19/04/2021	New Baseline change 10.3					REVISOR BY	Bongane Masina	
							APPROVER	Collins Mkhombhi	20/02/2022
							CHECKER	Andani Muthelo	
25	20/02/2022	New Baseline change 10.3.1					REVISOR BY	Andani Muthelo	
							APPROVER	Collins Mkhombhi	14/06/2022
							CHECKER	Andani Muthelo	
26	14/06/2022	Update minimum temperature requirement for sealant application					REVISOR BY	Andani Muthelo	
							APPROVER	Collins Mkhombhi	28/07/2022
							CHECKER	Andani Muthelo	
27	28/07/2022	Threshold measurements addition					REVISOR BY	Andani Muthelo	
							APPROVER	Collins Mkhombhi	17/10/2022
							CHECKER	Nodzo Zwane	
28	17/10/2022	Added traceability of sealant application					REVISOR BY	Amogelang Motlhampe	
							APPROVER	Vanessa Rutli	14/04/2023
							CHECKER	Nodzo Zwane	
29	14/04/2023	Added sealant batch number & welding consumables traceability					REVISOR BY	Amogelang Motlhampe	
							APPROVER	Ngoqeni Tyson	06/11/2023
							CHECKER	Andani Muthelo	
30	06/11/2023	Added threshold traceability for boiler makers and welders					REVISOR BY	Nodzo Zwane	
TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER				PAGES	
230	MT	Zandile Mkhombi	05/08/22	SI,CB2230.256.V29				12	



CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.  
30  
Date  
06/11/2023

Project: PRASA  
SI.CB2230.256.V29

Car:

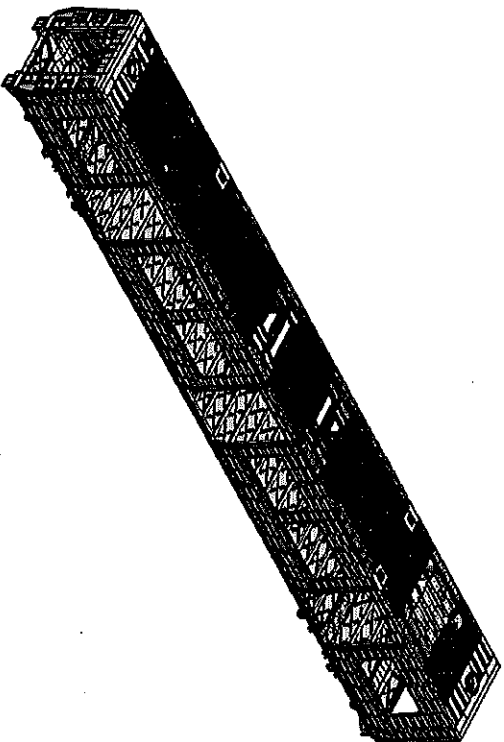
NCR:

Work station:

CB2230



Safety Related



### 1 - Documentation and Instruments Control

#### 1.1 - Documentation Control

Document	Type of car				Revision	Observation	OK	YES	NO	Signature/Date (Operations)	Signature/Date (Quality)
	M1	M2	M3	M4							
PRA.CB2230.DT00000225487					30		X			N/A	25/03/24 25/03/24

#### 1.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process						
Instruments	Serial number	Calibration or Verification Validation Date	OK	NO	Signature/Date (Operations)	Signature/Date (Quality)
Tilulala	72615	2024/10/11	X		<del>25/03/24</del>	<del>25/03/24</del>
Combination Square	GIB5037	2024/10/11	X		<del>25/03/24</del>	<del>25/03/24</del>
Tape Measurement	GIB1A3P	2024/04/08	X		<del>25/03/24</del>	<del>25/03/24</del>

#### 1.3 Consumables

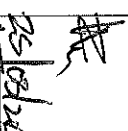
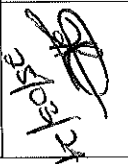
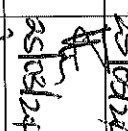

