



PRASA PROJECT

APPLICABLE FROM TRAINSET 100+ AS PER BASELINE 10.3.1

## SELF INSPECTION SHEET

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

APPLICATION REFERENCE											
MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE					WORK INSTRUCTION	SAFETY ?	
				TC	M1	M2	M3	TC			
1	DTB0223487/3	CARBODYSHELL M1 ASSEMBLY	CB1210						PR1-CB1210.DTB0225 487/3.V25	YES	
<input type="checkbox"/>											
REV	DATE	MODIFICATION CONTENT							RESPONSIBLE	NAME	DATE
0	10/01/2018	GIBELA NEW CREATION							APPROVER	Izumeleng Modiba	10/01/2018
									CHECKER	Nosizo Pindela	10/01/2018
									COMPLIER	Thangeni Mathegu	10/01/2018
									APPROVER	Izumeleng Modiba	2018/05/18
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PVE Manager to Quality manager							CHECKER	Nosizo Pindela	2018/05/18
									REVISED BY	Ramokone Motema	2018/05/18
									APPROVER	Izumeleng Modiba	2018/07/04
									CHECKER	Nosizo Pindela	2018/07/04
2	2018/07/04	Certain dimensional checks moved to CB1220 and CB1230							REVISED BY	Ramokone Motema	2018/12/12
									APPROVER	Izumeleng Modiba	2018/12/12
3	2018/12/12	Added dimensional check points to CB1210							CHECKER	Nosizo Pindela	2018/12/12
									REVISED BY	Ramokone Motema	2018/12/12
									APPROVER	Izumeleng Modiba	22/01/2019
5	22/01/2019	As per Baseline 10.2							CHECKER	Nosizo Pindela	22/01/2019
									REVISED BY	Vanessa Ntuli	22/01/2019
									APPROVER	Izumeleng Modiba	13/03/2019
									CHECKER	Nosizo Pindela	13/03/2019
									REVISED BY	Nosizo Pindela	13/03/2019
6	13/03/2019	Added D1 and D2 on Self - Inspection							APPROVER	Izumeleng Modiba	21/08/2019
									CHECKER	Nosizo Pindela	21/08/2019
									REVISED BY	Izumeleng Modiba	21/08/2019
10	21/08/2019	New Baseline 10.2.5							APPROVER	Nosizo Pindela	21/08/2019
									CHECKER	Nosizo Pindela	21/08/2019
									REVISED BY	Nosizo Pindela	21/08/2019
15	06/08/2020	New Baseline 10.2.6							APPROVER	Timothy Mairnela	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 Mairnela	19/04/2021
									CHECKER	Bongane Masina	19/04/2021
									REVISED BY	Bongane Masina	19/04/2021
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING							APPROVER	Mbhombi Collins	17/08/2021
									CHECKER	Mpho Mulaudzi	17/08/2021
									REVISED BY	Mpho Mulaudzi	17/08/2021
25	19/02/2022	New Baseline change 10.3.1							APPROVER	Mbhombi Collins	19/02/2022
									CHECKER	Andani Muthelo	19/02/2022
									REVISED BY	Andani Muthelo	19/02/2022
26	14/04/2023	Addition of welding consumable traceability							APPROVER	Ntuli Vanessa	14/04/2023
									CHECKER	Mohlamepe Amogelang	14/04/2023
									REVISED BY	Mohlamepe Amogelang	14/04/2023
27	27/07/2023	Added verification of loaded parts							APPROVER	Ngojeni Tyson	27/07/2023
									CHECKER	Zwane Ntokoza	27/07/2023
									REVISED BY	Mohlamepe Amogelang	27/07/2023
28	07/11/2023	Addition of welding traceability							APPROVER	Ngojeni Tyson	07/11/2023
									CHECKER	Andani Muthelo	07/11/2023
									REVISED BY	Ntokoza Zwane	07/11/2023
TRAINSET	CAR	OPERATOR NAME& ALPS NO		DATE		SELF INSPECTION NUMBER			PAGES		
220	N1	Geezard / 626957		22/03/24		SI-CB1210.254.V28			17		

**GIBELG**

CARBODYSHELL M1 ASSEMBLY DTR30225487/3

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

Car: M1

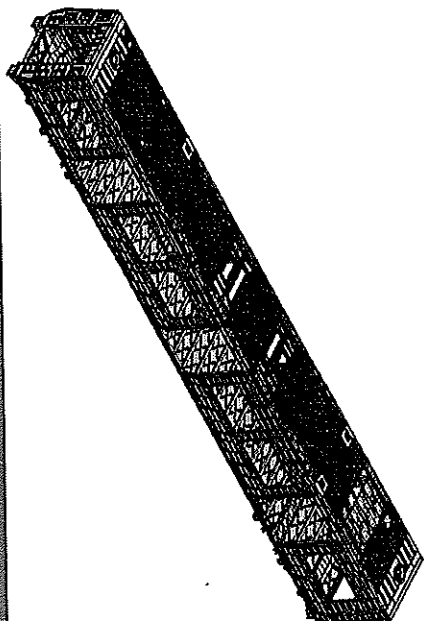
NCB:

Work station:

CB1210



Safety Related



### I - Documentation and Instruments Control

#### I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	101	M	M	N	102					
DTR30225487/3						28		✓	07/01/2023	07/01/2023

#### 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)
Tubular laser scope	32823-2	15/09/23	✓	07/01/2023	07/01/2023
laser scope	1254 25424	08/01/23	✓	07/01/2023	07/01/2023
30m scope	G187P0102	15/11/24	✓	07/01/2023	07/01/2023

#### I.3 Consumables

Welding Consumable Control - Used for Special Process					
Filler Material	Batch Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
EE 308 LSi	31408 74097	MIG	✓	07/01/2023	07/01/2023
EE 308 LSi	3408 74097	MIG	✓	07/01/2023	07/01/2023
EE 308L	299 687 70722	TIG	✓	07/01/2023	07/01/2023


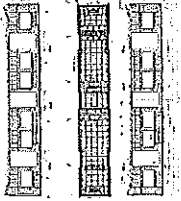


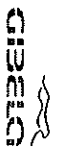
CARBODYSHELL M1 ASSEMBLY DTR30225457/3

Rev.  
28Project: PRASA  
SI.CB1210.254.V28Date  
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	Verification of correct ports loaded (Sidewalls, Endframes, Roof and Underframe)	DTD00000311225	/	4/1/24 22/3/24	22/3/24
02	N/A	Carshell free of significant flows which compromise the appearance or functionality	DTD00000210675	/	4/1/24 22/3/24	22/3/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 DTD00000210675	/	4/1/24 22/3/24	22/3/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - JTPDEF - ARC - 0000	/	4/1/24 22/3/24	22/3/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	/	4/1/24 22/3/24	22/3/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	/	4/1/24 22/3/24	22/3/24
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 complying as described in DTD00000210658.	As the welding procedure IND-SAL-WMS-018 and DTD00000210658.	/	4/1/24 22/3/24	22/3/24



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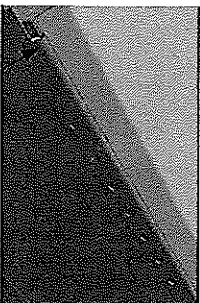
SI.CB1210.254.V28

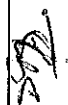

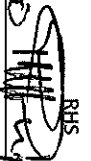

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Date

07/11/2023



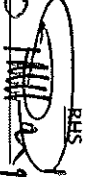
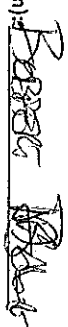
### Welder Traceability

Roof ring welds



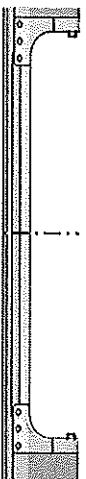
LHS	
Boiler maker (Name & Sign): <u>Jumeio</u> 	Welder (Name & Sign): <u>Robert</u> 
Boiler maker (Name & Sign): <u>Roniso</u> 	Welder (Name & Sign): <u>Robert</u> 



END 1


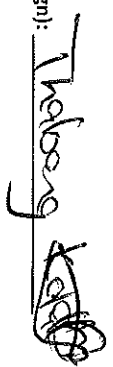
LHS	
Boiler maker (Name & Sign): <u>Jumeio</u> 	Welder (Name & Sign): <u>Robert</u> 
Boiler maker (Name & Sign): <u>Roniso</u> 	Welder (Name & Sign): <u>Robert</u> 

END 2

Door ring welds



LHS
Boiler maker (Name & Sign): <u>SEAN</u> 
Welder (Name & Sign): <u>Thelborg</u> 

RHS
Boiler maker (Name & Sign): <u>SEAN</u> 
Welder (Name & Sign): <u>Thelborg</u> 

7

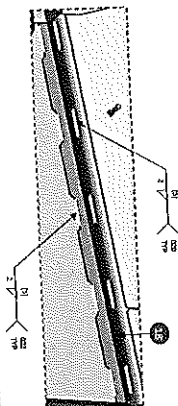
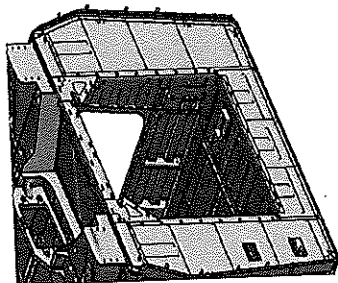


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EUF Reinforcement Plates

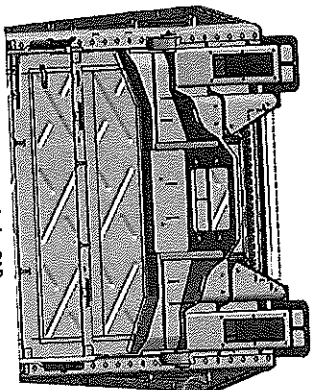


END 1

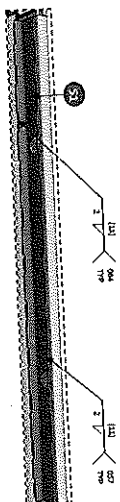
Boiler maker (Name & Sign): Immy Decker

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

END 2



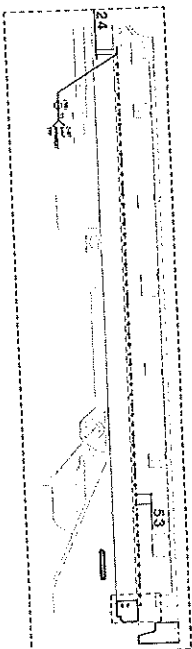
Underneath the CAR



END 2

Boiler maker (Name & Sign): Bob M. M.

Welder (Name & Sign): Marcus M.

