


PRASA PROJECT


APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1


SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

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

APPLICATION REFERENCE

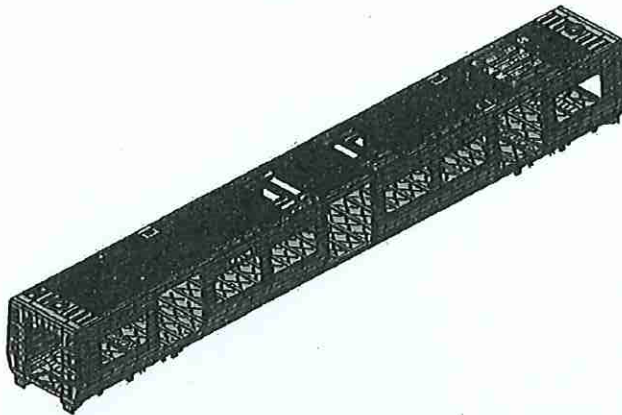
MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE							WORK INSTRUCTION	SAFETY ? 
				TC1	M4	M1	M2	M3	TC2			
<input type="checkbox"/> DTR31374497/3	AAD0001413329	CARBODYSHELL M2 ASSEMBLY	CB1210				<input checked="" type="checkbox"/>				PRA.CB1210.DTR31374497/3.V25	YES
<input type="checkbox"/>												
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE							
0	10/01/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	10/01/2018							
			CHECKER	Nosizo Pindela	10/01/2018							
			COMPILER	Thanyani Mathegu	10/01/2018							
1	2018/05/18	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager	APPROVER	Itumeleng Modiba	2018/05/18							
			CHECKER	Nosizo Pindela	2018/05/18							
			REVISED BY	Ramokone Motama	2018/05/18							
2	2018/07/04	Certain dimensional checks moved to CB1220 and CB1230	APPROVER	Itumeleng Modiba	2018/07/04							
			CHECKER	Nosizo Pindela	2018/07/04							
			REVISED BY	Ramokone Motama	2018/07/04							
3	2018/12/12	Added dimensional check points to CB1210	APPROVER	Itumeleng Modiba	12/12/2018							
			CHECKER	Nosizo Pindela	12/12/2018							
			REVISED BY	Ramokone Motama	12/12/2018							
5	22/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	22/01/2019							
			CHECKER	Nosizo Pindela	22/01/2019							
			REVISED BY	Vanessa Ntuli	22/01/2019							
6	13/03/2019	Added D1 and D2 on Self Inspection	APPROVER	Itumeleng Modiba	13/03/2019							
			CHECKER	Nosizo Pindela	13/03/2019							
			REVISED BY	Nosizo Pindela	13/03/2019							
10	21/08/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	21/08/2019							
			CHECKER	Nosizo Pindela	21/08/2019							
			REVISED BY	Nosizo Pindela	21/08/2019							
15	06/08/2020	New Baseline 10.2.6	APPROVER	Timothy Maimela	06/08/2020							
			CHECKER	Bongane Masina								
			REVISED BY	Bongane Masina								
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021							
			CHECKER	Bongane Masina								
			REVISED BY	Bongane Masina								
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi collins	17/08/2021							
			CHECKER	Mpho Mulaudzi								
			REVISED BY	Mpho Mulaudzi								
25	21/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombi collins	21/02/2022							
			CHECKER	Andani Muthelo								
			REVISED BY	Andani Muthelo								
26	14/04/2023	Addition of welding consumable traceability	APPROVER	Ntuli Vanessa	14/04/2023							
			CHECKER	Mohlampe Amogelang								
			REVISED BY	Mohlampe Amogelang								
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023							
			CHECKER	Zwane Ntokozo								
			REVISED BY	Mohlampe Amogelang								
28	07/11/2023	Addition of welder traceability	APPROVER	Ngobeni Tyson	07/11/2023							
			CHECKER	Andani Muthelo								
			REVISED BY	Ntokozo Zwane								
TRAINSET	CAR	OPERATOR NAME& ALPS NO	DATE	SELF INSPECTION NUMBER	PAGES							
214	M2	LUNGA 471497	25/02/24	SI.CB1210.247.V28	17							

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
		Date 07/11/2023	

Cart: M2	NCR:	Work station: CB1210
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Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
	TCT	M1	M2	M3	M4	TCT						
DTR31374497/3			X						✓		N/A	25/02/24

I.2 - Instruments Control

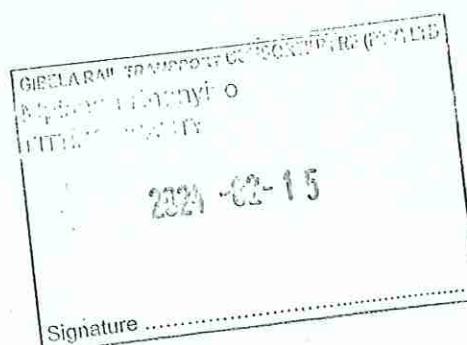
Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
TUBULAR	22713	04/10/23	✓		25/02/24	
30M TAPE	6187P0084	23/03/31	✓		25/02/24	
LASER TAPE	125425920	08/01/24	✓		25/02/24	25/02/24

1.3 - Consumables

Welding Consumable Control - Used for Special Process












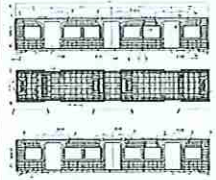




Filler Material	Heat Number	Welding Process	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
AUT ROD 305 LSI	15221880	MIG	✓		25/02/24	
ER 309 LSI	318394	MIG	✓		25/02/24	25/02/24




	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
		Date 07/11/2023	

II - Self Inspection - Items to Check

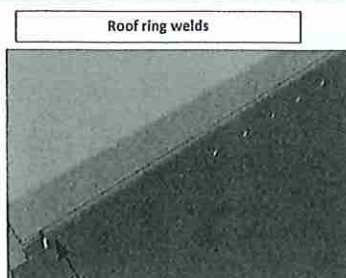
II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Remarks	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	AA00001375051	✓			 25/02/24	 25/02/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	✓			 25/02/24	 25/02/24
03	REFER TO ANNEXURE A	Spot welding inspected and approved according to procedure	IND-SAL-WMS-016 e DTD0000210675	✓			 25/02/24	 25/02/24
04	REFER TO ANNEXURE B	Arc welding inspected and approved according to procedure	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓			 25/02/24	 25/02/24
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓			 25/02/24	 25/02/24
06		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document	Approved according specified on pages below.	✓			 25/02/24	 25/02/24
07	N/A	Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018. Run by penetrant testing welds (weld ring) and fillet sampling as described in DTD0000210658.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658.	✓			 25/02/24	 25/02/24



	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
		Date 07/11/2023	

Welder traceability



Boiler maker (Name & Sign): Tim Red ^{LHS} Welder (Name & Sign): ROBERT IRONS

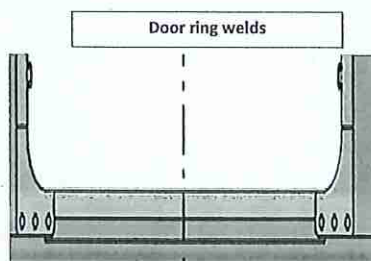
Boiler maker (Name & Sign): GERALD R. M. J. ^{RHS} Welder (Name & Sign): KATH K. J.

END 1

Boiler maker (Name & Sign): Tim [Signature] ^{LHS} Welder (Name & Sign): [Signature]


Boiler maker (Name & Sign): Gerald [Signature] ^{RHS} Welder (Name & Sign): Karl [Signature]

END 2



LHS

Boiler maker (Name & Sign): _____

Welder (Name & Sign): BOB BERTS 

RHS

Boiler maker (Name & Sign): _____

Welder (Name & Sign): BOBBER MSB

2324-02-15

Signature



CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.

28

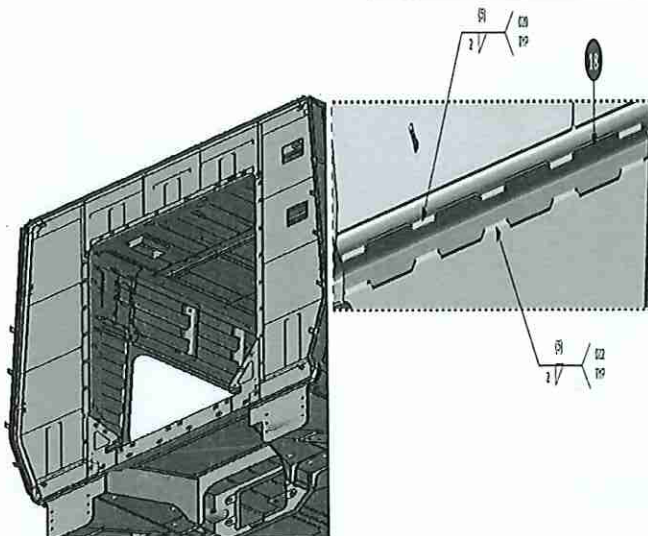
Date

07/11/2023

Project: PRASA

SI.CB1210.247.V28

EUF Reinforcement Plates



END 1

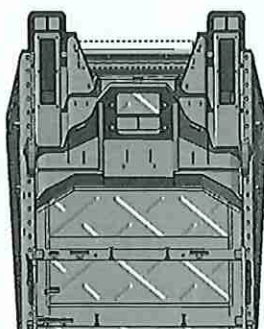
Boiler maker (Name & Sign):

Sen

Welder (Name & Sign):

Kerru K. Mole

END 2



Underneath the CAR

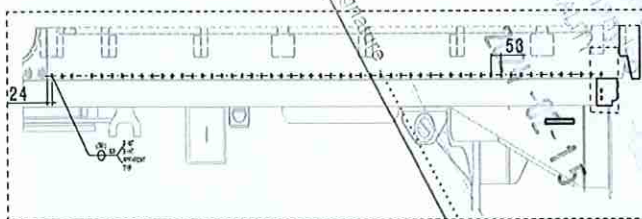
END 2

Boiler maker (Name & Sign):

PONTISO

Welder (Name & Sign):


Kerru K. Mole

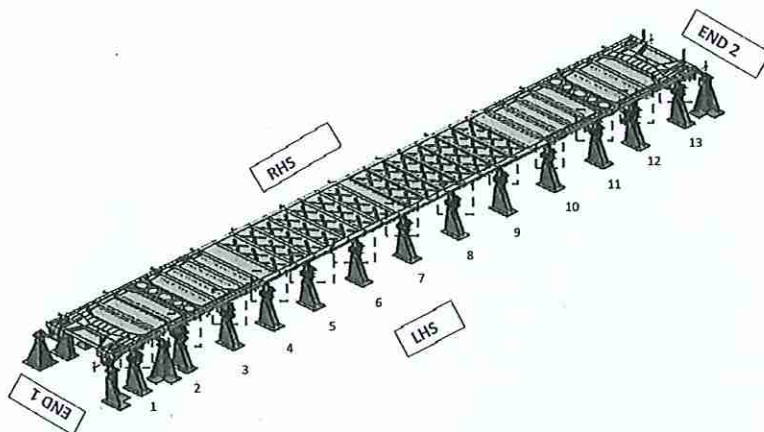


FEDOLI

OPERATOR:

SIPHOKAZI

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
		Date 07/11/2023	
		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						NA							
Right Hand Side													

Signature Operations:  Date: 25/07/23

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						NA							
Right Hand Side													

Signature Industrial Quality:  Date: 25/07/23

Signature
Mpinela Khanyilo
FITTING QUALITY
2024-03-15



CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.