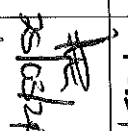
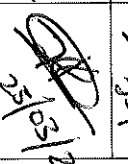
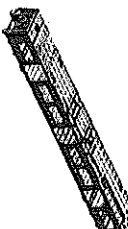
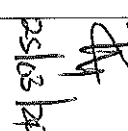

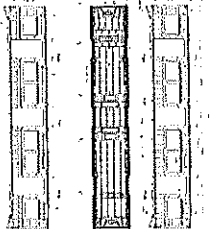
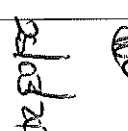

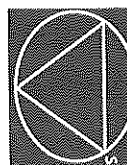


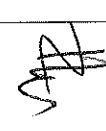

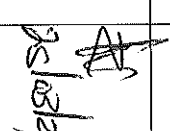
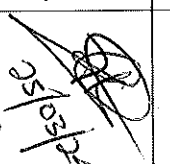
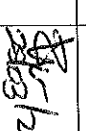

Welding Consumable Control - Used for Special Process						
Filler Material	Heat Number	Welding Process	OK	NO	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 LS1	E231061	MIG	X		<del>25-103/24</del> 25-103/24	<del>25-103/24</del> 25-103/24

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## II - Self Inspection - Items to Check

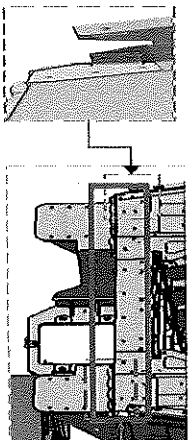
### II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NO	Record	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	<input checked="" type="checkbox"/>	<input type="checkbox"/>		 25/03/24	 25/03/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	<input checked="" type="checkbox"/>	<input type="checkbox"/>		 25/03/24	 25/03/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	<input checked="" type="checkbox"/>	<input type="checkbox"/>		 25/03/24	 25/03/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	<input checked="" type="checkbox"/>	<input type="checkbox"/>		 25/03/24	 25/03/24
05		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		 25/03/24	 25/03/24
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 fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	<input checked="" type="checkbox"/>	<input type="checkbox"/>		 25/03/24	 25/03/24
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 (1) Min-Max 10°C - 35°C Relative humidity Min - Max (1) 25%- 80%	Sealant Ref: 20014352 No: 04724 Exp Date: 04/24 Actuals Temperature: 30°C Humidity: 37%	<input checked="" type="checkbox"/>	<input type="checkbox"/>		 25/03/24	 25/03/24
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	<input checked="" type="checkbox"/>	<input type="checkbox"/>		 25/03/24	 25/03/24
09	N/A	Verification of sealant application in certain regions in the drawing.	AA00000225487	<input checked="" type="checkbox"/>	<input type="checkbox"/>		 25/03/24	 25/03/24

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

**END 2 SEALANT**

**AREA 1**



OPERATOR  
(Name & sign):

Leroy *[Signature]*

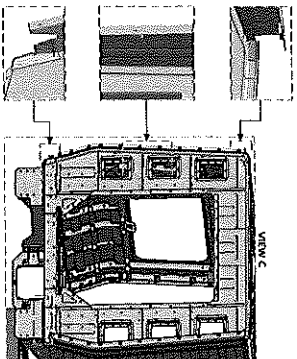
OPERATOR  
(Name & sign):

Leroy *[Signature]*

OPERATOR  
(Name & sign):