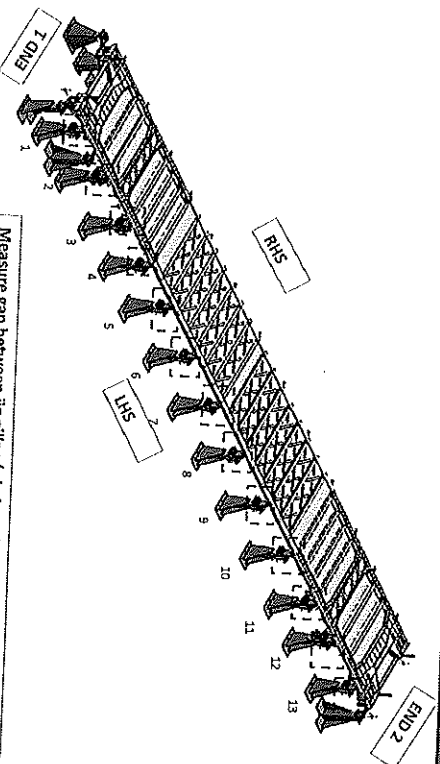


FEDOLI

OPERATOR:

Robert M.

Specifications of Details for CBS measurement



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

After loading and clamping

Fill in the gap found 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	1	0	0	0	0	0	0	0	0	0	0	0	0

Signature Operations: *[Signature]*  
Date: 22/3/24

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: 22/3/24

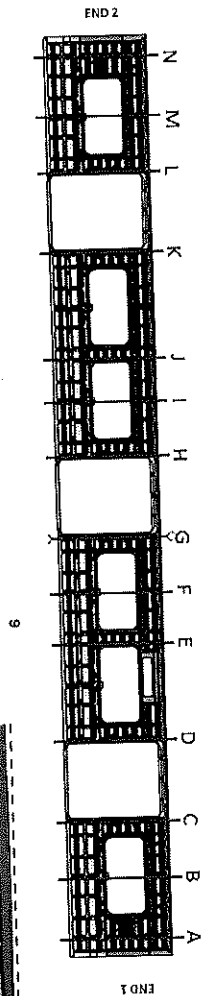


CARBODYSHELL M1 ASSEMBLY DTR30225487/3

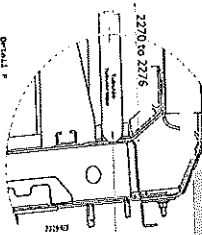
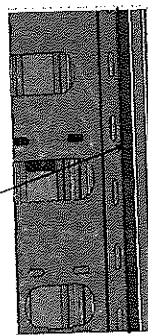
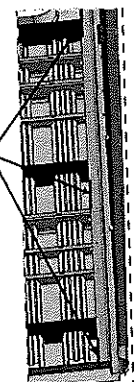
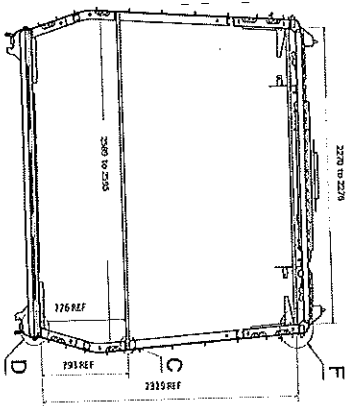
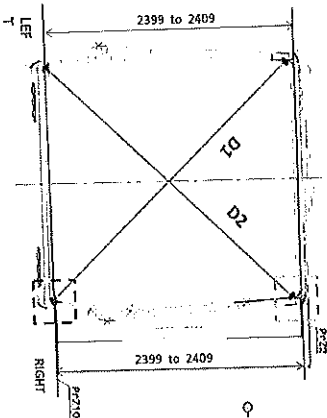
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SI.CB1210.254.V28

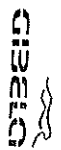
Specifications of Details for CBS measurement



9



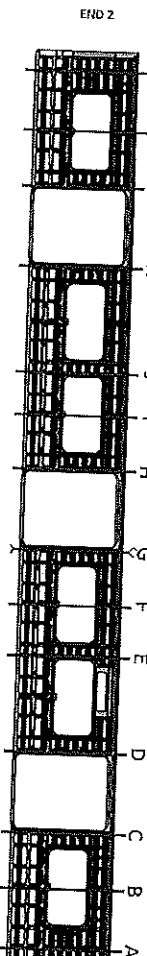
Detail 9  
Roof reinforcement area



CARBODYSHELL M1 ASSEMBLY DTR30226467/3

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Date 07/11/2023Project: PRASA  
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## Specifications of Details for CBS measurement

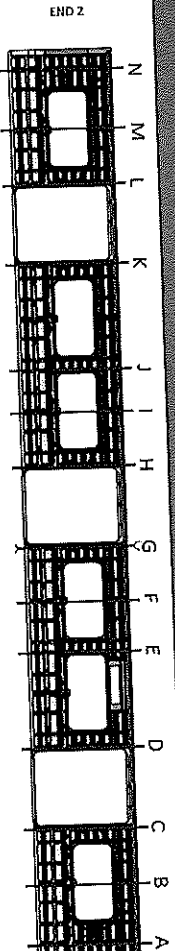
PME Column LHS - RHS should be  
≤ 2MM on each point.

## BEFORE WELDING

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



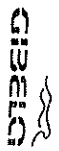
Specifications of Details for CBS measurement



PNE Column LHS - RHS should be  
≤ 2MMI on each point.

AFTER WELDING

Record D1 values		Record D2 values		D1-D2 ≤ 5mm		2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3295	3295		0		2404	2404	0
B	3268	3268		0		2406	2404	2
C	3296	3295		1		2405	2405	0
D	3296	3296		0		2404	2404	0
E	3268	3268		0		2405	2405	1
F	3266	3266		0		2405	2405	0
G	3298	3297		1		2405	2406	1
H	3297	3297		0		2406	2406	0
I	3265	3265		0		2405	2405	0
J	3266	3265		1		2405	2407	2
K	3296	3296		0		2407	2407	0
L	3297	3296		1		2405	2406	1
M	3265	3265		0		2405	2405	0
N	3295	3295		0		2406	2406	0



CARBODYSHELL M1 ASSEMBLY DTR302254873

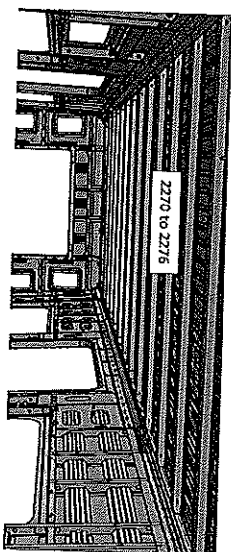
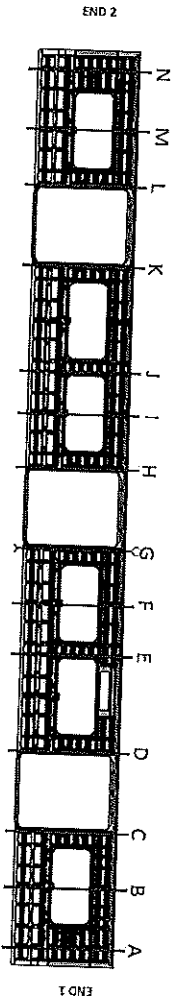
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CBS measurement

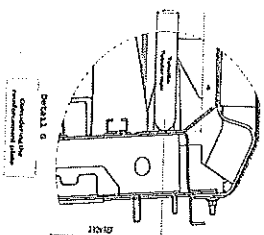
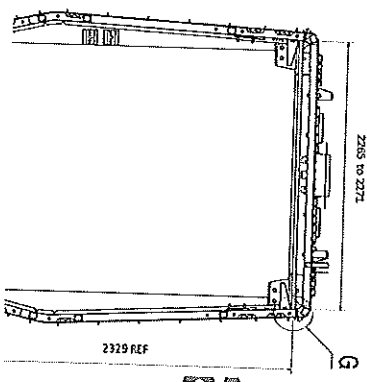
BEFORE WELDING



1990 to

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

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





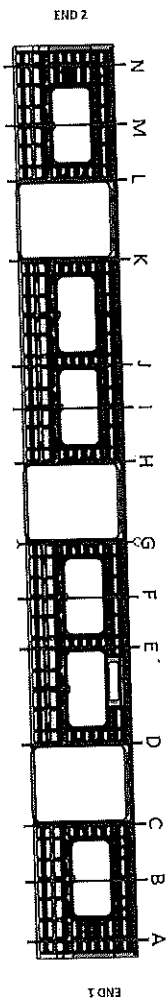
CARBOYSHELL M1 ASSEMBLY DTR302254873

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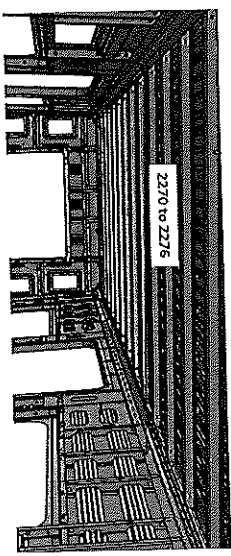
Project: PRASA  
SI.CB1210.254.V28

CBS measurement

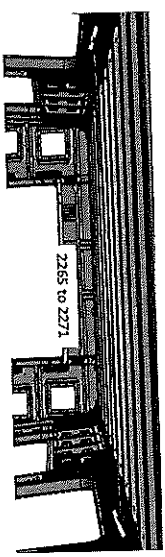
AFTER WELDING



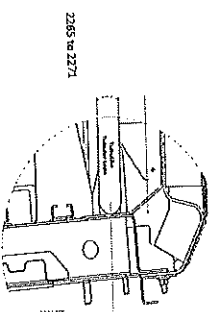
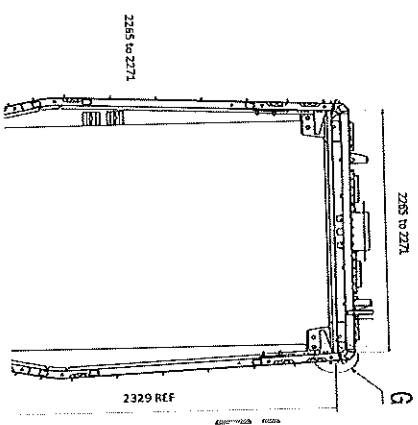
	2265 to 2271	2270 to 2276
A	2271	N/A
B	N/A	2275
C	2269	N/A
D	2270	N/A
E	N/A	2274
F	N/A	2275
G	2271	N/A
H	2270	N/A
I	N/A	2276
J	N/A	2275
K	2270	N/A
L	2269	N/A
M	N/A	2276
N	2270	N/A