28

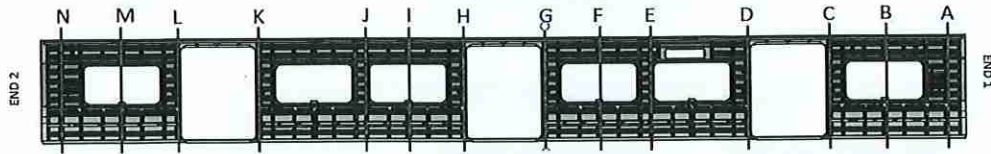
Date

07/11/2023

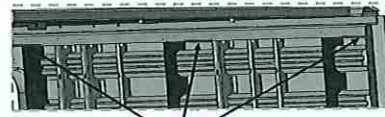
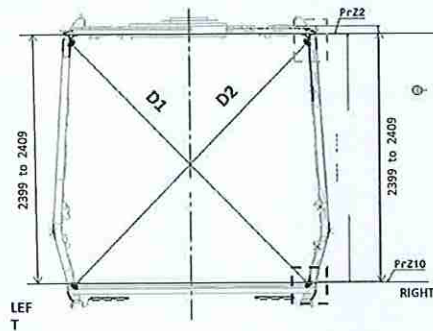
Project: PRASA

SI.CB1210.247.V28

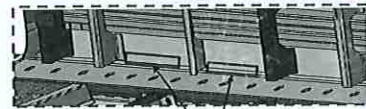
Specifications of Details for CBS measurement



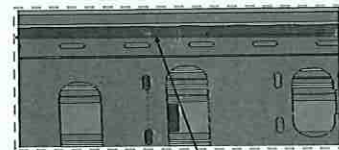
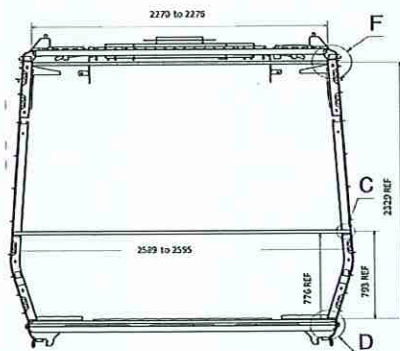
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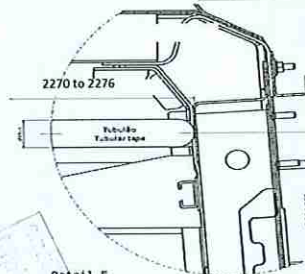
Measurement positions on roof rail and sidewall omega corner.



Measurement positions on sidewall and side sill corner.

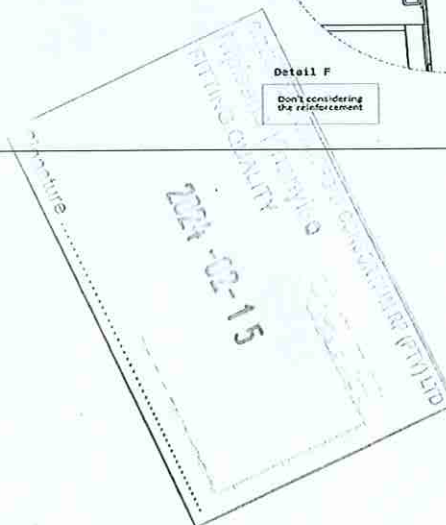


Reinforcement area measurement positions on roof reinforcement area.



Detail F

Don't considering the reinforcement



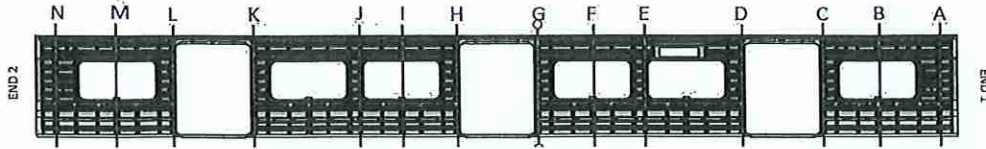


CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.
28
Date
07/11/2023Project: PRASA
SI.CB1210.247.V28

Specifications of Details for CBS measurement

BEFORE WELDING




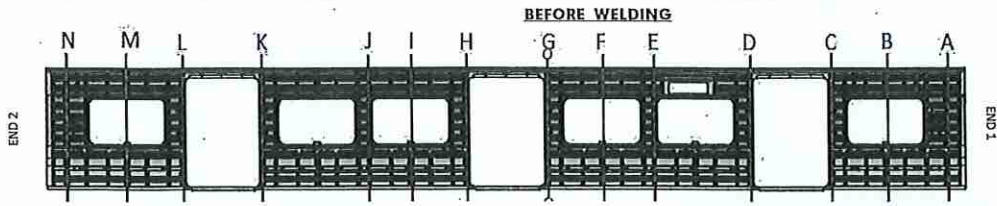
Note: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

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

19
25/02/24

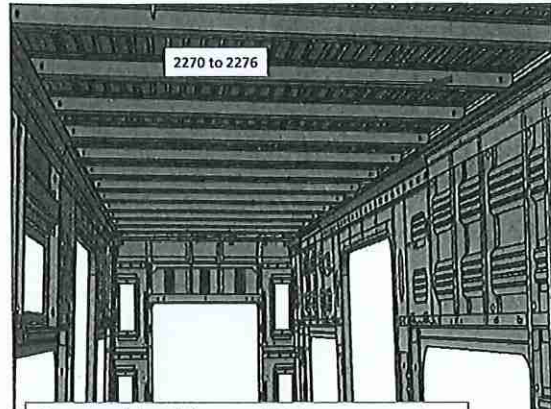
APPROVED FOR CONSTRUCTION (FIR) LTD
Mpinan Linyi Co
FITTING QUALITY
2024-02-15
Signature

	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
		Date	
		07/11/2023	
CBS measurement			

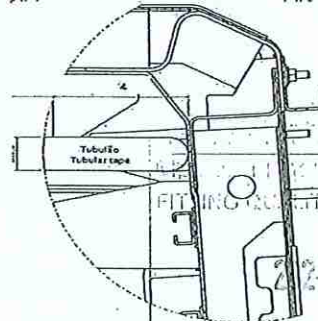
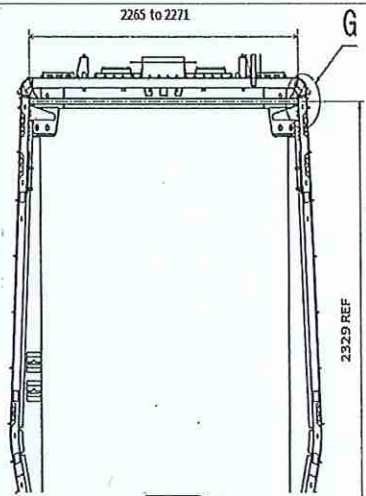


2270 to 2276

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



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



Detail G

Considering the reinforcement plate

25/02/24



CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.

28

Date

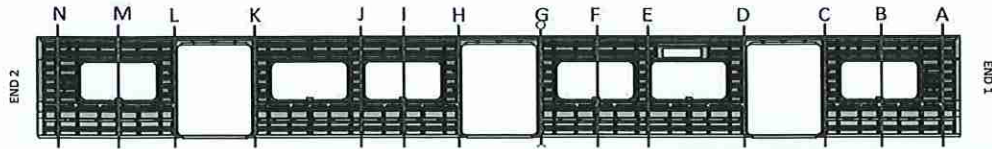
07/11/2023

Project: PRASA

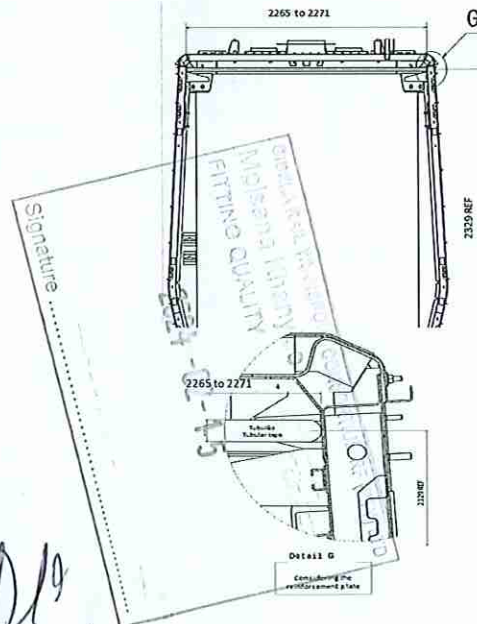
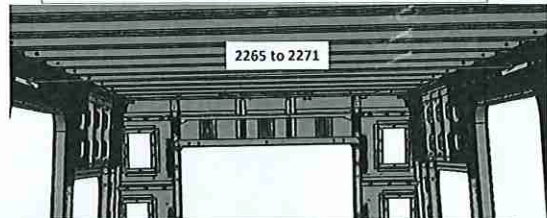
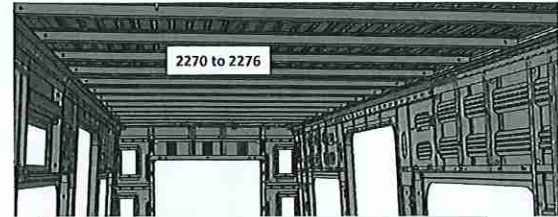
SI.CB1210.247.V28