Leroy *[Signature]*

**AREA 2 (VIEW C)**



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

Operator (Name & sign): E.H.I <sup>LHS</sup>

H.I.E <sup>RHS</sup>

Operator (Name & sign): Ishenole

Ishenole

Operator (Name & sign): Ishenole

Ishenole

Operator (Name & sign): Sinle

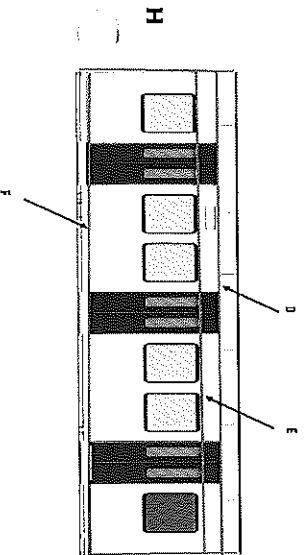
Sinle

Operator (Name & sign): [Signature]

[Signature]

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

\_\_\_\_\_

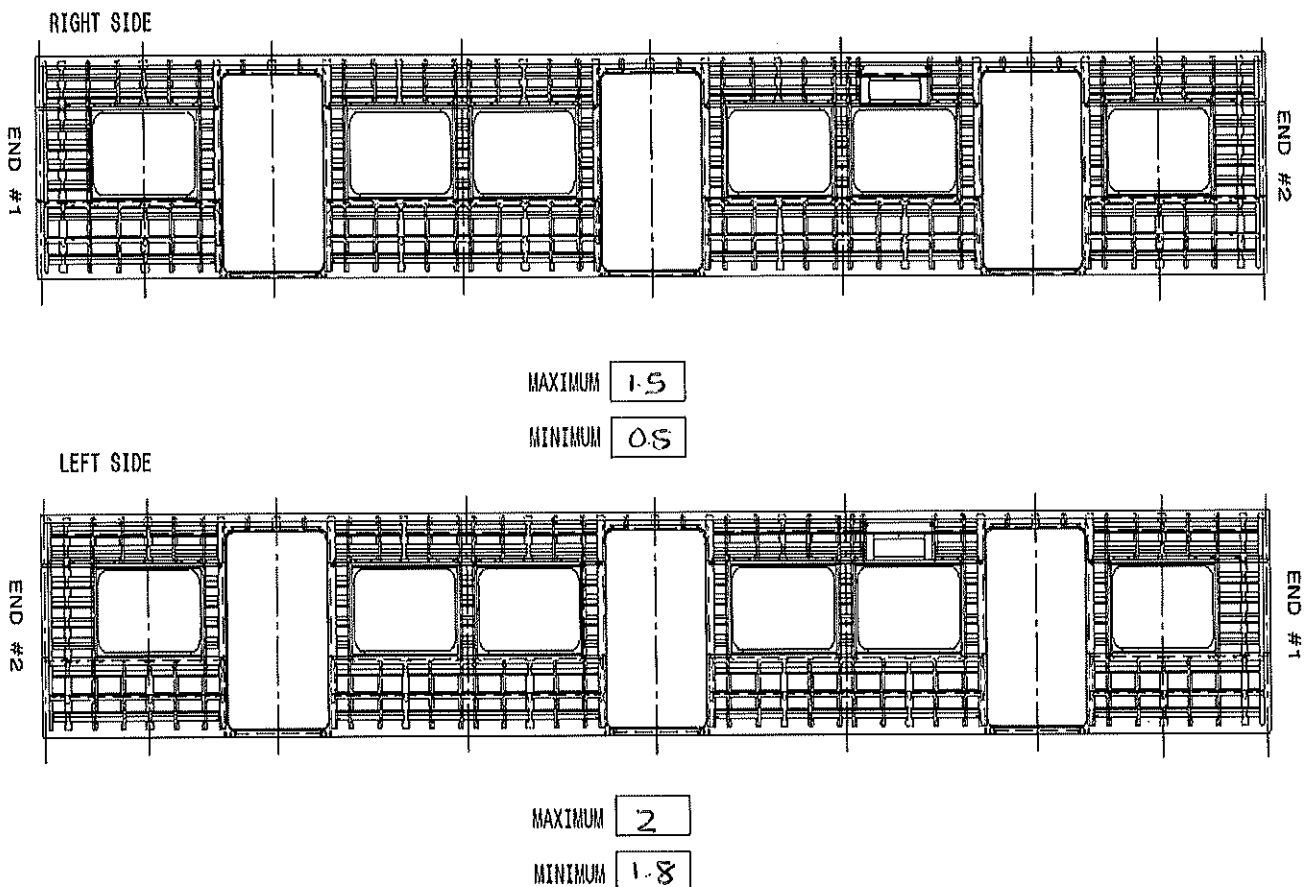


[illegible]