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

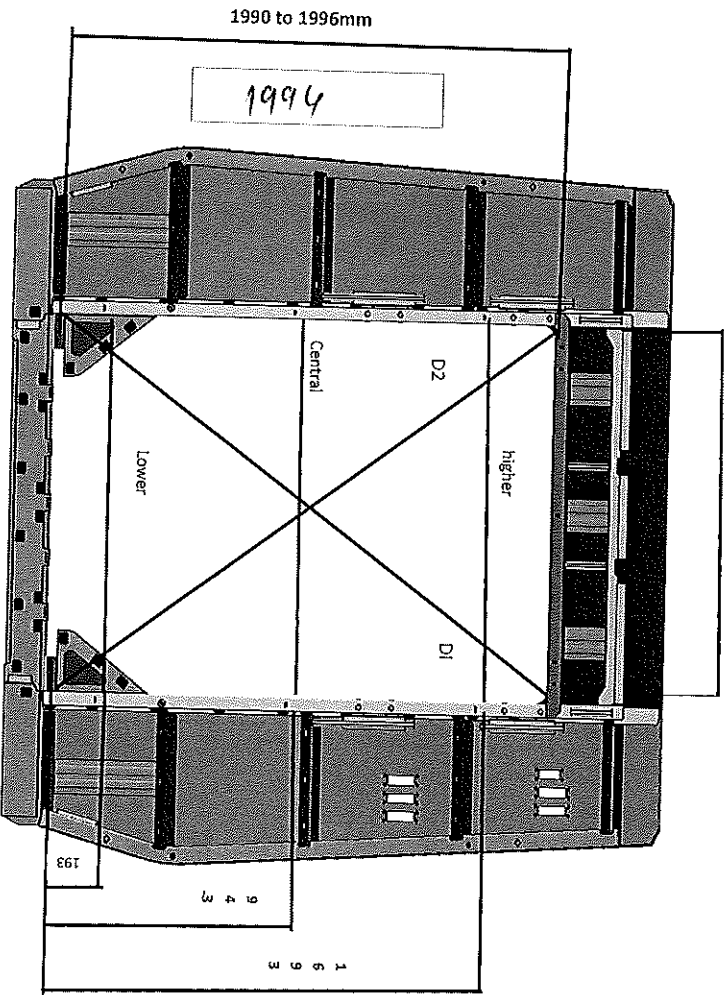


Take measurement close to radius (considering reinforcement)



Specifications of Details for CBS measurement

End frame 1



1380 to 1382 mm

DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension

1380

D1

2616

Central Dimension

1380

D2

2616

Lower Dimension

1381

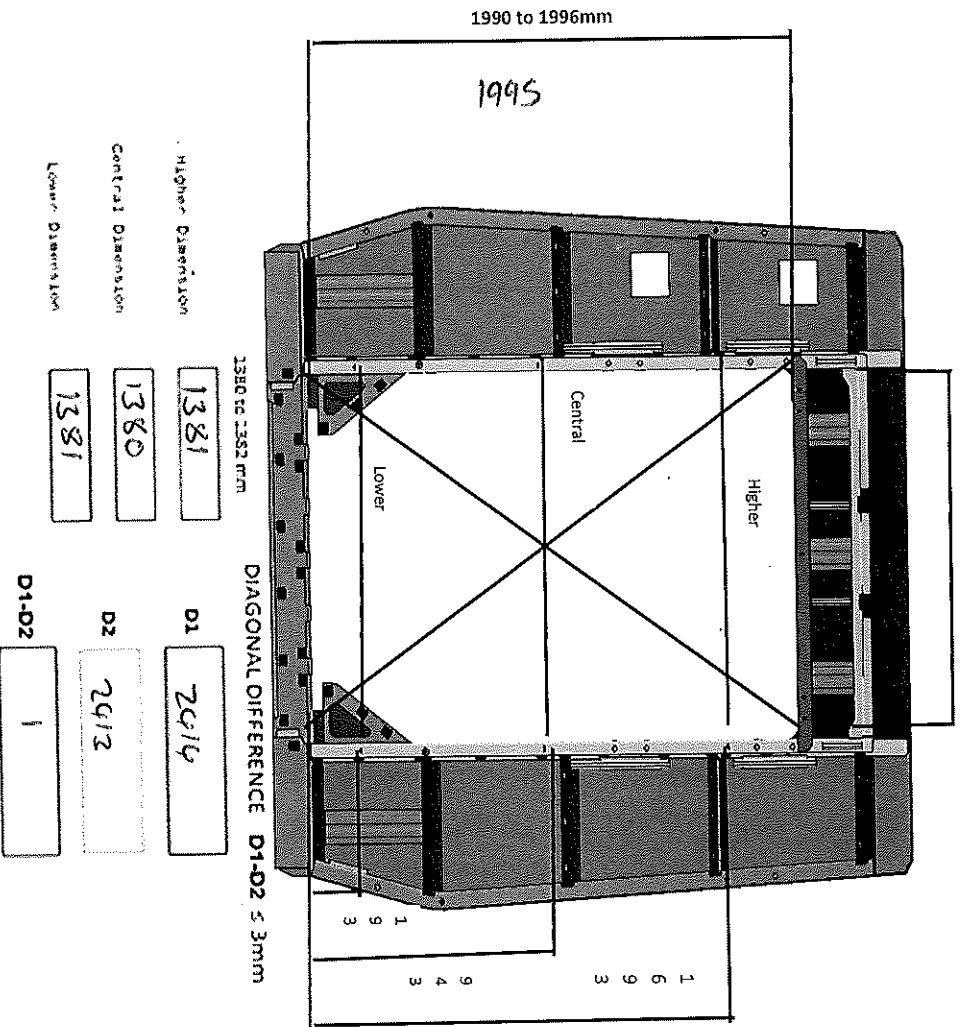
D1-D2

0

### Specifications of Details for CBS measurement

## Endframe 2

1380 to 1382 mm

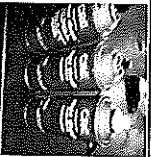


LEFT SIDE	
SPECIFICATION SIZE	ACTUAL SIZE
1A 20632 - 20614	20613

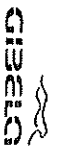
RIGHT SIDE	
SPECIFICATION SIZE	ACTUAL SIZE
1A 20652 - 20614	20612

**Dye-penetration test to be performed by quality personnel**

## Dye penetrant test



[illegible]



CARBOYSHELL M1 ASSEMBLY DTR30225487/3

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Project: PRA3A  
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Self Inspection - Final Result

					DATE	NAME	SIGNATURE
HOLD POINT		GO					
				(If activities are not completed, the missing activities must not impact the next step(s))	22/3/20	Cerezo	P. Mulet
				Every date inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)		Operations	
				There are activities pending that impacting the activities of the next process step. (To describe problems below)	22/03/20	N. Moreno	
					There are non-conformities impact the quality of the product and there is no corrective action defined yet!		
						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

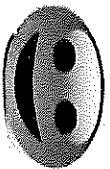
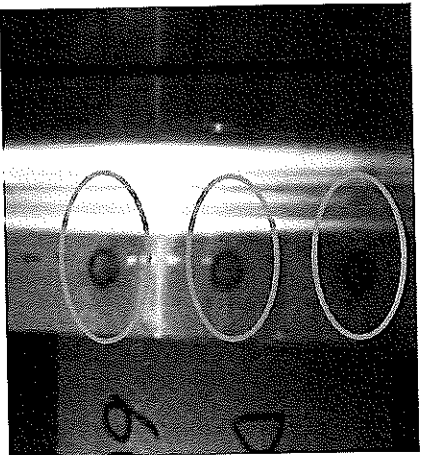
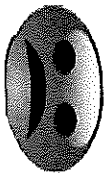
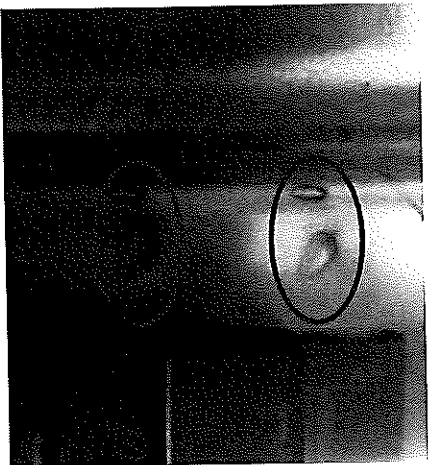
Operations

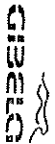
Quality



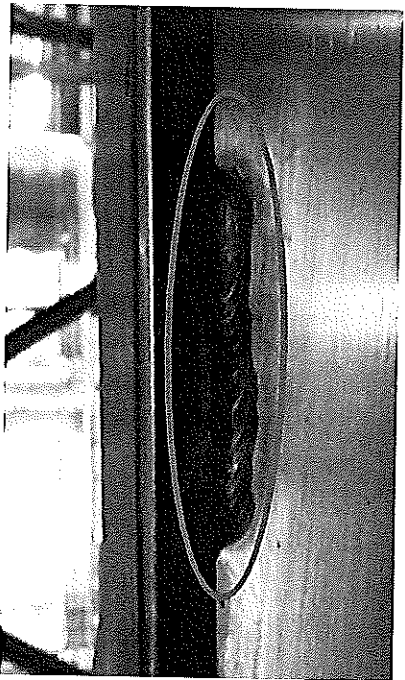
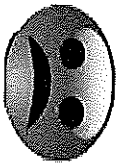
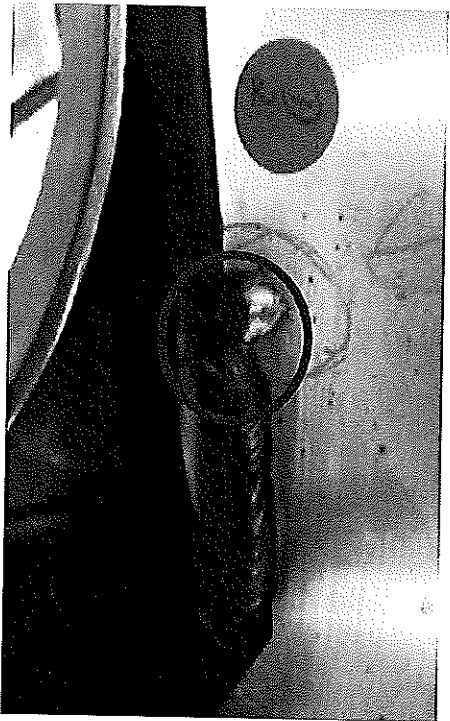
GIBELG	CARBODYSHELL M1 ASSEMBLY DTR302294873	Rev. 28	Project: PRASA SI.CB1210.254.V28
		Date 07/11/2023	