CBS measurement

AFTER WELDING



	2265 to 2271	2270 to 2276
A	2268	N/A
B	N/A	2275
C	2269	N/A
D	2260	N/A
E	N/A	2276
F	N/A	2275
G	2266	N/A
H	2269	N/A
I	N/A	2276
J	N/A	2276
K	2265	N/A
L	2266	N/A
M	N/A	2276
N	2268	N/A



Signature:
 25/02/24



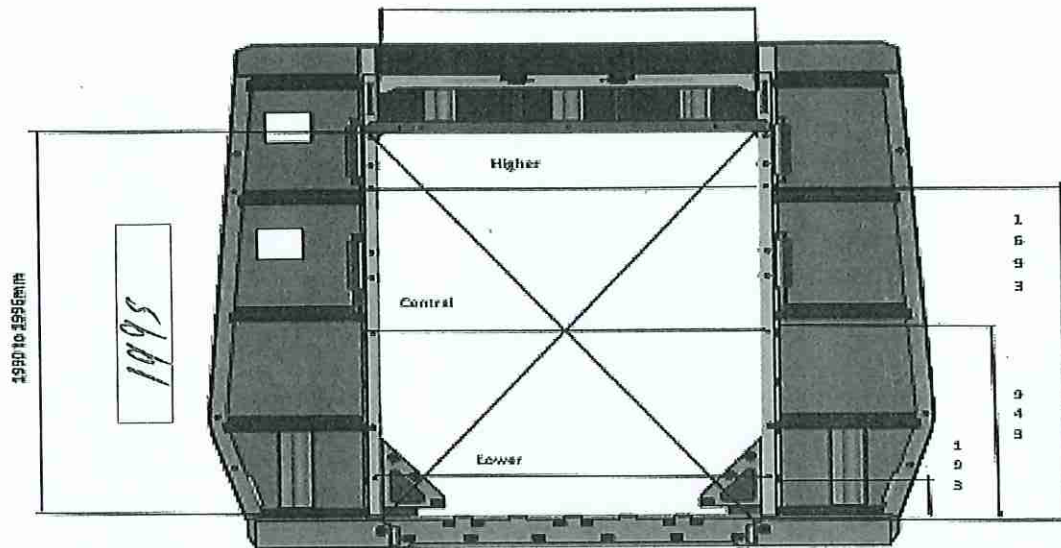
CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.
28
Date
07/11/2023Project: PRASA
SI.CB1210.247.V28

CBS measurement

End frame 1

1380 to 1382 mm



1380 to 1382 mm

DIAGONAL DIFFERENCE D1-D2 ≤ 3mm

Higher Dimension

1381

D1

2413

Central Dimension

1381

D2

2414

Lower Dimension

1380

D1-D2

1

25/02/24

CHECK FOR CONFORMANCE (P1) LTD	
Mpisanu Chanyio	
FITTING QUALITY	
2024-02-15	
Signature	

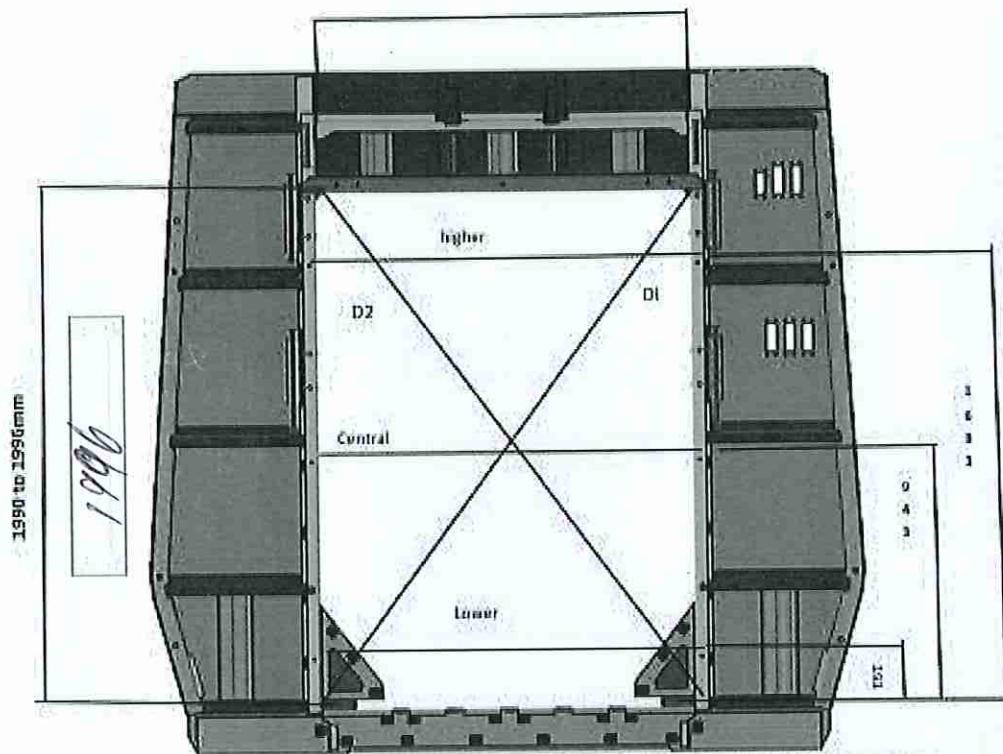


CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.
28
Date
07/11/2023

Project: PRASA
SI.CB1210.247.V28

End frame 2



1380 to 1382 mm

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

Higher Dimension

1382

D1

2414

Central Dimension

1381

D2

2414

Lower Dimension

1381

D1-D2

0

Handwritten signature and date: 25/02/24



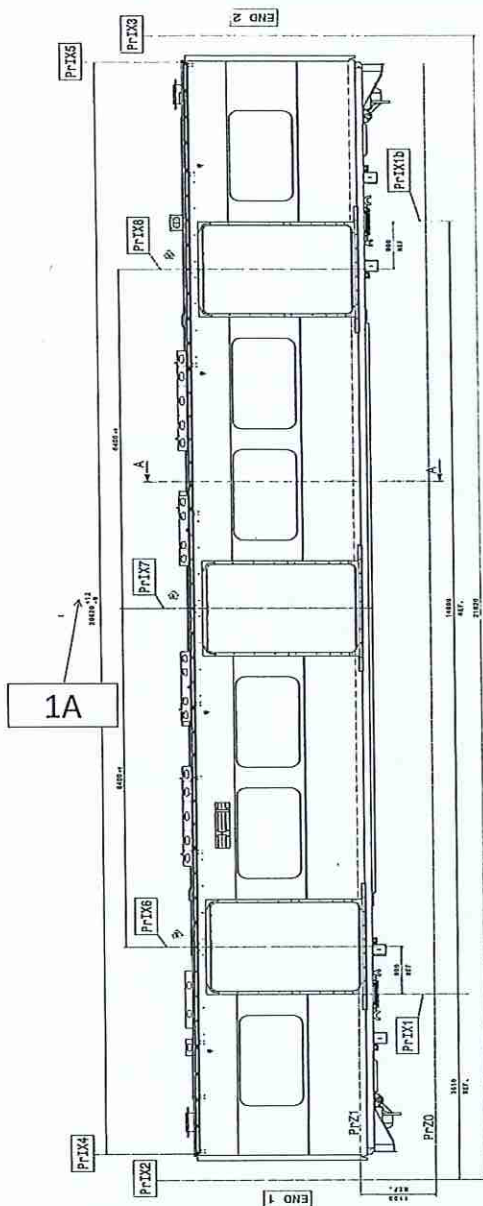


CARBODYSHELL M2 ASSEMBLY DTR31374497/3

Rev.
28
Date
07/11/2023

Project: PRASA
SI.CB1210.247.V28

Specifications of Details for CBS measurement



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

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

Dye penetrant test

Dye-penetration test to be performed by quality personnel




Alpha Technology (Pty) Ltd
FITTING QUALITY



2024-02-15

Signature

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	CARBODYSHELL M2 ASSEMBLY DTR31374497/3	Rev. 28	Project: PRASA SI.CB1210.247.V28
		Date 07/11/2023	

Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)			DATE	NAME	SIGNATURE
HOLD POINT	GO	(If activities are not complete, the missing activities must not impact the next stage)	25/02/24	LUNGA Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	25/02/24	Richmond Industrial Quality	
	NO GO	There are activities pending that impact/stop the activities of the next process Obs: (To describe problems below)			
		There are non-conformities impact the quality of the product and there is no corrective action defined yet)			

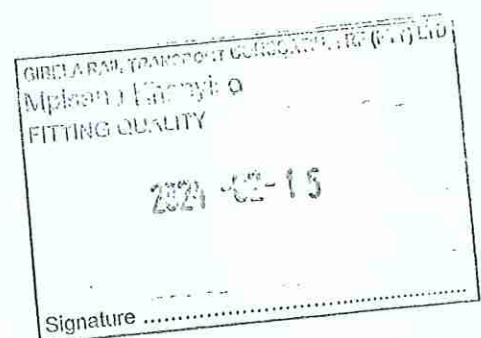
In case of "NO GO", describe blocking problems