**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 foundand indicate the corresponding region.





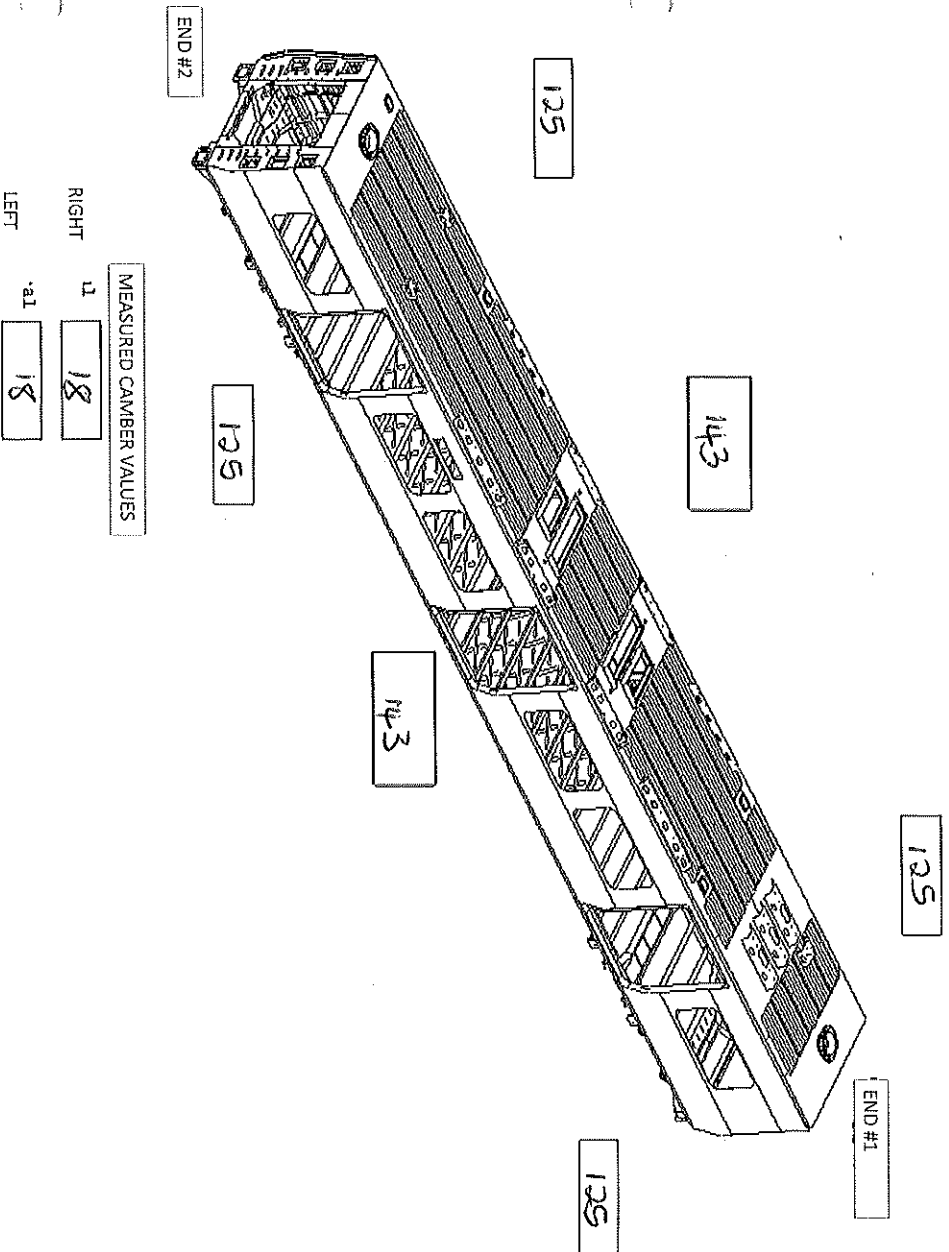
CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487