ANNEXURE A: Spot Welding Quality Acceptance Standard



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

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



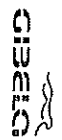



APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

## 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									
ITEMING	DRAWING	DESCRIPTION	STATION	CAR TYPE				WORK INSTRUCTION	SAFETY
				TCL	MA	ME	MC		
<input type="checkbox"/>	DT802548/2	CARBODY/VEL NO JOINT ASSEMBLY	CH220		X	<input checked="" type="checkbox"/>	X	PR.CB1220.DTS022548 7/2/21	YES
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
REV	DATE	MODIFICATION CONTENT				RESPONSIBLE		NAME	DATE
0	02/02/2018	GIBELA NEW CREATION				APPROVER		Iumeleng Modiba	01/02/2018
						CHECKER		Nosizo Pholela	01/02/2018
						COMPLER		Thanyani Mathegu	01/02/2018
						APPROVER		Iumeleng Modiba	18/05/2018
						CHECKER		Nosizo Pholela	18/05/2018
						REVISED BY		Ramokone Moxama	18/05/2018
						APPROVER		Iumeleng Modiba	2018/07/05
						CHECKER		Nosizo Pholela	2018/07/05
						REVISED BY		Ramokone Moxama	2018/07/05
						APPROVER		Iumeleng Modiba	2018/06/12
						CHECKER		Nosizo Pholela	2018/06/12
						REVISED BY		Nosizo Pholela	2018/06/12
						APPROVER		Iumeleng Modiba	24/01/2019
						CHECKER		Nosizo Pholela	24/01/2019
						REVISED BY		Vanessa Ntuli	24/01/2019
						APPROVER		Iumeleng Modiba	13/03/2019
						CHECKER		Nosizo Pholela	13/03/2019
						REVISED BY		Nosizo Pholela	13/03/2019
						APPROVER		Iumeleng Modiba	22/08/2019
						CHECKER		Nosizo Pholela	22/08/2019
						REVISED BY		Nosizo Pholela	22/08/2019
						APPROVER		Timothy Maimela	06/08/2020
						CHECKER		Bangane Masina	06/08/2020
						REVISED BY		Bangane Masina	06/08/2020
						APPROVER		Mkhomo Collins	17/08/2021
						CHECKER		Mpho Mlawuli	17/08/2021
						REVISED BY		Mpho Mlawuli	17/08/2021
						APPROVER		Mkhomshi Collins	19/02/2022
						CHECKER		Andani Mathole	19/02/2022
						REVISED BY		Andani Mathole	19/02/2022
						APPROVER		Mkhomshi Collins	14/06/2022
						CHECKER		Andani Mathole	14/06/2022
						REVISED BY		Andani Mathole	14/06/2022
						APPROVER		Mkhomshi Collins	17/10/2022
						CHECKER		Nosizo Zwane	17/10/2022
						REVISED BY		Amogelang Mofahame	17/10/2022
						APPROVER		Vanessa Ntuli	14/04/2023
						CHECKER		Nosizo Zwane	14/04/2023
						REVISED BY		Amogelang Mofahame	14/04/2023
						APPROVER		Ngotho Tyson	28/10/2023
						CHECKER		Nosizo Zwane	28/10/2023
						REVISED BY		Amogelang Mofahame	28/10/2023
TRAINSET	CAR	OPERATOR NAME & ALPS NO	DATE	SELF INSPECTION NUMBER				PAGES	
220	M1	Mabeha 40041	30/03/24	SI.CB1220.250.V29				14	



CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR30225487/2

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

Car: M1,M3,M4

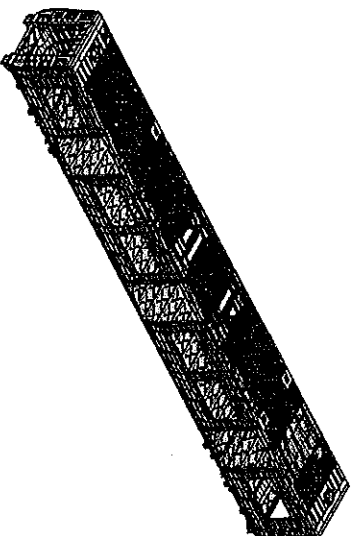
NCR:



Safety Related

Work station:

CB1220



### I - Documentation and Instruments Control

#### I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	I.01	I.02	I.03	I.04	I.05					
DTR30225487/2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<input checked="" type="checkbox"/>	N/A	Mark 28/10/2023

#### 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)
Manubr	22823-3	15/03/2025	<input checked="" type="checkbox"/>	Mark 28/10/2023	
Measuring tape	916740387	05/04/2024	<input checked="" type="checkbox"/>	Mark 28/10/2023	

#### 1.3 Consumables

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

Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Feuber 1308 1.0mm	E231667	M16	<input checked="" type="checkbox"/>	Mark 28/10/2023	

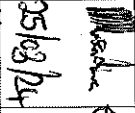
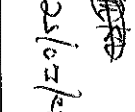
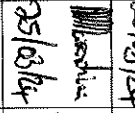
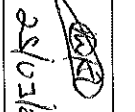
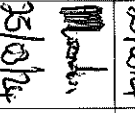
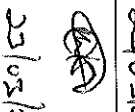

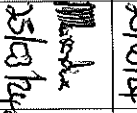
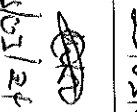
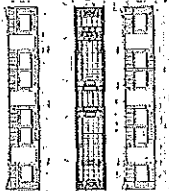

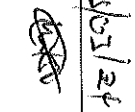

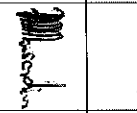
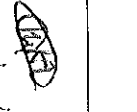
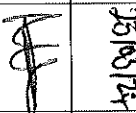
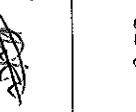
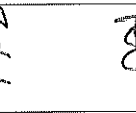
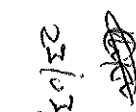

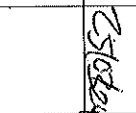
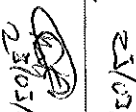


CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR30225487/2

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II - Self inspection - Items to Check

II.1 - Items to check

Item	Picure/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Assembly according to instruction Engineering n° PRA.CB1220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	PRA.CB1220.DTR30225487/2	<input checked="" type="checkbox"/>	 25/03/24	 25/03/24
02	N/A	Cantilever free of significant flaws which compromise the appearance or functionality	DTD0000210675	<input checked="" type="checkbox"/>	 25/03/24	 25/03/24
03	REFER TO ANNEXURE A	Art Welding inspected and approved according procedure.	IND.SAL.WMS-016 REFER TO GIE - TYPDEF - ARC - 0000	<input checked="" type="checkbox"/>	 25/03/24	 25/03/24
04		Cleaning of all Stainless Steel Surface	According TO GIE - WEL - PROC-0002	<input checked="" type="checkbox"/>	 25/03/24	 25/03/24
05		Functional dimensions approved according drawing or complementary document approved by Astrom engineering and registered in this document.	Approved according specified on pages below.	<input checked="" type="checkbox"/>	 25/03/24	 25/03/24
06		Perform visual inspection of welds in 20% of the project. Run by penetrant testing in electric arc welding (weel ring) as IND.SAL.WMS-016 Run by penetrant testing welds (weel ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND.SAL.WMS-016 and DTD0000210658.	<input checked="" type="checkbox"/>	 25/03/24	 25/03/24
07	N/A	Before application of sealant record the empty 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>W106C</u> Exp Date: <u>1/02/24</u> Actuals Temperature <u>25</u> Humidity: <u>45</u>	<input checked="" type="checkbox"/>	 25/03/24	 25/03/24
08	N/A	Verification of sealant application in certain regions in the drawing.	AAD00002178545	<input checked="" type="checkbox"/>	 25/03/24	 25/03/24
09		Verification of safety welds	Approved according to DTD0000210658 reference and Self inspection	<input checked="" type="checkbox"/>	 25/03/24	 25/03/24



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

II - Self Inspection - Items to Check

SEALANT APPLICATION

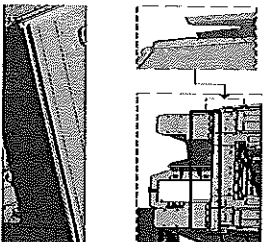
AREA 1 & 2 END 1


Operator (Name & sign):

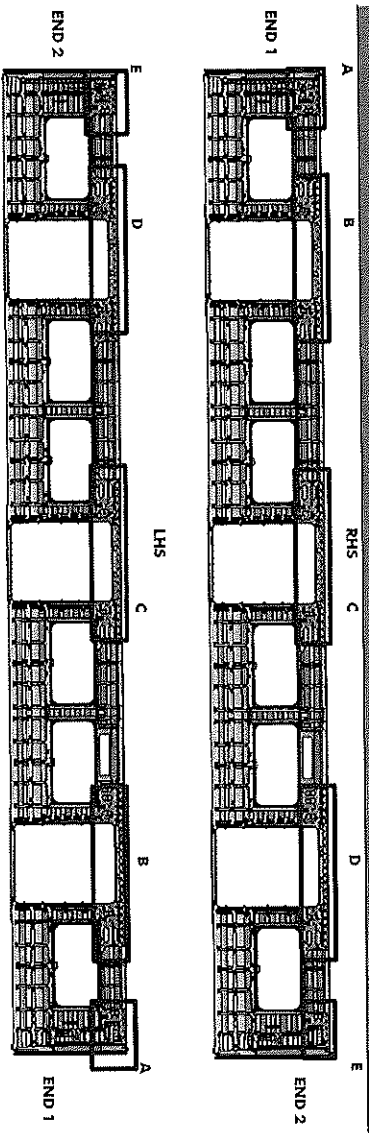
Mthelozisi

Operator (Name & sign):





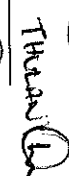




Mthelozisi




	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR3022548712		Rev. 29	Project: PRASA
	II - Self Inspection - Items to Check		Date 28/10/2023	SI.CB1220.250.V29

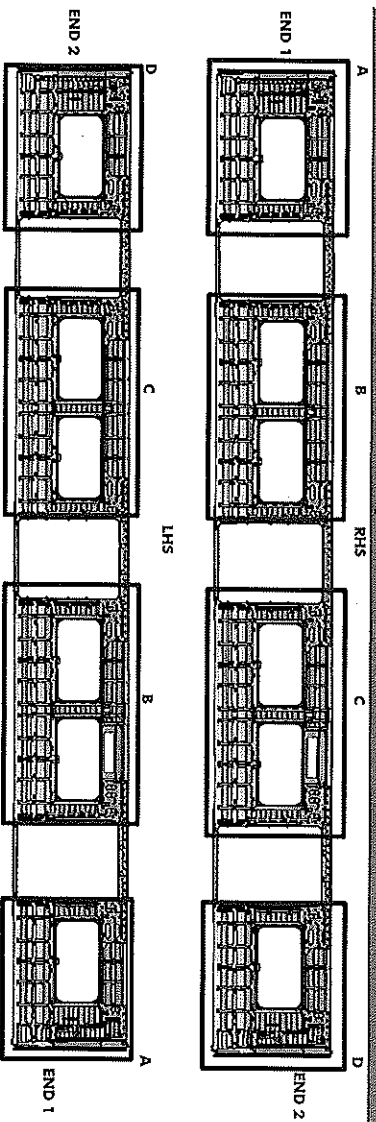


### REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>Lindo</u> 	<u>Nekulunga</u> 
B	Operator (Name&sign): <u>Lindo</u> 	<u>Natalunga</u> 
C	Operator (Name&sign): <u>Lindo &amp; Thuan</u> 	<u>Nekulunga</u> 
D	Operator (Name&sign): <u>Thuan</u> 	<u>Xolo</u> 
E	Operator (Name&sign): <u>Thuan</u> 	<u>Xolo</u>

	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR3022548712	Rev.	Project: PRASA
		29	
		Date	SI.CB1220.250.V29
		28/10/2023	

II - Self Inspection - Items to Check



BRACKETING

C-RAILS:	Operator:	<u>Asandor</u>	INSTALLATION
	Operator:		
DOOR MECHANISMS:	Operator:	<u>Asandor</u>	
	Operator:		
TAPPING PADS	Operator:	<u>Frealla</u>	
	Operator:	<u>Frealla</u>	
SEAT & LUGGAGE BRACKETS:	Operator:	<u>LINDA THULANI</u>	INSTALLATION & VERIFICATION
	Operator:	<u>XOLU MOKALONGA</u>	
SEAT BRACKETS VERIFICATION:	Operator:	<u>Mgidisi</u>	
	Operator:		