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

Item	Description	Responsible	Due date	Status

Operations

Quality





APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1


SELF INSPECTION SHEET

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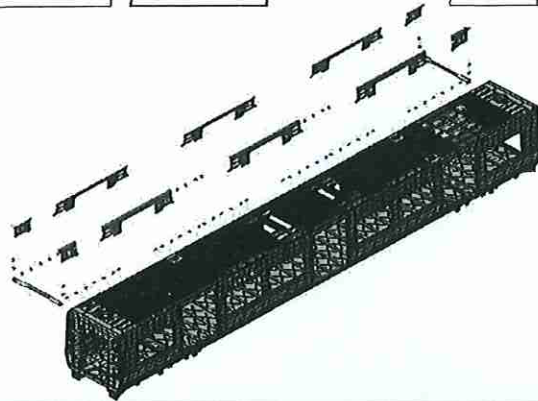
MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE							WORK INSTRUCTION	SAFETY 1
				TC1	M4	M2	M3	M5	M6	TC2		
<input type="checkbox"/>	DTR1374487/2	AAD0001413378	CARBODY SHELL M2 ASSEMBLY	CB1210					X		PRA.CB1220.0TR31374497 /2.V21	YES
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
REV	DATE	MODIFICATION CONTENT								RESPONSIBLE	NAME	DATE
0	01/02/2018	GIBELA NEW CREATION								APPROVER	Itumeleng Modiba	01/02/2018
										CHECKER	Nosizo Pindela	01/02/2018
										COMPILER	Thanyani Mathegu	01/02/2018
1	18/05/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager								APPROVER	Itumeleng Modiba	18/05/2018
										CHECKER	Nosizo Pindela	18/05/2018
										REVISED BY	Ramokone Motama	18/05/2018
2	2018/07/05	Certain dimensional checks added and others moved to CB1210								APPROVER	Itumeleng Modiba	2018/07/05
										CHECKER	Nosizo Pindela	2018/07/05
										REVISED BY	Ramokone Motama	2018/07/05
3	2018/06/12	Width tolerance as per DT0000336600								APPROVER	Itumeleng Modiba	2018/06/12
										CHECKER	Nosizo Pindela	2018/06/12
										REVISED BY	Nosizo Pindela	2018/06/12
5	24/01/2019	As per Baseline 10.2								APPROVER	Itumeleng Modiba	24/01/2019
										CHECKER	Nosizo Pindela	24/01/2019
										REVISED BY	Vanessa Ntuli	24/01/2019
6	13/03/2019	Added D1 and D2 on Self - Inspection length measurements								APPROVER	Itumeleng Modiba	13/03/2019
										CHECKER	Nosizo Pindela	13/03/2019
										REVISED BY	Nosizo Pindela	13/03/2019
7	27/05/2019	Removed measurement positions on the display windows								APPROVER	Itumeleng Modiba	27/05/2019
										CHECKER	Nosizo Pindela	27/05/2019
										REVISED BY	Nosizo Pindela	27/05/2019
10	22/08/2019	New Baseline 10.2.5								APPROVER	Itumeleng Modiba	22/08/2019
										CHECKER	Nosizo Pindela	22/08/2019
										REVISED BY	Nosizo 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	19/04/2021
										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	20/02/2022	New Baseline change 10.3.1								APPROVER	Mbhombi collins	20/02/2022
										CHECKER	Andani Muthelo	20/02/2022
										REVISED BY	Andani Muthelo	20/02/2022
26	14/06/2022	Update Minimum temperature requirement for sealant application								APPROVER	Mbhombi collins	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 and welding.								APPROVER	Mbhombi collins	19/10/2022
										CHECKER	Ntokozo Zwane	19/10/2022
										REVISED BY	Amogelang Mohlampe	19/10/2022
28	14/04/2023	Added sealant batch number & welding consumables traceability								APPROVER	Vanessa Ntuli	14/04/2023
										CHECKER	Ntokozo Zwane	14/04/2023
										REVISED BY	Amogelang Mohlampe	14/04/2023
29	28/10/2023	Addition of bracket quantity								APPROVER	Tyson Ngobeni	28/10/2023
										CHECKER	Kelebone Mathapo	28/10/2023
										REVISED BY	Amogelang Mohlampe	28/10/2023
TRAINSET	CAR	OPERATOR NAME & ALPS NO			DATE		SELF INSPECTION NUMBER				PAGES	
TS214	M02	ASADIDA 40697425-02-24					SI.CB1220.276.V29				15	

	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA
		29	
		Date	SI.CB1220.276.V29
	28/10/2023		

Car: M2	NCR:	Work station:	CB1220
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Safety Related



I - Documentation and Instruments Control

L1 - Documentation Control

Document	Type of car					Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	TC1	M1	M2	M3	TC2					
DTR31374497/2		X				29	28-10-2023	X	N/A	25-02-2024

L2 - Instruments Control

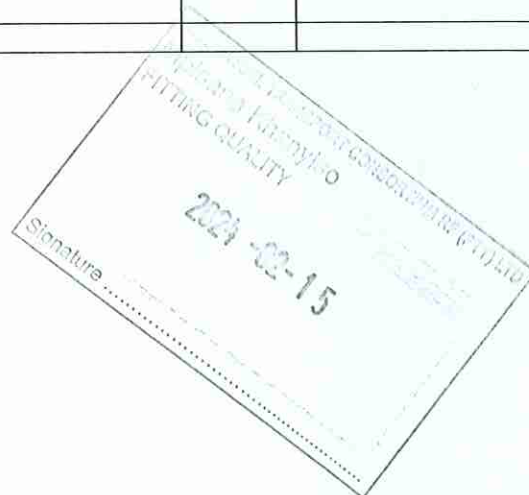
Monitoring and Measuring Instrument Control - Used for Special Process


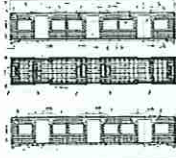
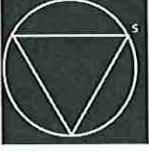
Instruments	Serial number	Calibration or Verification Validation Date	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular	22113	04/10/23	X	25-02-24	25-02-24
measuring tape	6187800	23/03/21	X	25-02-24	25-02-24
64					

1.3 Consumables

Welding Consumable Control - Used for Special Process


Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308		MIG	X	25-02-24	25-02-24



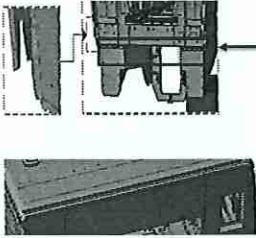
GIBELQ		CARBODYSHELL M2 ASSEMBLY DTR31374497/2		Rev. 29 Date 28/10/2023	Project: PRASA SI.CB1220.276.V29							
II - Self Inspection - Items to Check												
II.1 - Items to check												
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)						
01	N/A	Assembly according to Instruction Engineering n° PRA.CB1220. DTR31374497/2 Verification of fitment for all reinforcement brackets.	PRA.CB1220. DTR31374497/2	✓	25-02-24	26/02/24						
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DT00000210675	✓	25-02-24	26/02/24						
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓	25-02-24	26/02/24						
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC. 0002	✓	25-02-24	26/02/24						
05		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓	25-02-24	26/02/24						
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 DTD00000210658.	As the welding procedure IND-SAL-WMS 018 and DTD00000210658.	✓	25-02-24	26/02/24						
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 <table border="1"> <thead> <tr> <th colspan="2">Specified</th> </tr> </thead> <tbody> <tr> <td>Temperature Min - Max (°C)</td> <td>10°C - 35°C</td> </tr> <tr> <td>Relative Humidity Min - Max (%)</td> <td>25% - 60%</td> </tr> </tbody> </table>	Specified		Temperature Min - Max (°C)	10°C - 35°C	Relative Humidity Min - Max (%)	25% - 60%	Sealant Batch No: <u>15R-70-30</u> Exp Date: <u>1/03/24</u> Actuals Temperature: <u>19°C</u> Humidity: <u>37%</u>	✓	25-02-24	26/02/24
Specified												
Temperature Min - Max (°C)	10°C - 35°C											
Relative Humidity Min - Max (%)	25% - 60%											
08	NA	Verification of sealant application in certain regions in the drawing.	AAD0001413329	✓	25-02-24	26/02/24						

Signature: 2024-02-15

FITTING QUALITY

	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA SI.CB1220.276.V29
		29	
		Date	
		28/10/2023	

SEALANT APPLICATION




AREA 1 & 2 END 1

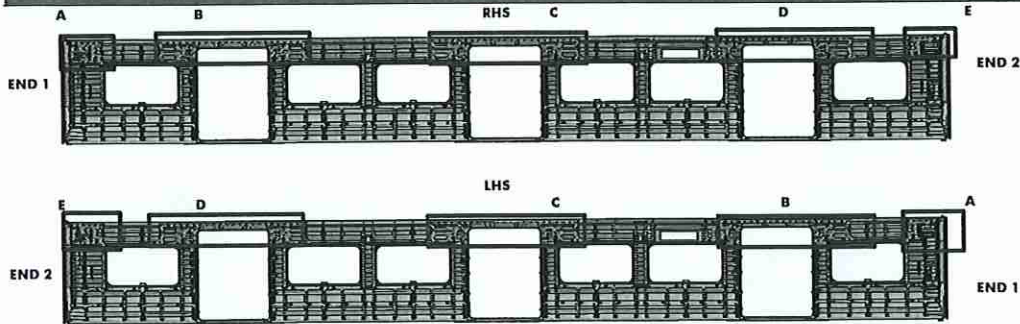
Operator (Name & sign): *Levy*

Operator (Name & sign): *Levy*


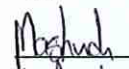
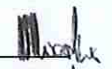

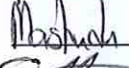
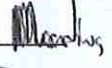



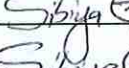
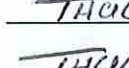
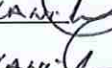
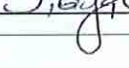
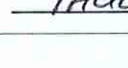
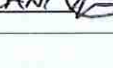
GALVANIZED STEEL SHEET CONFORMING TO FIELD
 Application Khanyilo
 FITTING QUALITY
 Signature
 2024-02-15