Rev.	30
Date	06/11/2023


Project: PRASA  
SI.CB2230.256.V29

Specifications of Details for CBS measurement CB1230

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

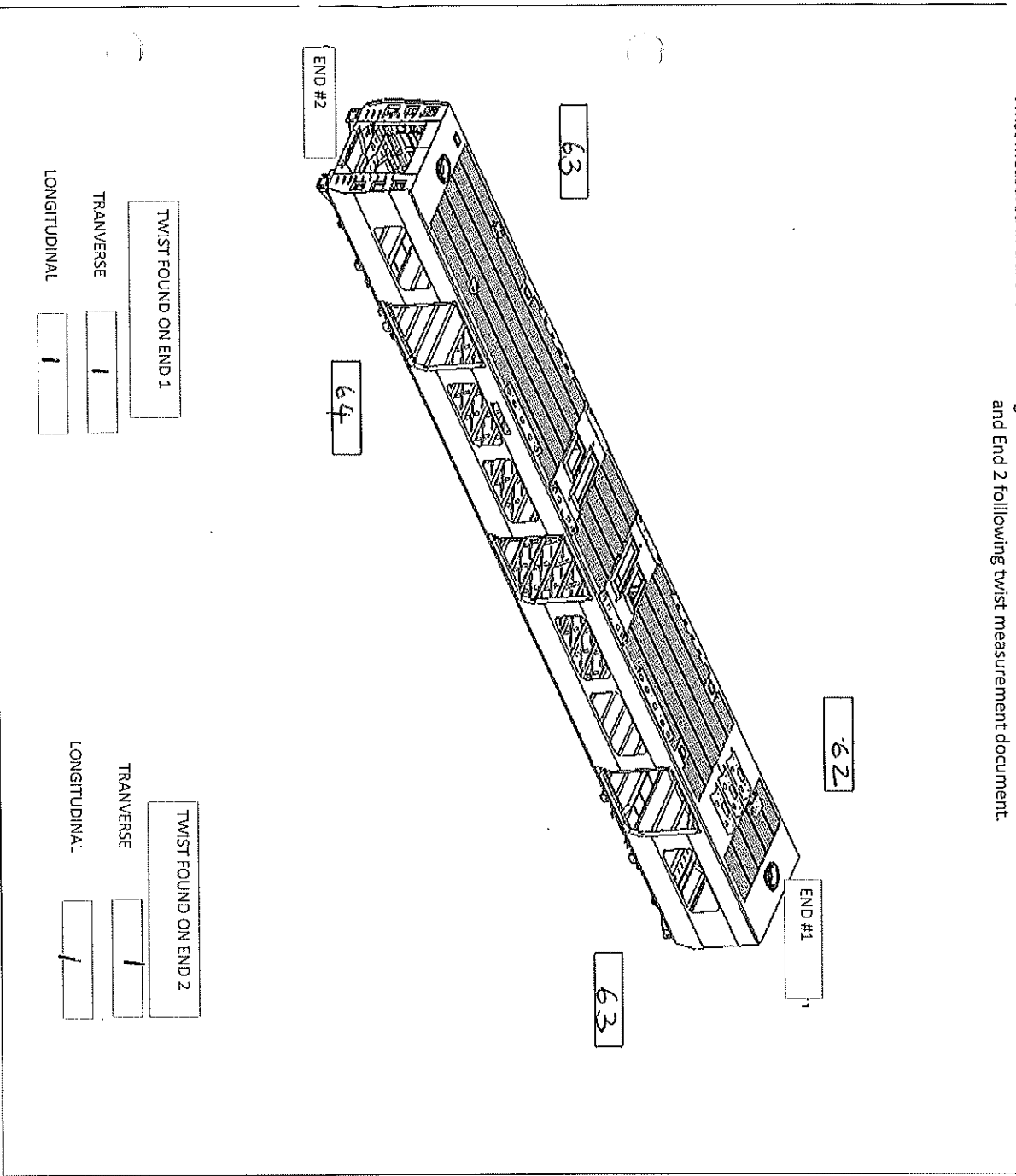



  
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		Date 09/11/2023	