WELDING

AREA	LHS	RHS
A (Seat brackets)	: Operator (Name&sign): <u>Asandor</u>	: Operator (Name&sign): <u>Frealla</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>Asandor</u>	: Operator (Name&sign): <u>Frealla</u>
B (Seat brackets)	: Operator (Name&sign): <u>LINDA</u>	: Operator (Name&sign): <u>Frealla</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>Asandor</u>	: Operator (Name&sign): <u>Frealla</u>
C (Seat brackets)	: Operator (Name&sign): <u>Asandor</u>	: Operator (Name&sign): <u>Frealla</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>Asandor</u>	: Operator (Name&sign): <u>Frealla</u>
D (Seat brackets)	Operator (Name&sign): <u>Mmaseko Mbon</u>	Operator (Name&sign): <u>Mmaseko Mbon</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>Mgidisi</u>	: Operator (Name&sign): <u>Mgidisi</u>
ENDS		
END 1 TAPPING PADS WELDING:	Operator (Name&sign): <u>Mgidisi</u>	Operator (Name&sign): <u>Mgidisi</u>
END 1 TAPPING PADS WELDING:	Operator (Name&sign): <u>Asandor</u>	Operator (Name&sign): <u>Asandor</u>



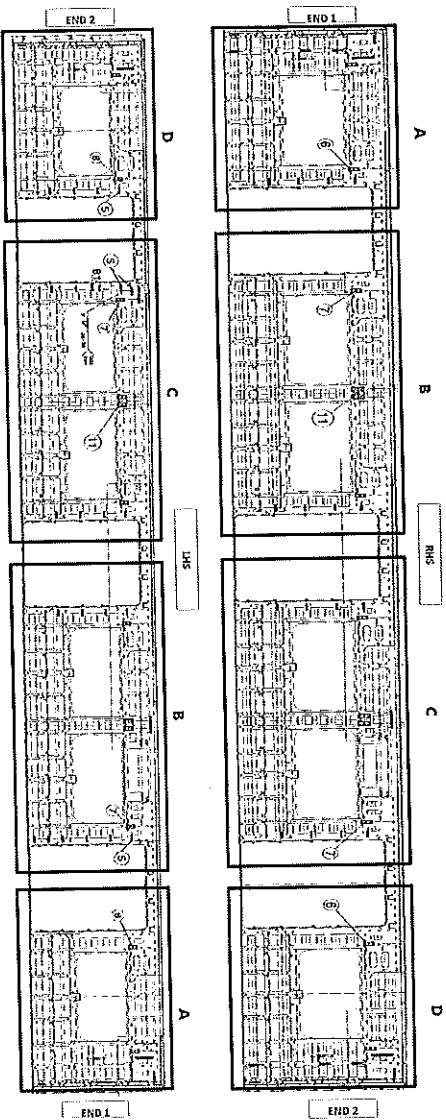


CARBODYSHELL M1/M3/M4 ASSEMBLY  
DTR30225487/2

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Date 28/10/2023  
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SI.CB1 220.250.V29

II - Self Inspection - Items to Check

M1/M3/M4 BRACKET INSTALLATION



QUANTITIES (M3/M4)

RHS

SECTION	QUANTITY	OK	NOK
C-RAILS			
A	7		
B	8		
C	9		
D	6		
A	13		
SEAT BRACKETS			
B	21		
C	21		
D	13		
EARTH BUSH			
A	3		
B	4		
C	4		
D	3		

ROOF ENDS:

CRAILS 2 OFF EACH END  
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: NA

LHS

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

ROOF ENDS:

CRAILS 2 OFF EACH END  
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: NA

QUANTITIES (M1)

RHS

SECTION	QUANTITY	OK	NOK
C-RAILS			
A	7		
B	8		
C	9		
D	6		
A	13		
SEAT BRACKETS			
B	21		
C	21		
D	13		
EARTH BUSH			
A	3		
B	4		
C	4		
D	3		

ROOF ENDS:

CRAILS 2 OFF EACH END  
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: Mashhad

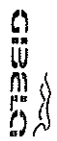
LHS

SECTION	QUANTITY	OK	NOK
C-RAILS			
A	2		
B	6		
C	10		
D	8		
A	13		
SEAT BRACKETS			
B	21		
C	21		
D	13		
EARTH BUSH			
A	3		
B	7		
C	7		
D	2		

ROOF ENDS:

CRAILS 2 OFF EACH END  
EARTH BUSH 6 OFF EACH END

VERIFICATION BY: Mashhad



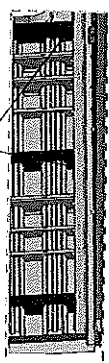
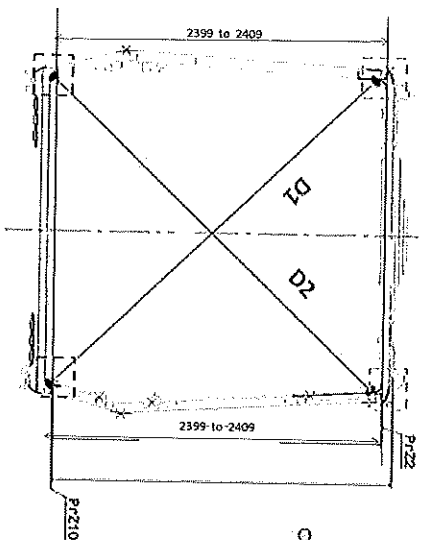
CARBODYSHELL M1, M3, M4 ASSEMBLY  
DTR30222548712

Rev.
28
Date
28/10/2023

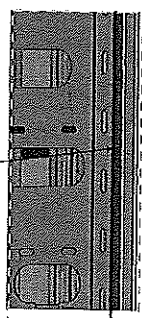
Project: PRASA

SI.CB1220.250.V29

### Specifications of Details for CBS measurement



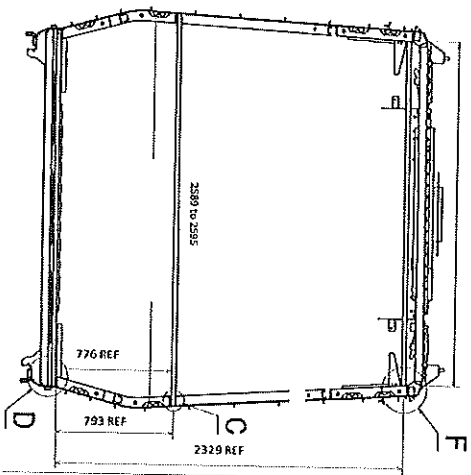
Measurement positions on roof rail and sidewall omega carrier.



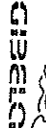
Reinforcement area measurement positions on roof reinforcement area.

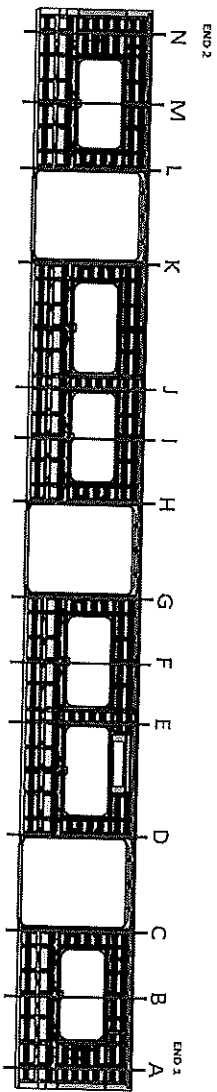


Measurement positions on sidewall and side all corner.





	CARBODYSHELL M1, M3, M4 ASSEMBLY DTR302254872		Rev. 29	Project: PRASA
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BEFORE WELDING

Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A 3295	3297	2	2594
B 3265	3267	2	2589
C 3294	3295	1	2590
D 3299	3295	4	2594
E 3265	3268	3	2590
F 3265	3267	2	2591
G 3296	3295	1	
H 3295	3298	3	
I 3265	3267	2	
J 3267	3268	1	
K 3297	3299	2	
L 3296	3296	0	
M 3268	3266	2	
N 3299	3298	1	

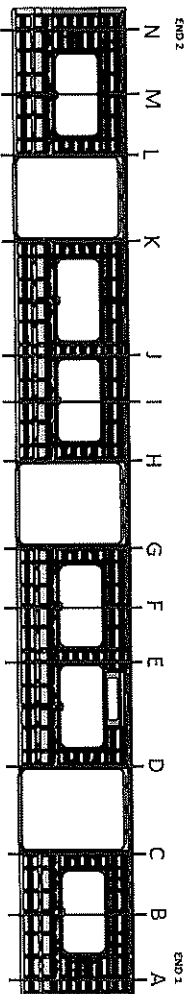
N/A



CARBODYSHELL M1,M3,M4 ASSEMBLY  
DTR30225487/2

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

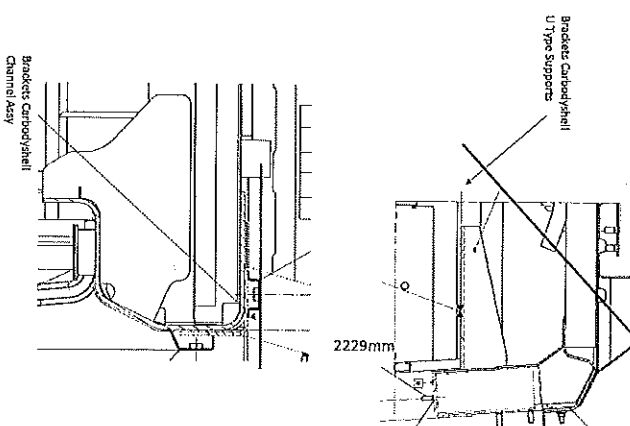
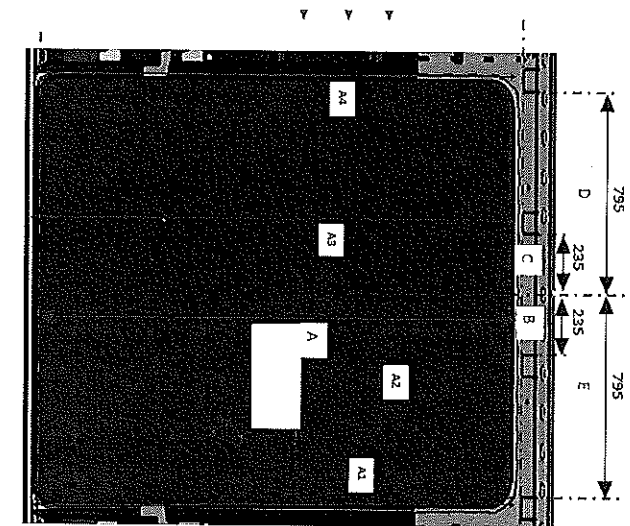
CBS measurement