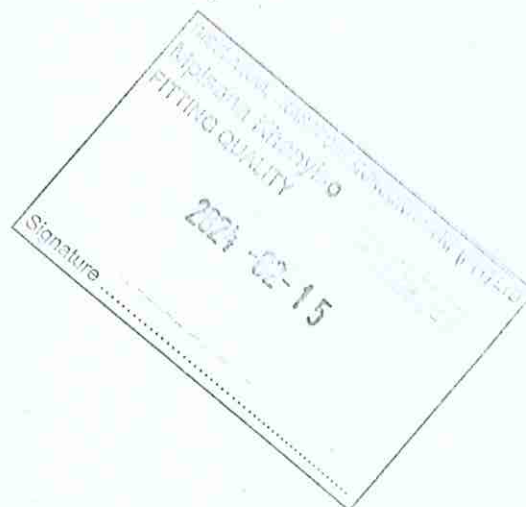
	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA
		29	
		Date	SI.CB1220.276.V29
		28/10/2023	


II - Self Inspection - Items to Check

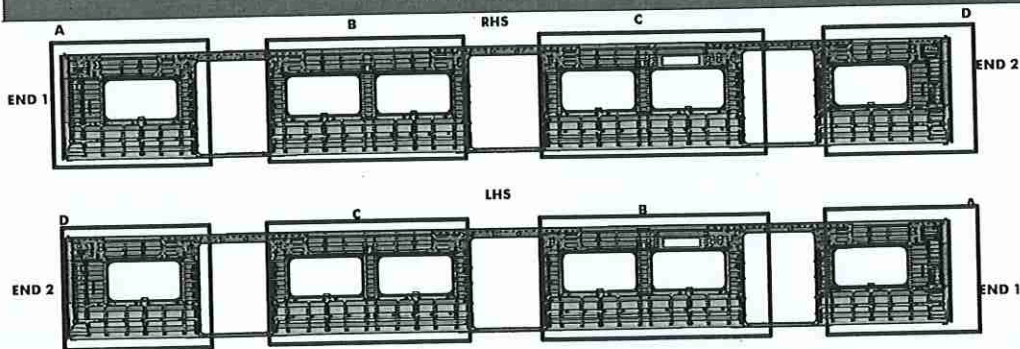


REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): 	 
B	Operator (Name&sign): 	 
C	Operator (Name&sign): 	 
D	Operator (Name&sign): 	 
E	Operator (Name&sign): 	 



	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev. 29	Project: PRASA SI.CB1220.276.V29
		Date 28/10/2023	
		II - Self Inspection - Items to Check	

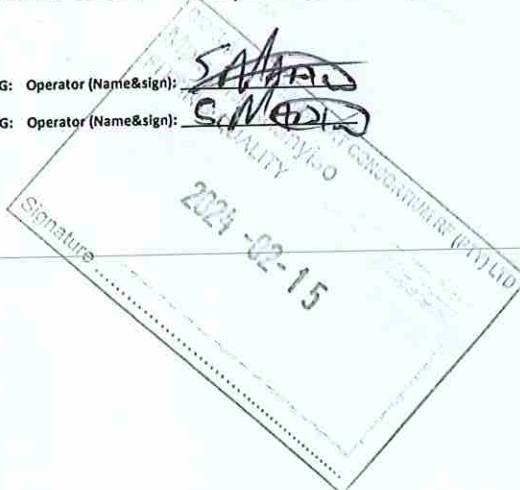



BRACKETING

C-RAILS:	Operator:	<u>Pascal</u>	
	Operator:		
DOOR MECHANISMS:	Operator:	<u>Mashudy</u>	
	Operator:		
TAPPING PADS	Operator:	<u>Sthe S. M. M.</u>	END 1
	Operator:	<u>C. M. M.</u>	END 2
SEAT & LUGGAGE BRACKETS:	Operator:	<u>Mkhize</u>	
	Operator:	<u>Mkhize</u>	
SEAT BRACKETS VERIFICATION:	Operator:	<u>Mkhize</u>	
	Operator:		

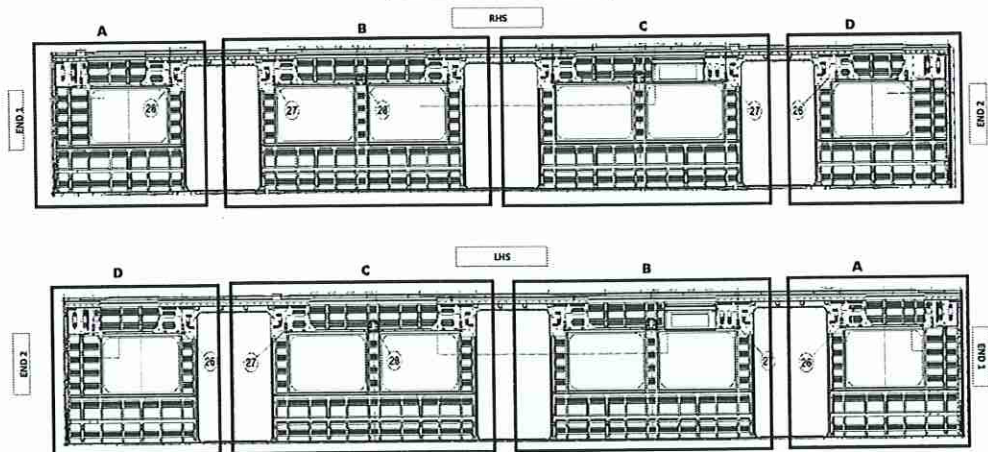
WELDING

AREA	LHS	RHS
A (Seat brackets)	: Operator (Name&sign): <u>LINDO</u>	: Operator (Name&sign): <u>LINDO</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>LINDO</u>	: Operator (Name&sign): <u>LINDO</u>
B (Seat brackets)	: Operator (Name&sign): <u>LINDO</u>	: Operator (Name&sign): <u>LINDO</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign):	: Operator (Name&sign):
C (Seat brackets)	: Operator (Name&sign): <u>Mmasheko Mkh</u>	: Operator (Name&sign): <u>Mmasheko Mkh</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>Mmasheko Mkh</u>	: Operator (Name&sign): <u>Mmasheko Mkh</u>
D (Seat brackets)	: Operator (Name&sign): <u>Mmasheko Mkh</u>	: Operator (Name&sign): <u>Mmasheko Mkh</u>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <u>Mmasheko Mkh</u>	: Operator (Name&sign): <u>Mmasheko Mkh</u>
ENDS		
END 1 TAPPING PADS WELDING:	Operator (Name&sign): <u>S. M. M.</u>	
END 2 TAPPING PADS WELDING:	Operator (Name&sign): <u>S. M. M.</u>	



	Rev.	Project: PRASA
	29	
	Date	SI.CB1220.276.V29
CARBODYSHELL M2 ASSEMBLY DTR31374497/2		28/10/2023

M2 BRACKET INSTALLATION



QUANTITIES (M2)

RHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	8		
	B	8		
	C	8		
	D	2		
SEAT BRACKETS	A	13		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	2		
	B	4		
	C	3		
	D	3		

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

VERIFICATION BY: Asanda

LHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	9		
	B	11		
	C	11		
	D	12		
SEAT BRACKETS	A	12		
	B	21		
	C	21		
	D	13		
EARTH BUSH	A	3		
	B	7		
	C	6		
	D	2		

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

VERIFICATION BY: Asanda

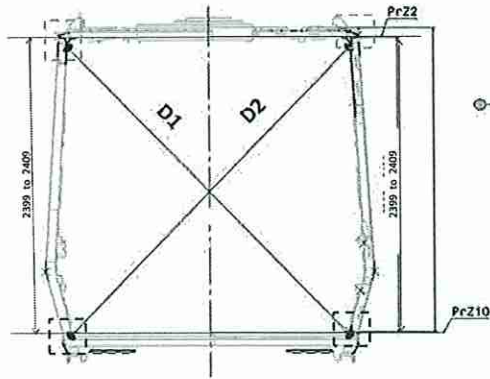
Signature

2024-02-15

For use only by the Contractor. Not to be used for any other purpose.

Signature: Khanyilo

FITTING QUALITY



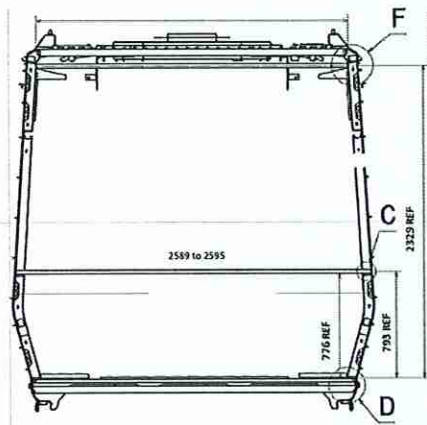
Measurement positions on roof rail and sidewall omega corner.



Reinforcement area measurement positions on roof reinforcement area.



Measurement positions on sidewall and side sill corner.



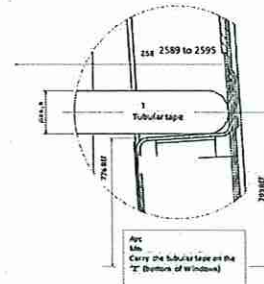
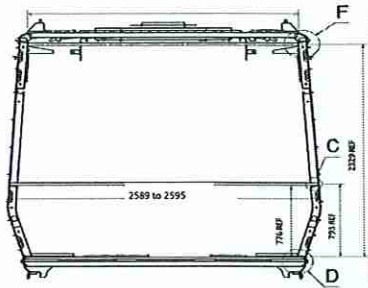


CARBODYSHELL M2 ASSEMBLY DTR31374497/2

Rev.	29
Date	28/10/2023

Project: PRASA

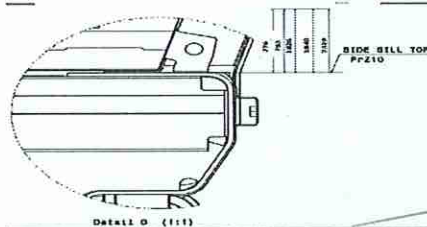
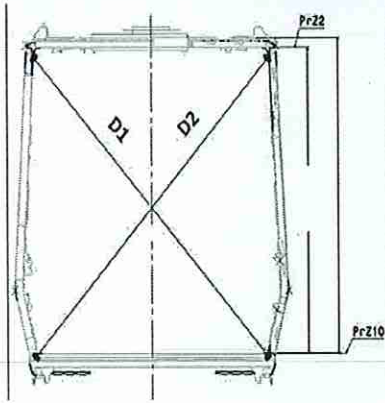
SI.CB1220.276.V29