Specifications of Details for CBS measurement CB1230

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

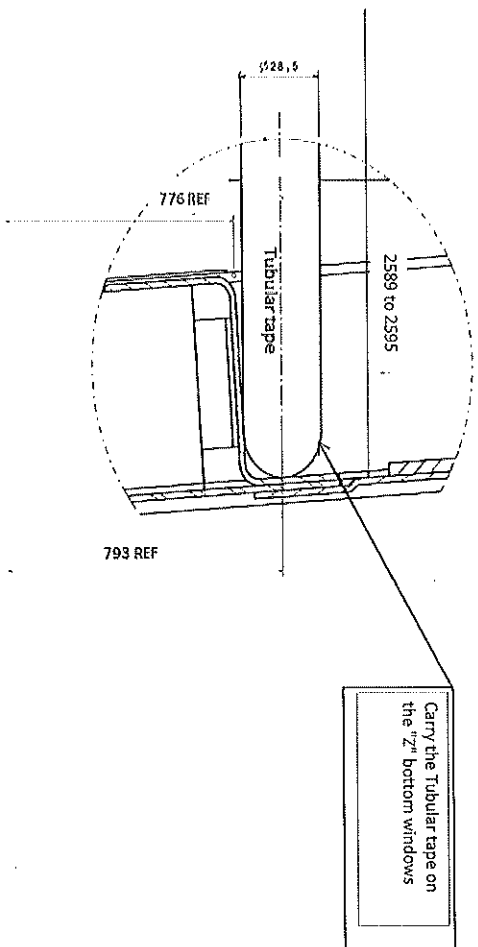



  
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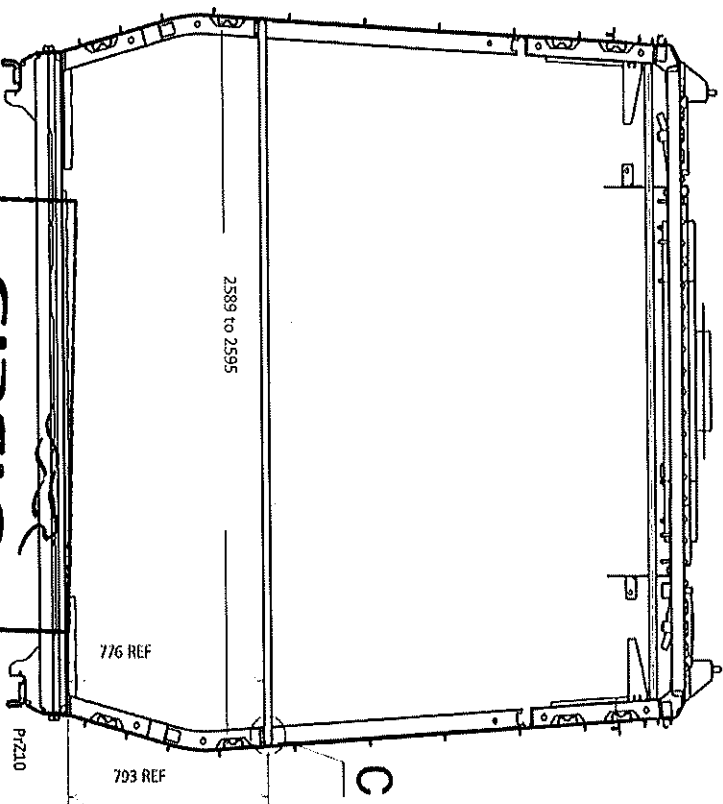
1