AFTER WELDING

Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A 3296	3297	1	2594
B 3268	3267	1	2589
C 3297	3295	2	2590
D 3297	3295	2	2594
E 3268	3267	1	2590
F 3268	3266	2	2591
G 3294	3296	2	2594
H 3299	3297	2	2593
I 3266	3267	1	2594
J 3265	3268	3	2592
K 3298	3297	1	2594
L 3296	3296	0	2592
M 3265	3268	3	2590
N 3298	3299	1	2594

Specifications of Details for CBS measurement CB1220



DOOR 1 - LHS

VALUE	ACTUAL
A1 2230 to 2232	2233
A2 2230 to 2232	2232
A3 2230 to 2232	2232
A4 2230 to 2232	2233
B 234 to 236	235
C 234 to 236	234
D 794 to 796	795
E 794 to 796	794

DOOR 2 - LHS

VALUE	ACTUAL
A1 2230 to 2232	2233
A2 2230 to 2232	2232
A3 2230 to 2232	2232
A4 2230 to 2232	2233
B 234 to 236	235
C 234 to 236	234
D 794 to 796	795
E 794 to 796	795

DOOR 2 - LHS

VALUE	ACTUAL
A1 2230 to 2232	2233
A2 2230 to 2232	2232
A3 2230 to 2232	2232
A4 2230 to 2232	2233
B 234 to 236	235
C 234 to 236	234
D 794 to 796	795
E 794 to 796	795

DOOR 1 - RHS

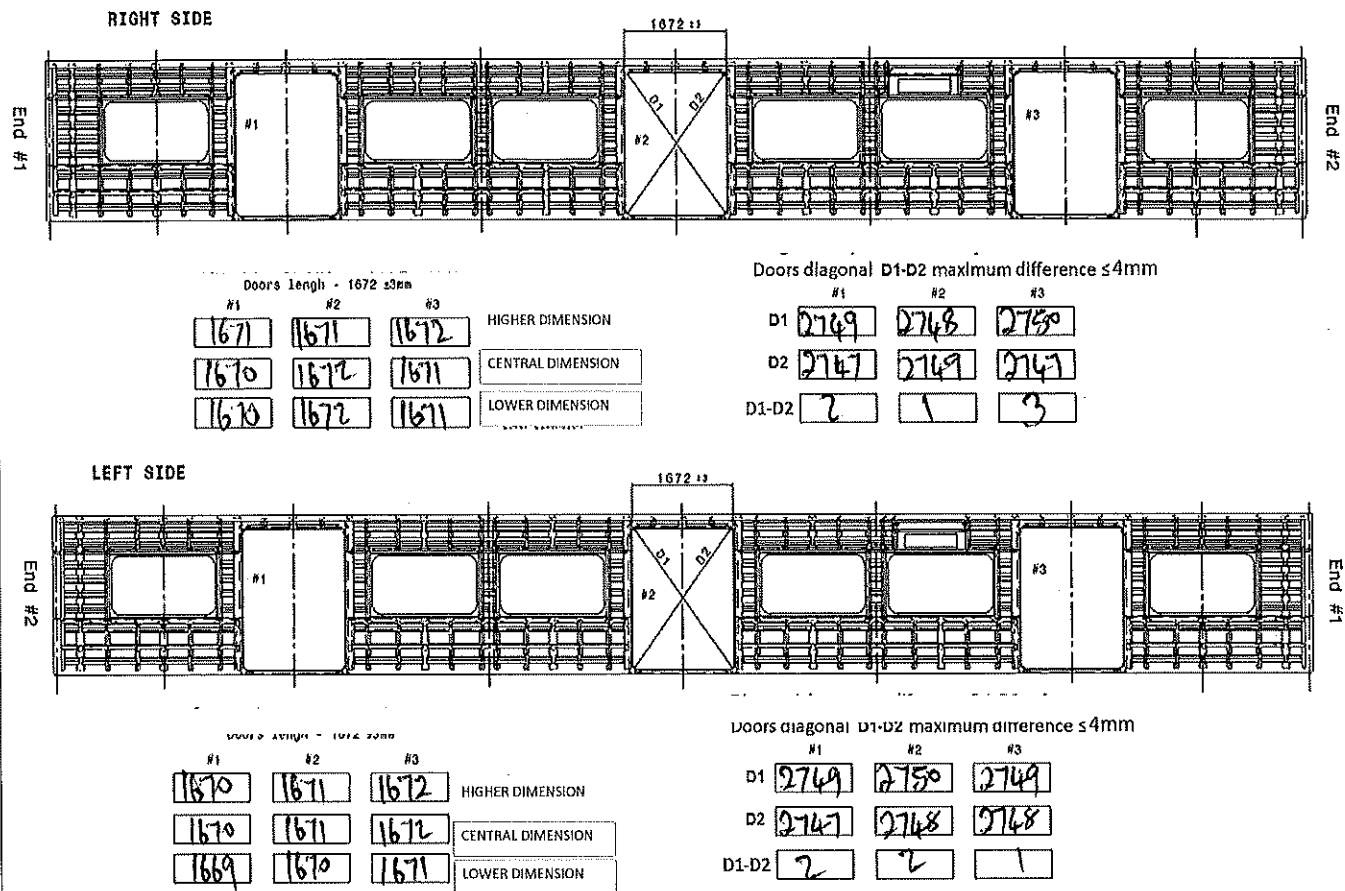
VALUE	ACTUAL
A1 2230 to 2232	2232
A2 2230 to 2232	2231
A3 2230 to 2232	2231
A4 2230 to 2232	2232
B 234 to 236	235
C 234 to 236	234
D 794 to 796	796
E 794 to 796	794

DOOR 2 - 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	796

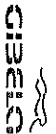
DOOR 3 - RHS

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	234
D 794 to 796	796
E 794 to 796	795









	CARBODYSHELL M1,M3,M4 ASSEMBLY DTR3022548712	Rev.	Project: PRASA
		29	SI.CB1.220.250.V29
		Date	
		29/10/2023	

Self Inspection - Final Result


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

		DATE	NAME	SIGNATURE
HOLD POINT	GO	23/03/24	Mashuch Operations	
		23/03/24	Richard Industrial Quality	
			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 DTR30225487/2			Project: PRASA
	Rev.	29		
	Date	28/10/2023		
	SI.CB1220.250.V29			

ANNEXURE A: 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 contemplated therein have to be considered as Confidential Information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

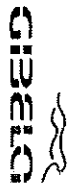
## APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE				WORK INSTRUCTION	SHEET 1	
				TL	ML	MC	TR			
<input type="checkbox"/>	DT0000225487	CARBODY-SHELL MCL/M34 ASSEMBLY	CB220		X	<input checked="" type="checkbox"/>	X	PRACB1230.DT000002 25487.V20	YES	
<input type="checkbox"/>										
<input type="checkbox"/>										
REV.	DATE	MODIFICATION CONTENT						RESPONSIBLE	NAME	DATE
0	2018/08/02	GIBELA NEW CREATION						APPROVER	Philippe Marques	2018/08/02
								CHECKER	Nesozo Pindela	2018/08/02
								COMPILER	Nesozo Pindela	2018/08/02
								APPROVER	Ismeleng Modiba	30/5/2018
								CHECKER	Nesozo Pindela	30/5/2018
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PWE Manager to Quality manager						REVISED BY	Nesozo Pindela	30/5/2018
								APPROVER	Ismeleng Modiba	2018/05/07
2	2018/05/07	Certain dimensional checks moved to CB1220						CHECKER	Nesozo Pindela	2018/05/07
								REVISED BY	Ramokone Motame	2018/05/07
								APPROVER	Ismeleng Modiba	24/01/2019
5	24/01/2019	As per Baseline 10.2						CHECKER	Nesozo Pindela	24/01/2019
								REVISED BY	Vanessa Ntuli	24/01/2019
								APPROVER	Ismeleng Modiba	13/03/2019
								CHECKER	Nesozo Pindela	13/03/2019
6	13/03/2019	Added Twist and Door Bracket Measurements Remove Door Measurements						REVISED BY	Nesozo Pindela	13/03/2019
								APPROVER	Ismeleng Modiba	23/08/2019
10	23/08/2019	New Baseline 10.2.5						CHECKER	Nesozo Pindela	23/08/2019
								REVISED BY	Nesozo Pindela	23/08/2019
								APPROVER	Timothy Mainela	06/08/2020
15	06/08/2020	New Baseline 10.2.5						CHECKER	Bongane Masina	
								REVISED BY	Bongane Masina	
								APPROVER	Timothy Mainela	
20	19/04/2021	New Baseline change 10.3						CHECKER	Bongane Masina	19/04/2021
								REVISED BY	Bongane Masina	
								APPROVER	Collins Mkhombhi	
25	20/02/2022	New Baseline change 10.3.1						CHECKER	Andani Muthelo	20/02/2022
								REVISED BY	Andani Muthelo	
								APPROVER	Collins Mkhombhi	
26	14/06/2022	Update minimum temperature requirement for sealant application						CHECKER	Andani Muthelo	14/06/2022
								REVISED BY	Andani Muthelo	
								APPROVER	Collins Mkhombhi	
27	19/10/2022	Addition of traceability for sealant application						CHECKER	Ntokoza Zwane	19/10/2022
								REVISED BY	Amogelang Mohlamepe	
								APPROVER	Vanessa Ntuli	
28	14/04/2023	Added sealant batch number & welding consumables traceability						CHECKER	Ntokoza Zwane	14/04/2023
								REVISED BY	Amogelang Mohlamepe	
								APPROVER	Tyson Ngobeni	
29	06/11/2023	Added thresholds traceability for boiler makers and welders						CHECKER	Andani Muthelo	06/11/2023
								REVISED BY	Ntokoza Zwane	
TRAINSET	CAR	OPERATOR NAMES/UPS NO.		DATE		SELF INSPECTION NUMBER				PAGES
220	M01	Sintle		26/03/24		SI.CB1230.256.V28				11

GIBBELQ

2024 -02- 26

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CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.  
29  
Date  
06/11/2023

Project: PRASA  
SI.CB1230.256.V28

Car:

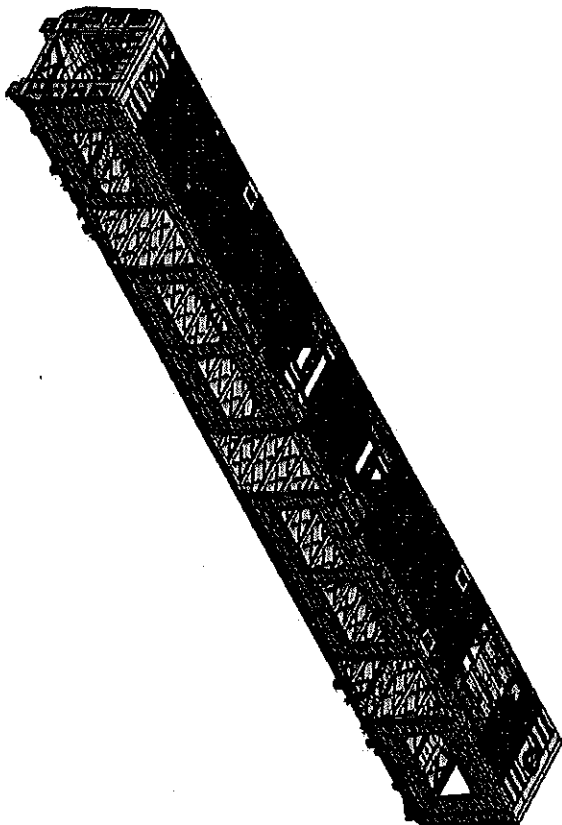
NCR:

Work station:

CB1230



Safety Related









## I - Documentation and Instruments Control

### I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK		Signature/Date (Operations)	Signature/Date (Quality)
	M	E	C	E	T						
PRA.CB1230.DT00000225487	X					29		OK		N/A	26/03/24 26/03/24

### I.2 - Instruments Control

Monitoring and Measuring Instrument Control - Used for Special Process									
Instruments	Serial number	Calibration or Verification Validation Date	OK		Signature/Date (Operations)	Signature/Date (Quality)			
Tubular	22615	29/11/24	OK		 26/03/24	 26/03/24			
Combination Square	GIBCS 0137	26/06/24	OK		 26/03/24	 26/03/24			
Measuring tape	GIBTAB0394	05/04/24	OK		 26/03/24	 26/03/24			

### 1.3 Consumables

Welding Consumable Control - Used for Special Process									
Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)			
ER 308LSi	E033067	Mig welding	OK		<i>[Signature]</i> 26/03/24	<i>[Signature]</i> 26/03/24			
						</			

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2024-02-26

INDUSTRIAL QUALITY  
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CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

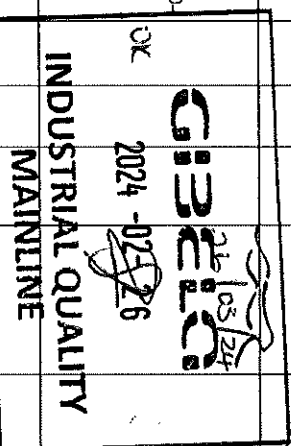
Rev. 29	Project: PRASA
Date 06/11/2023	

SI.CB1230.256.V28

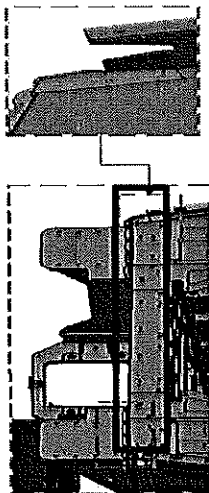
**II - Self Inspection - Items to Check**

**II.1 - Items to check**

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Operators)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.DT00000225487 Verification of fitment for all brackets.	PRA.CB1230.DT00000225487	OK	26/03/24 [Signature]	26/03/24 [Signature]
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD00000210675	OK	26/03/24 [Signature]	26/03/24 [Signature]
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	OK	26/03/24 [Signature]	26/03/2024 [Signature]
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	OK	26/03/24 [Signature]	26/03/2024 [Signature]
05		Functionals dimensions approved according drawing or complementarily document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	OK	26/03/24 [Signature]	26/03/2024 [Signature]
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 DTD00000210658.	As the welding procedure IND-SAL-WMS-018 and DTD00000210658.	OK	26/03/24 [Signature]	26/03/2024 [Signature]
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: 15L 70-25 Exp Date: 15/05/24 Actuals Temperature: 17°C Humidity: 27%	OK	26/03/24 [Signature]	26/03/2024 [Signature]
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	OK	26/03/24 [Signature]	26/03/24 [Signature]



AREA 1



END 2 SEALANT

OPERATOR  
(Name & sign):

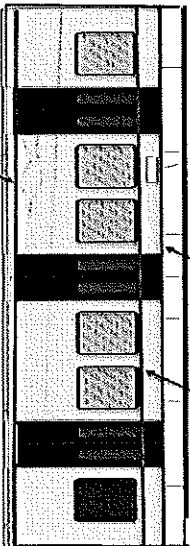
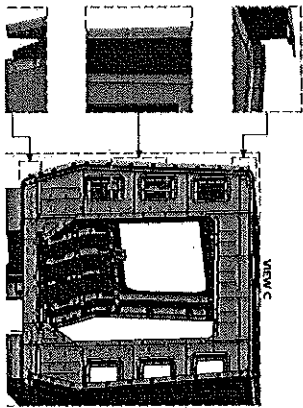
LEROY 

OPERATOR  
(Name & sign):

LEROY 

OPERATOR  
(Name & sign):

LEROY 



Area D,E,F,G,H,I  
Operator (Name & sign):

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

Operator (Name & sign):

Sinle

Operator (Name & sign):

Sinle

Operator (Name & sign):

Isneudio

Operator (Name & sign):

Isneudio

Operator (Name & sign):

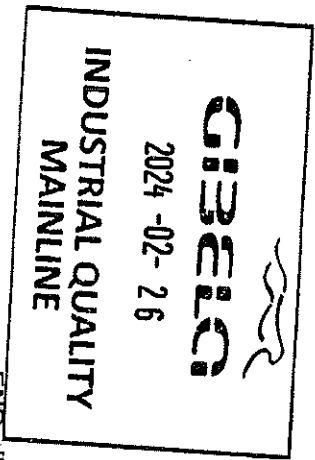
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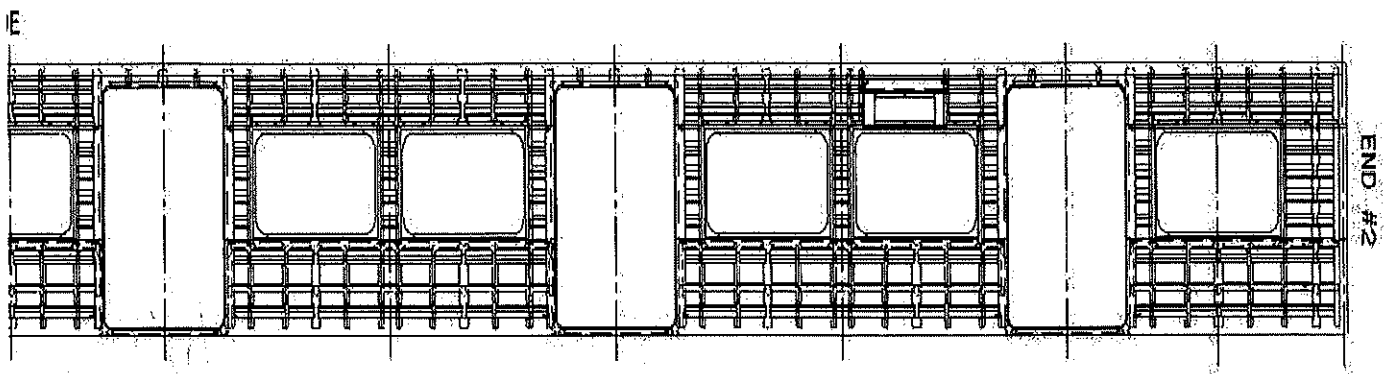
CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.	29	Project: PRASA
Date	06/11/2023	SI.CB1230.256.V28

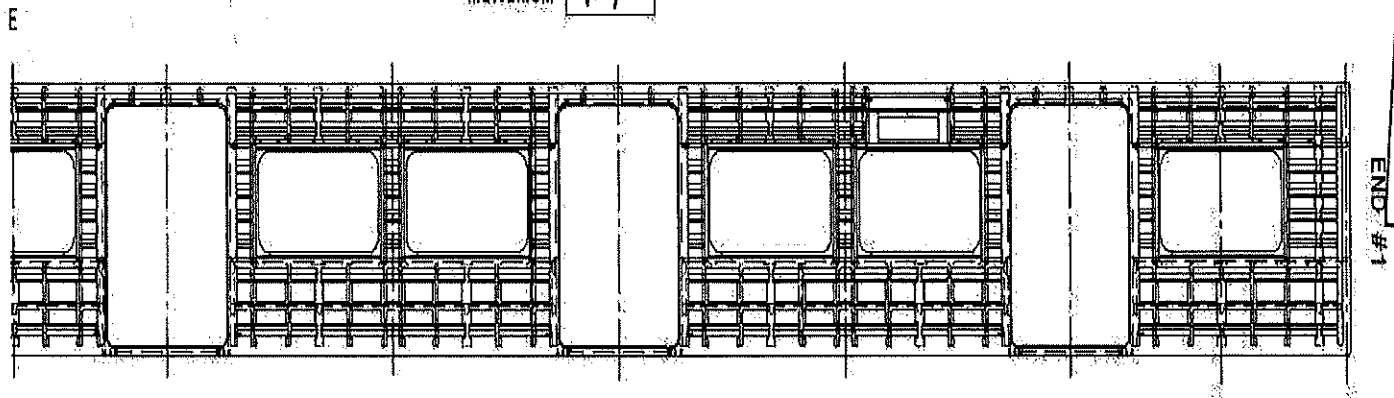
Specifications of Details for CBS measurement CB1230



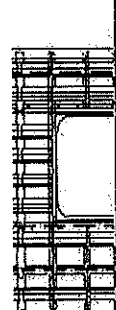
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