Detail C




Take measurement close to radius



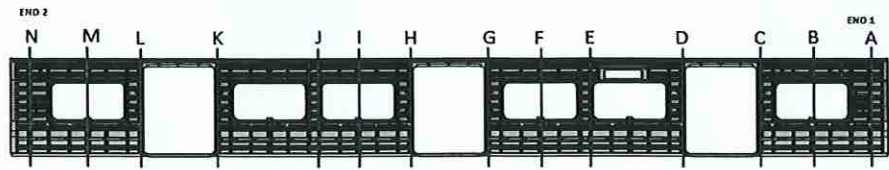
Signature

2024-02-15

QUALITY TRANSPORT CONSTRUCTION (P) LTD
Mphahle Khenyiso
FITTING QUALITY


	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA SI.CB1220.276.V29
		29	
		Date	
		28/10/2023	

CBS measurement



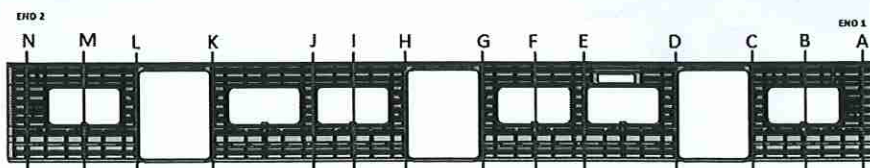
BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3300	3298	2	1
B	3267	3263	4	1
C	3297	3294	3	1
D	3296	3297	1	1
E	3265	3265	0	1
F	3264	3264	0	1
G	3298	3300	2	1
H	3298	3300	2	1
I	3263	3264	2	1
J	3266	3267	1	1
K	3299	3299	0	1
L	3298	3300	2	1
M	3267	3265	2	1
N	3298	3297	1	1


25-02-2024

Signature
2024-02-15
INSPECTION
FITTING QUALITY

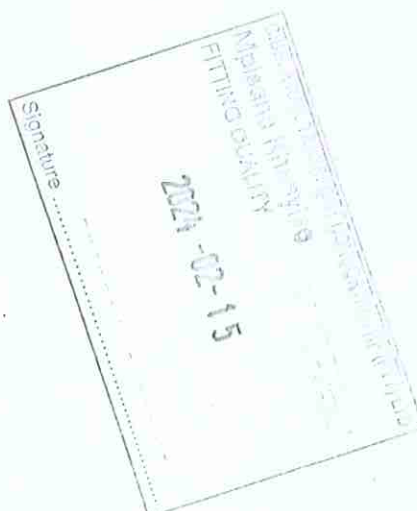
CBS measurement



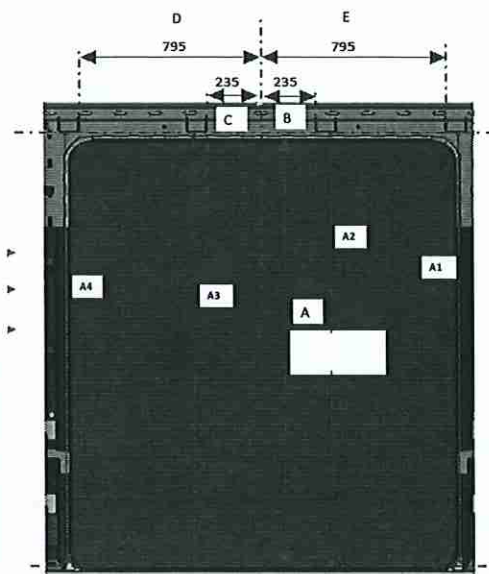
AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3300	3294	6	2595
B	3268	3262	6	2589
C	3298	3296	2	2589
D	3300	3299	1	2589
E	3265	3210	5	3264
F	3268	3264	4	2594
G	3300	3300	0	2595
H	3300	3300	0	2593
I	3265	3265	0	2594
J	3268	3270	2	2693
K	3300	3300	0	2591
L	3300	3300	0	2591
M	3266	3270	4	2589
N	3298	3299	1	2595

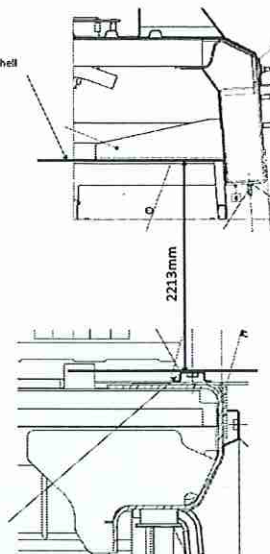
25-02-24



Specifications of Details for CBS measurement CB1220



Brackets Carbodyshell
U Type Supports



Brackets Carbodyshell
Channel Assy

DOOR 1 - LHS

	VALUE	ACTUAL
A1	2230 to 2232	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 2 - LHS

	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	234
C	234 to 236	235
D	794 to 796	796
E	794 to 796	794

DOOR 3 - LHS

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

DOOR 1 - RHS

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

DOOR 2 - RHS

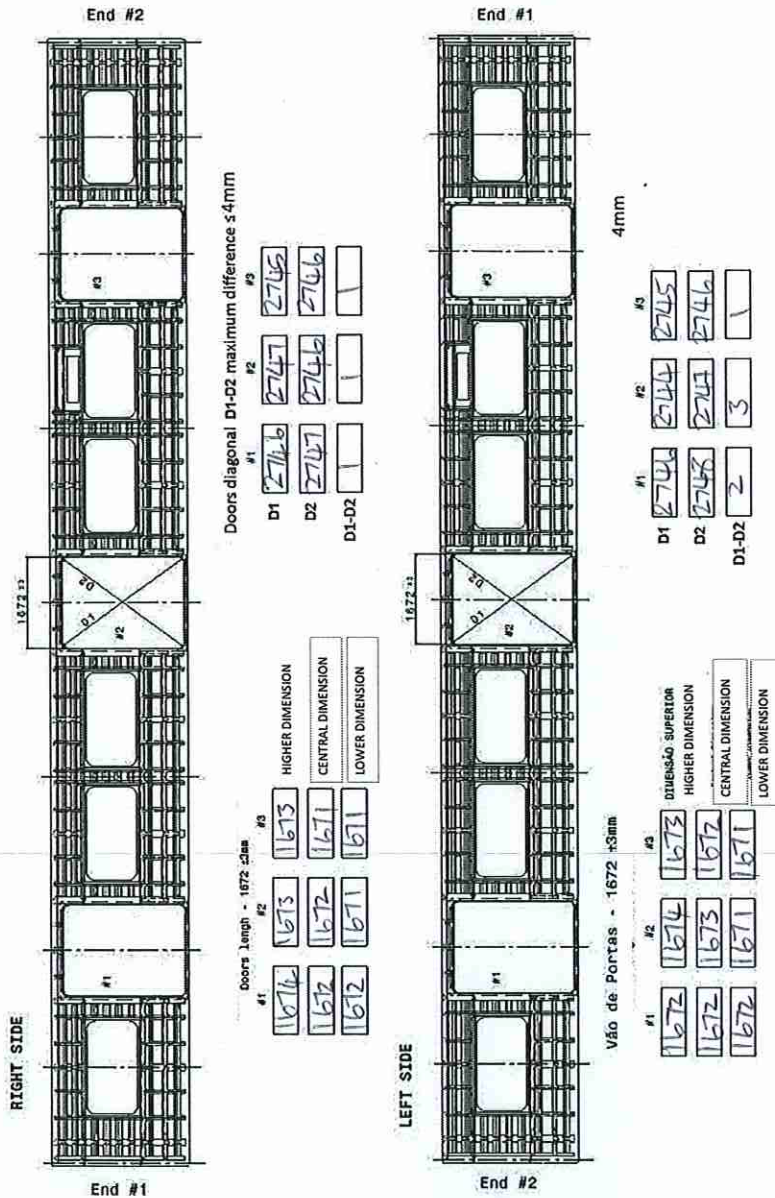
	VALUE	ACTUAL
A1	2230 to 2232	2232
A2	2230 to 2232	2232
A3	2230 to 2232	2231
A4	2230 to 2232	2231
B	234 to 236	234
C	234 to 236	235
D	794 to 796	795
E	794 to 796	795

DOOR 3 - RHS

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

25-02-2024
2024-02-15
GIBEL

Specifications of Details for CBS measurement CB1220




25-02-2024

2024-02-15

Signature


2024-02-15

	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA	
		29		
		Date	SI.CB1220.276.V29	
		28/10/2023		

CBS measurement (Manufacturing)

Dye penetrant test

Dye-penetration test to be performed by quality personnel



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




B.2 - Check List REX

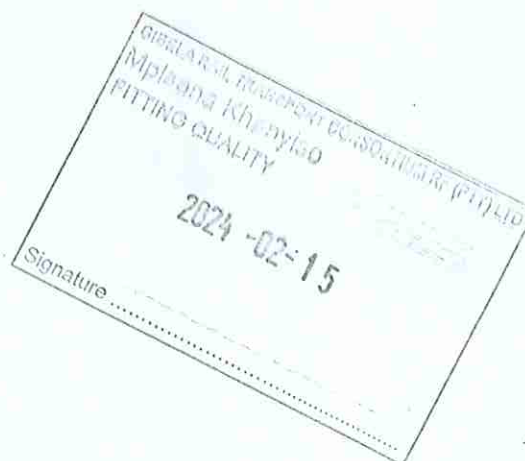
Check List Items								
Item	Picture/Drawing	Description	Criteria /Record	OK	NO	Issues	Signature/Date (Manufacturing)	Signature/Date Quality
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX					

RECEIVED
APPROVED
FITTING QUALITY

2024-02-15

Signature:

	CARBODYSHELL M2 ASSEMBLY DTR31374497/2	Rev.	Project: PRASA		
		29			
		Date	SI.CB1220.276.V29		
		28/10/2023			
Self Inspection - Final Result					
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)		DATE	NAME	SIGNATURE	
HOLD POINT	GO	(If activities are not complete, the missing activities must not impact the next stage!)	25-02-24	Asanida Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.	26/02/24	Richmond Industrial Quality	
	NO GO	There are activities pending that impact/stop the activities of the next process Obs: (To describe problems below)			
		There are non-conformities impact the quality of the product and there is no corrective action defined yet			
In case of "NO GO", describe blocking problems					
x4 C-Rail brackets missing - closed					
In case of "NO GO", the operations manager must define below action plan to ensure "GO":					
Item	Description	Responsible	Due date	Status	
		<div style="display: flex; justify-content: space-around;"> <div>Operations</div> <div>Quality</div> </div>			



GIBELA

PRASA PROJECT


APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

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

APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE							WORK INSTRUCTION	SAFETY ? 
				TC1	M4	M1	M2	M3	TC2			
<input type="checkbox"/>	AA00001374497	AAD0001413329	CARBODYSHELL M2 ASSEMBLY	CB1230				X			PRA.CB1230.AA00001374497.V20	YES
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
<input type="checkbox"/>												
	DATE	MODIFICATION CONTENT							RESPONSIBLE	NAME	DATE	
0	2018/08/02	GIBELA NEW CREATION							APPROVER	Philipe Marques	2018/08/02	
									CHECKER	Nosizo Pindela	2018/08/02	
									COMPILER	Nosizo Pindela	2018/08/02	
1	30/5/2018	Team leader and Quality Technician to sign Change final signature from PME Manager to Quality manager							APPROVER	Itumeleng Modiba	30/5/2018	
									CHECKER	Nosizo Pindela	30/5/2018	
									REVISED BY	Nosizo Pindela	30/5/2018	
2	2018/05/07	Certain dimensional checks moved to CB1220							APPROVER	Itumeleng Modiba	2018/05/07	
									CHECKER	Nosizo Pindela	2018/05/07	
									REVISED BY	Ramokone Motama	2018/05/07	
5	24/01/2019	As per Baseline 10.2							APPROVER	Itumeleng Modiba	24/01/2019	
									CHECKER	Nosizo Pindela	24/01/2019	
									REVISED BY	Vanessa Ntuli	24/01/2019	
6	13/03/2019	Added Twist and Door Bracket Measurements Remove Door Measurements							APPROVER	Itumeleng Modiba	13/03/2019	
									CHECKER	Nosizo Pindela	13/03/2019	
									REVISED BY	Vanessa Ntuli	13/03/2019	
10	23/03/2019	New Baseline 10.2.5							APPROVER	Itumeleng Modiba	23/08/2019	
									CHECKER	Nosizo Pindela	23/08/2019	
									REVISED BY	Nosizo Pindela	23/08/2019	
15	06/08/2020	New Baseline 10.2.6							APPROVER	Timothy Maimela	06/08/2020	
									CHECKER	Bongane Masina		
									REVISED BY	Bongane Masina		
20	19/04/2021	New Baseline change 10.3							APPROVER	Timothy Maimela	19/04/2021	
									CHECKER	Bongane Masina		
									REVISED BY	Bongane Masina		
25	20/02/2022	New Baseline change 10.3.1							APPROVER	Collins Mbhombhi	20/02/2022	
									CHECKER	Andani Muthelo		
									REVISED BY	Andani Muthelo		
26	14/06/2022	Update minimum temperature requirement for sealant application							APPROVER	Collins Mbhombhi	14/06/2022	
									CHECKER	Andani Muthelo		
									REVISED BY	Andani Muthelo		
27	26/07/2022	Threshold measurement addition							APPROVER	Collins Mbhombhi	27/07/2022	
									CHECKER	Andani Muthelo		
									REVISED BY	Andani Muthelo		
28	17/10/2022	Addition of traceability for sealant application							APPROVER	Collins Mbhombhi	17/10/2022	
									CHECKER	Ntokoza Zwane		
									REVISED BY	Amogelang Mohlampe		
29	14/04/2023	Added sealant batch number & welding consumables traceability							APPROVER	Vanessa Ntuli	14/04/2023	
									CHECKER	Ntokoza Zwane		
									REVISED BY	Amogelang Mohlampe		
30	06/11/2023	Added traceability on thresholds for boiler makers and welders							APPROVER	Ngobeni Tyson	06/11/2023	
									CHECKER	Andani Muthelo		
									REVISED BY	Ntokoza Zwane		
TRAINSET	CAR	OPERATOR NAME&ALPS NO			DATE		SELF INSPECTION NUMBER			PAGES		
204	M02	Zarele 48277			26/02/24		SI.CB1230.277.V29			11		





CARBODYSHELL M2 ASSEMBLY AA00001374497

Rev.
30

Date

06/11/2023

Project: PRASA

SI.CB1230.277.V29

Car:

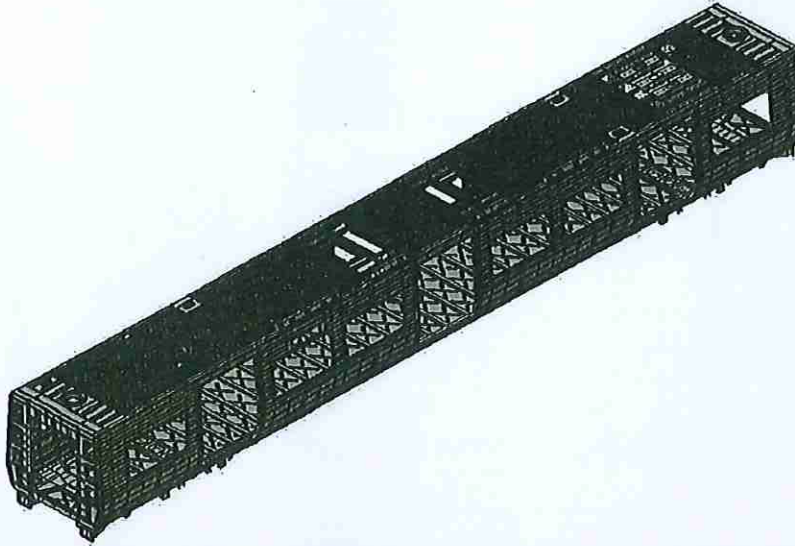
NCR:

Work station:

CB1230



Safety Related



I - Documentation and Instruments Control

I.1 - Documentation Control

Document	Type of car						Revision	Obsevation	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
	TC1	M1	M2	M3	M4	TC2						
PRA.CB1230.AA00001374497							30		X		N/A	26/02/24

I.2 - Instruments Control

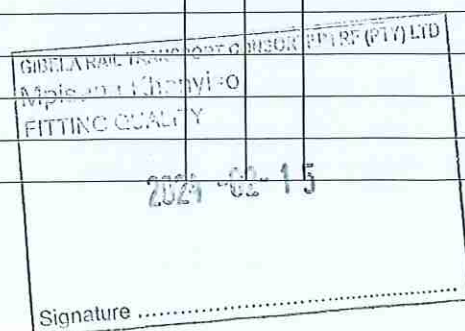
Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Serial number	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Tubular	22015	2024/02/05	X		26/02/24	
Tape measurement	9487A 0594	2024/04/05	X		26/02/24	
Combination Square	GIRCS 0137	2024/10/11	X		26/02/24	

1.3 Consumables



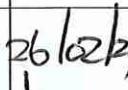
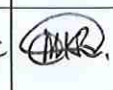
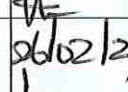
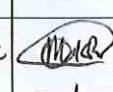
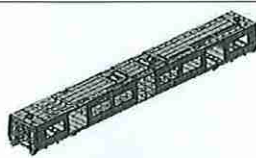
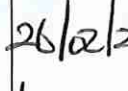
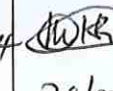
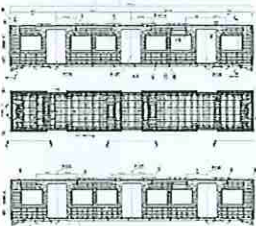

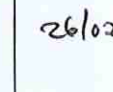
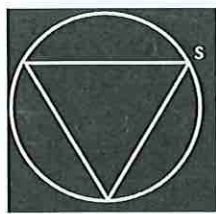

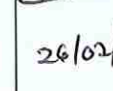
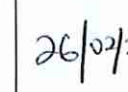
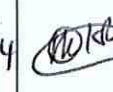
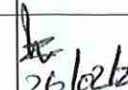
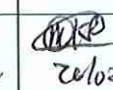
Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308 LSi	E231067	Mig	X		26/02/24	
						26/02/24

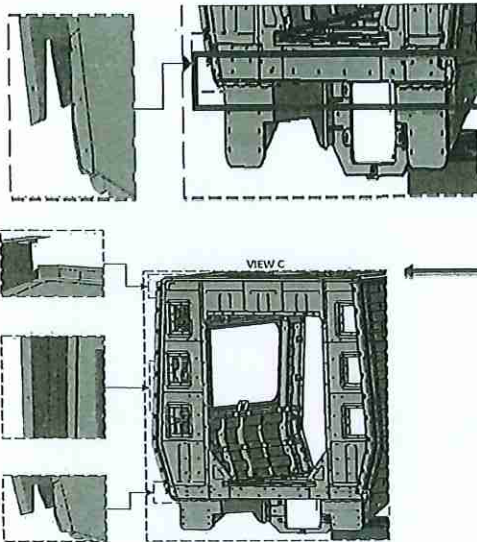


II - Self Inspection - Items to Check

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering nº PRA.CB1230.AA00001374497 Verification of fitment for all brackets.	PRA.CB1230.AA00001374497	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26/02/24 	 26/02/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality	DTD0000210675	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26/02/24 	 26/02/24
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"/>	<input type="checkbox"/>	26/02/24 	 26/02/24
04		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26/02/24 	 26/02/24
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"/>	<input type="checkbox"/>	26/02/24 	 26/02/24
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"/>	<input type="checkbox"/>	26/02/24 	 26/02/24
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: <div> <div>Temperature Min - Max (1)</div> <div>Min-Max</div> <div>10°C - 35°C</div> </div> <div> <div>Relative humidity Min - Max (1)</div> <div>Min-Max</div> <div>25% - 80%</div> </div>	Sealant Batch No: 23324250 Exp Date: 26 / 02 / 24 Actuals Temperature: 16°C Humidity: 78% FA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26/02/24 	 26/02/24
08	N/A	Verification of sealant application in regions of roof and sideframe.	Sealant applied in regions of roof and sideframe.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	26/02/24 	 26/02/24