100

Specifications of Details for CBS measurement CB1230

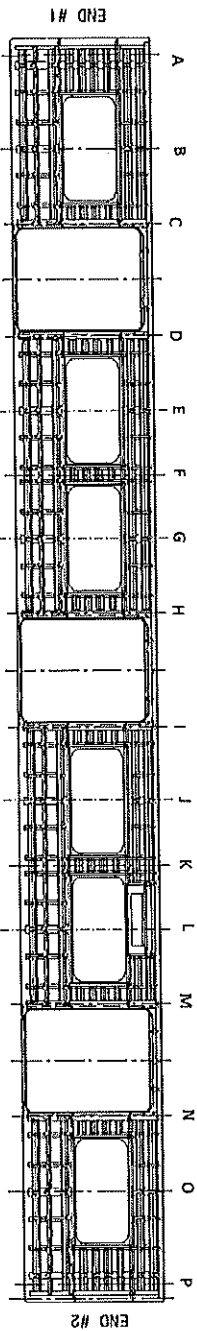


Detail C

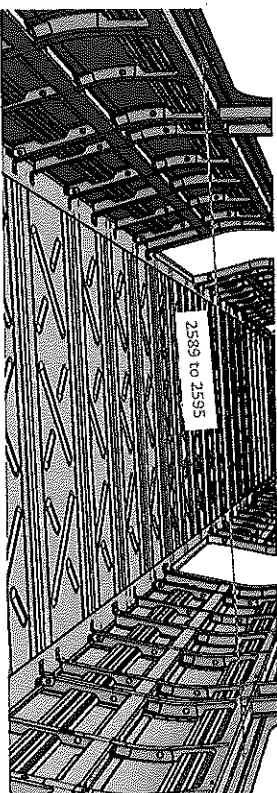


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Specifications of Details for CBS measurement CB1230



2589 to 2595mm
A 2593
B 2892
C 2889
D 2893
E 2891
F 2895
G 2893
H 2894
I 2894
J 2889
K 2897
L 2897
M 2893
N 2895
O 2893
P 2894



Threshold verification

		Nominal value :38	
Door 1		Door 2	Door 3
L	R	L	R
38	38	39	38
Door 4		Door 5	Door 6
L	R	L	R
38	38	39	38

BOILER MAKER

Tehogo ~~Thelane~~

WELDER:

Ketumetse, Keno K. (K. K.)

Dye-penetration test to be performed by quality personnel



Dye penetrant test

**GIBELCO**

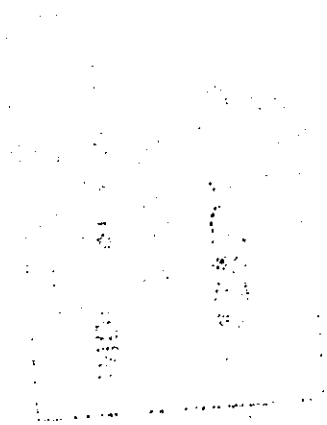
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 <b>GIBELQ</b>	<b>CARBODYSHELL M1,M3,M4 ASSEMBLY</b> DT00000225487		Rev. 30	Project: <b>PRASA</b>
			Date 06/11/2023	<b>SI.CB2230.256.V29</b>