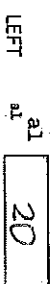
MAXIMUM 2  
MINIMUM 1.7



MAXIMUM 1.5  
MINIMUM 1.2



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





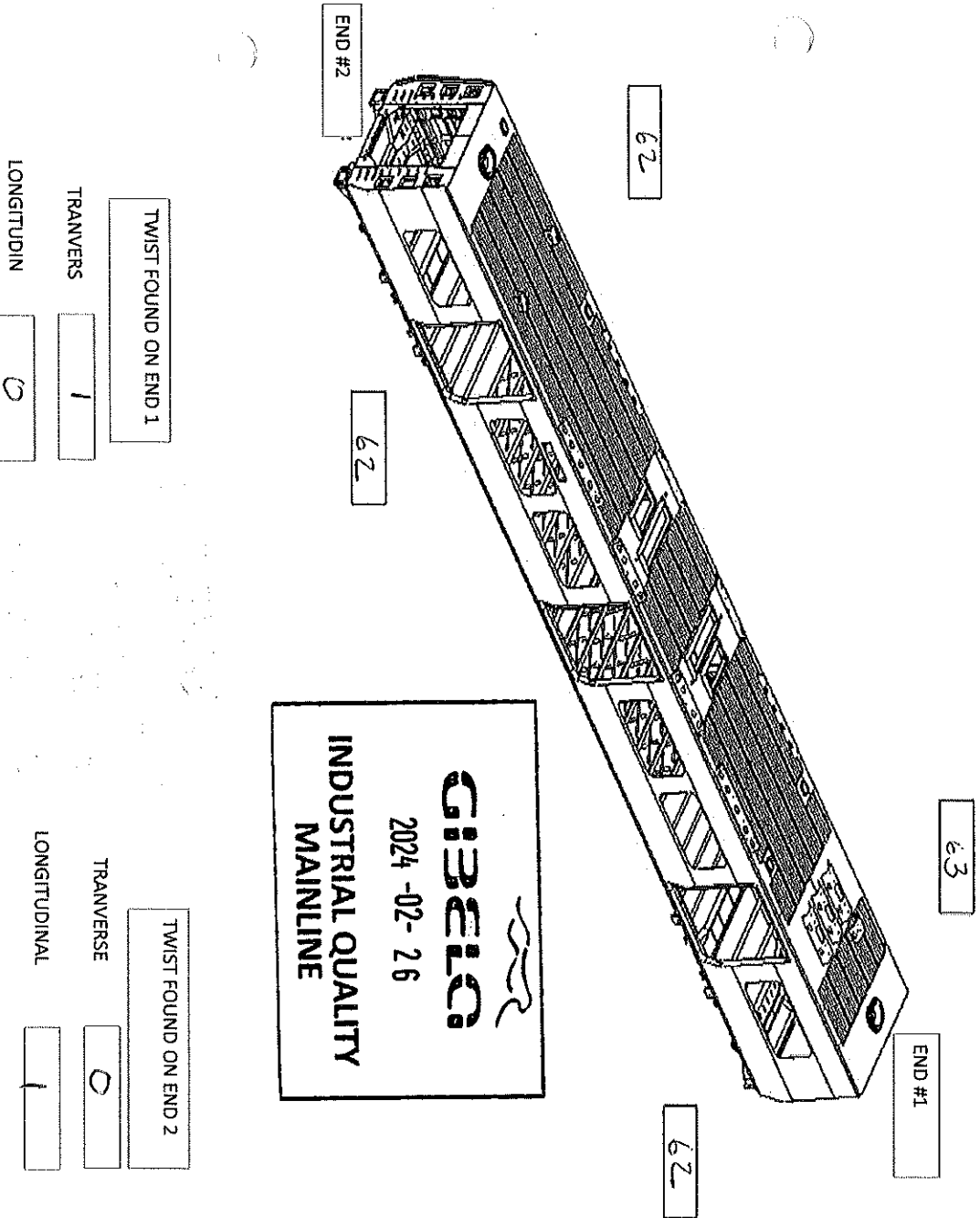


CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

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Date	
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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.





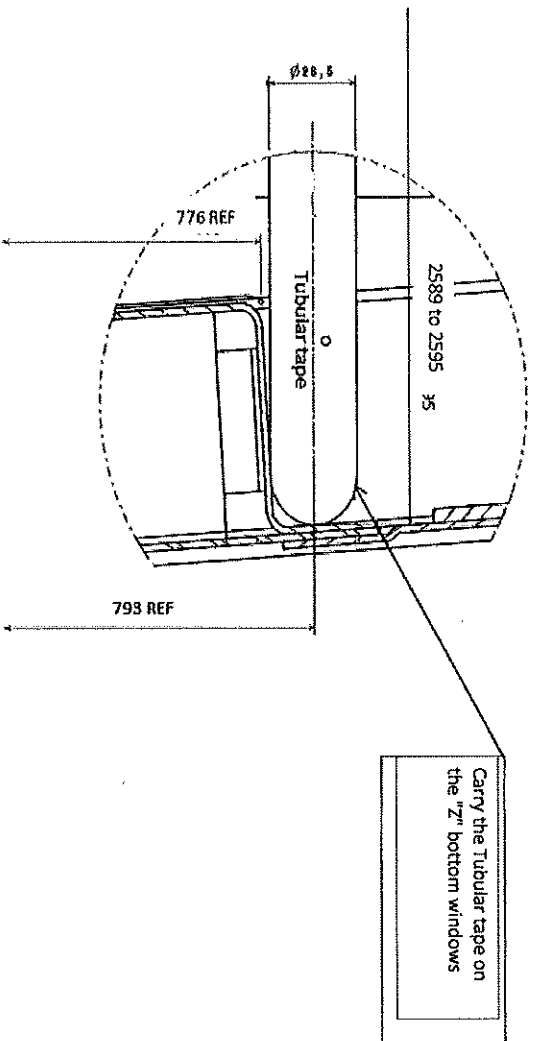
CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225-487

Rev.	Date
29	06/11/2023

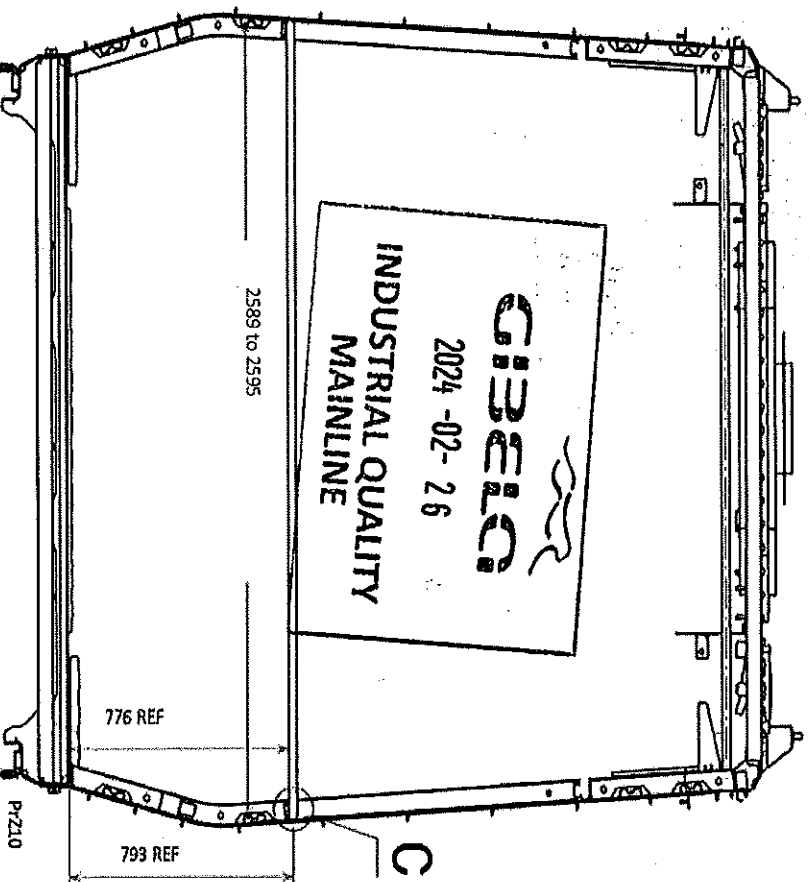
Project: PRASA

SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230



Detail C



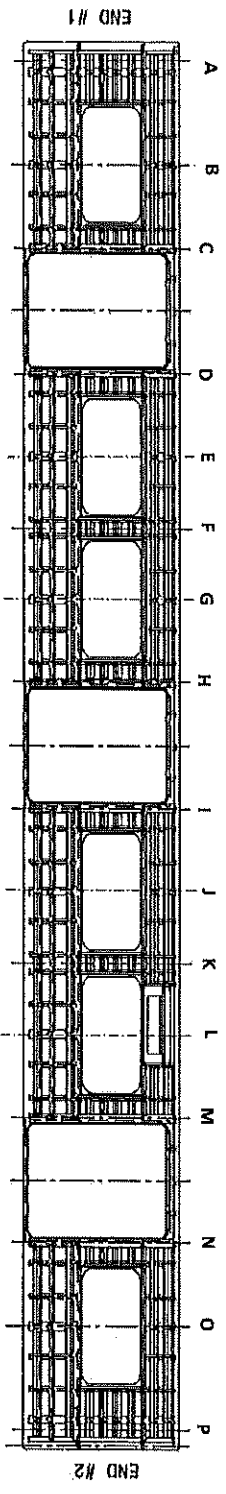


CARBODYSHELL M1,M3,M4 ASSEMBLY  
DT00000225487

Rev.  
29  
Date  
06/11/2023

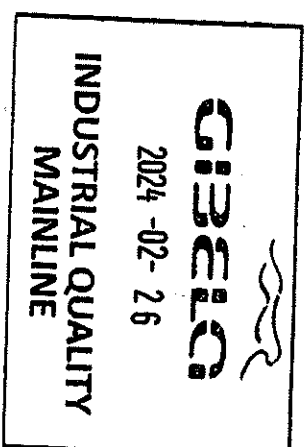
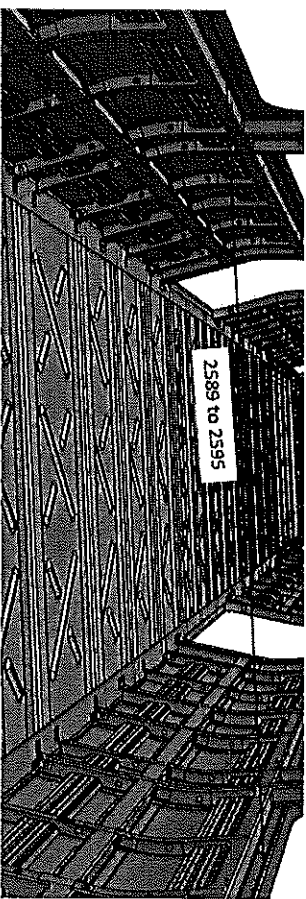
Project: PRASA  
SI.CB1230.256.V28

Specifications of Details for CBS measurement CB1230



2589 to 2595mm

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



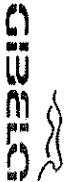
Threshold verification

		Nominal value :38	
Door 1		Door 2	Door 3
L	R	L	R
38	39	39	37
Door 4		Door 5	Door 6
L	R	L	R
39	38	38	39



BOILER MAKER: Gerald

WELDER: Zanele



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


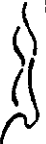
Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)		DATE	NAME	SIGNATURE
HOLD POINT		26/03/24	Stine Operations	
	GO	26/03/2024	Amo Industrial Quality	
			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

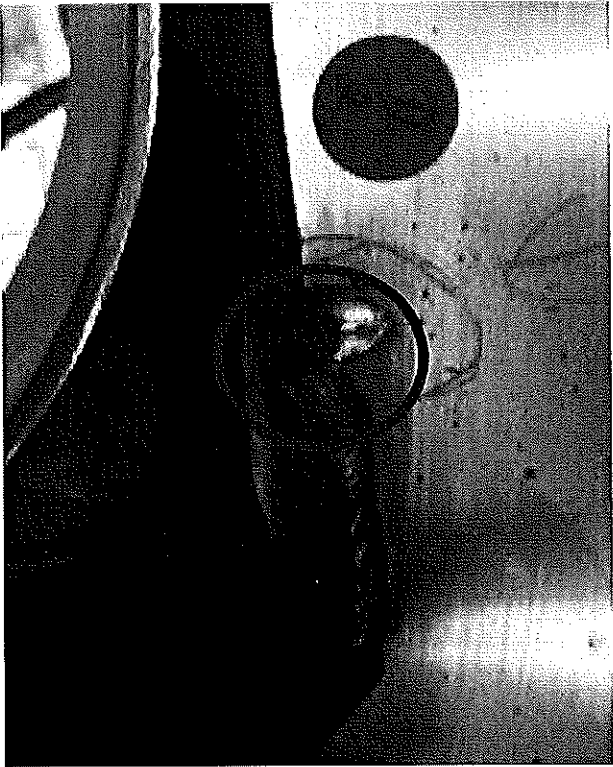



2024 -02- 26

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

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





2024 -02- 26  
**INDUSTRIAL QUALITY  
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