Self Inspection - Final Result

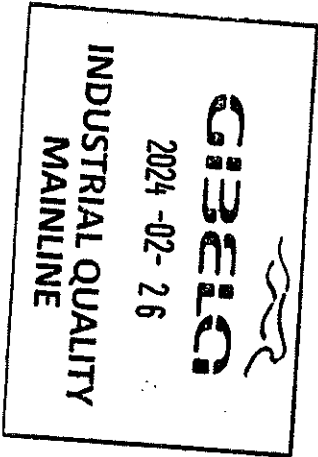
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)		DATE	NAME	SIGNATURE
HOLD POINT	GO	26/03/24	Zonele <small>Operations</small>	
		25/03/24	Amp <small>Industrial Quality</small>	
	NO GO		<small>Operations</small>	
<small>(If activities are not complete, the missing activities must not impact the next stage)</small>				
<small>Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)</small>				
<small>There are activities pendings that impactstop the activities of the next process Ops: (To describe problems below)</small>				
<small>There are non-conformities impact the quality of the product and there is no corrective action defined yet)</small>			<small>Industrial Quality</small>	

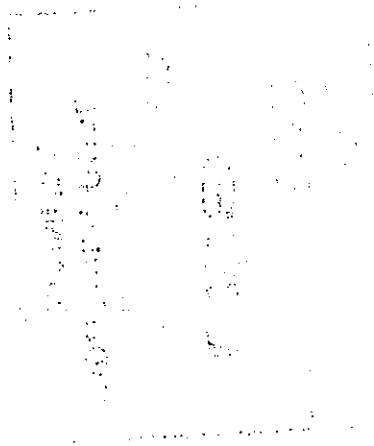
In case of "NO GO", describe blocking problems


In case of "NO GO", the operations manager must define below action plan to ensure "GO":				
Item	Description	Responsible	Due date	Status

Operations

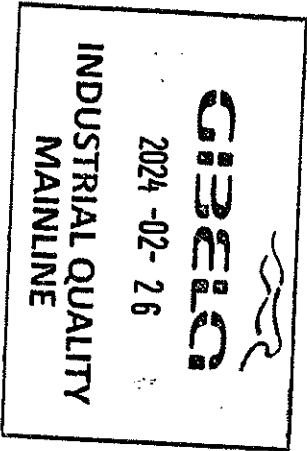
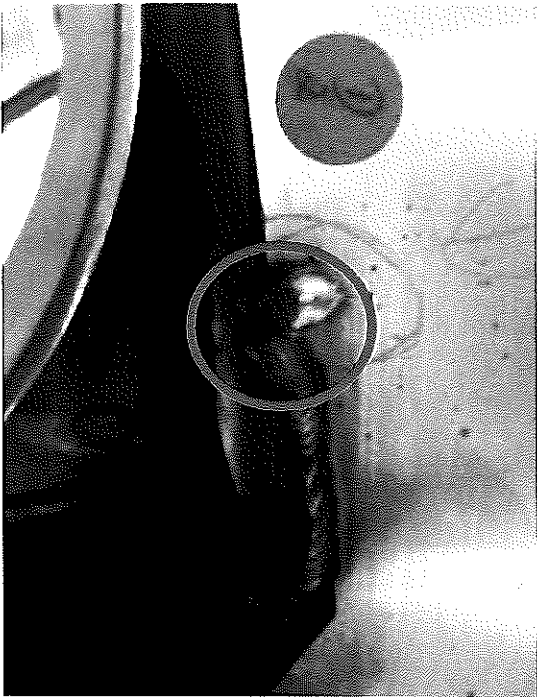
Quality






			
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DT00000225487		30	
		Date	SI.CB2230.256.V29
		06/11/2023	

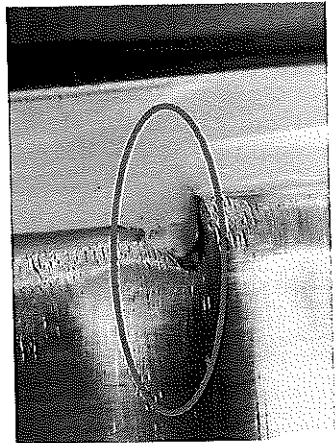
**ANNEXURE A: Arc Welding Quality Acceptance Standard**






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

ANNEXURE B: Sealant




  
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