AREA 1



END 2 SEALANT

OPERATOR
(Name & sign):

Leroy *[Signature]*

OPERATOR
(Name & sign):

Boitumelo *[Signature]* PP

OPERATOR
(Name & sign):

Leroy *[Signature]*



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

Operator (Name & sign):

LHS
D, E, G, H, I
Lerato *[Signature]*

Operator (Name & sign):

Buhle *[Signature]*

Operator (Name & sign):

F, H, I - BOTTOM

Operator (Name & sign):

Boitumelo

Operator (Name & sign):

[Signature]

Operator (Name & sign):

[Signature]

RHS
F, H, I - BOTTOM
Boitumelo

(E) Buhle *[Signature]*
Lerato *[Signature]*

(D) *[Signature]*

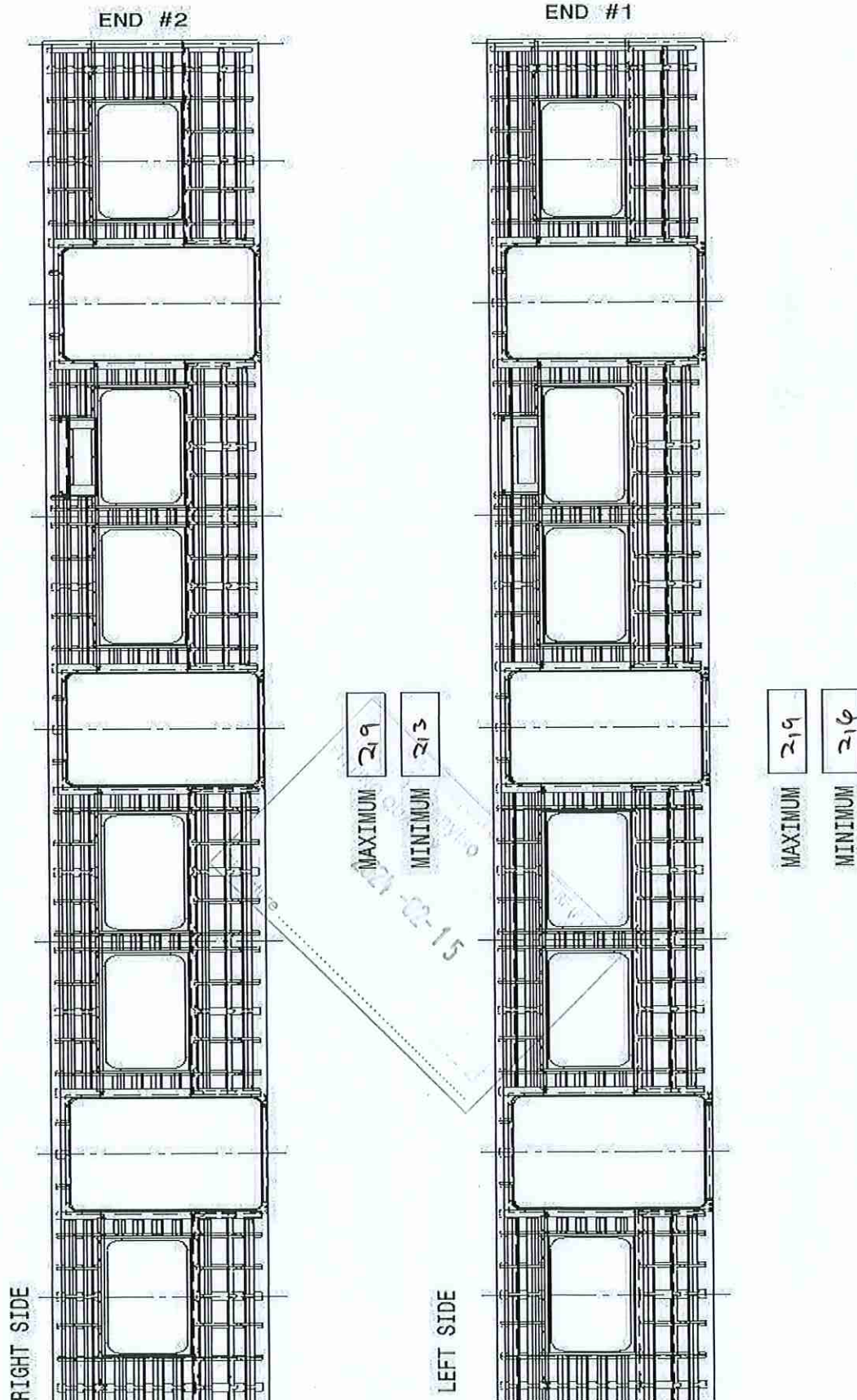
Isheolog *[Signature]*

Sihle *[Signature]*

APPROVED FOR RELEASE
Fitting Quality
2024-02-15
Signature

Specifications of Details for CBS measurement CB1230

latness side left and right maximum of 2mm in the valley to peak measured in 90°mm. Recod the maximum and minimum value found and indicate the corresponding region.





CARBODYSHELL M2 ASSEMBLY AA00001374497

Rev.
30

Project: PRASA

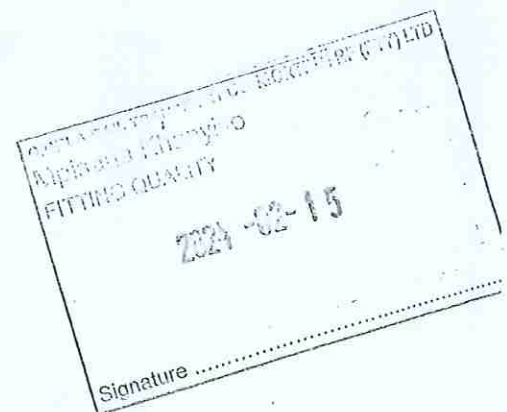
Date

06/11/2023

SI.CB1230.277.V29

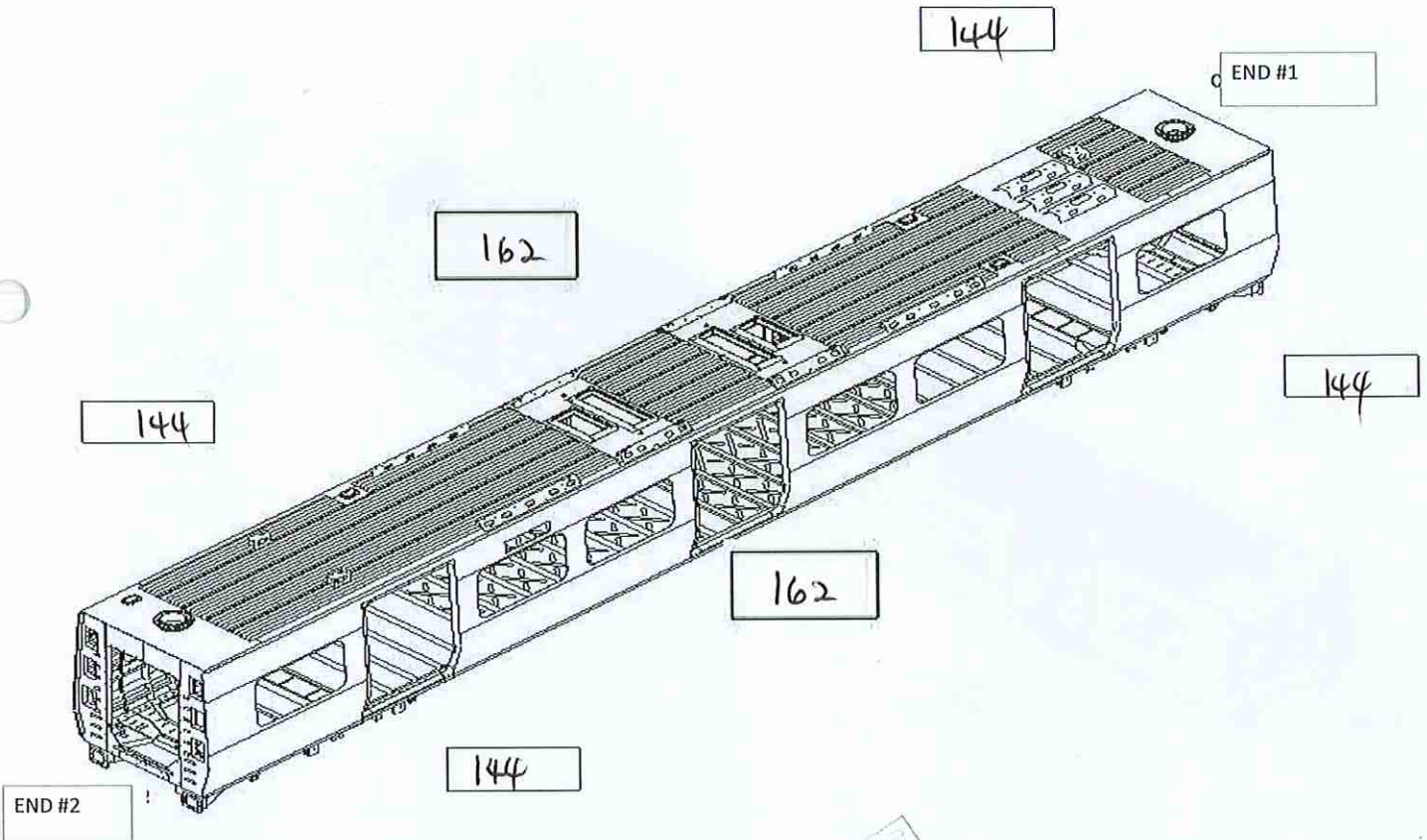
END #1

END #2



Specifications of Details for CBS measurement CB1230

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



CAMBER	
RIGHT	18
LEFT	18

Signature.....

2024-02-15

Inspected by: [Signature]

Approved by: [Signature]

Checked by: [Signature]

Drawn by: [Signature]

Project: PRASA

SI.CB1230.277.V29



CARBODYSHELL M2 ASSEMBLY AA00001374497

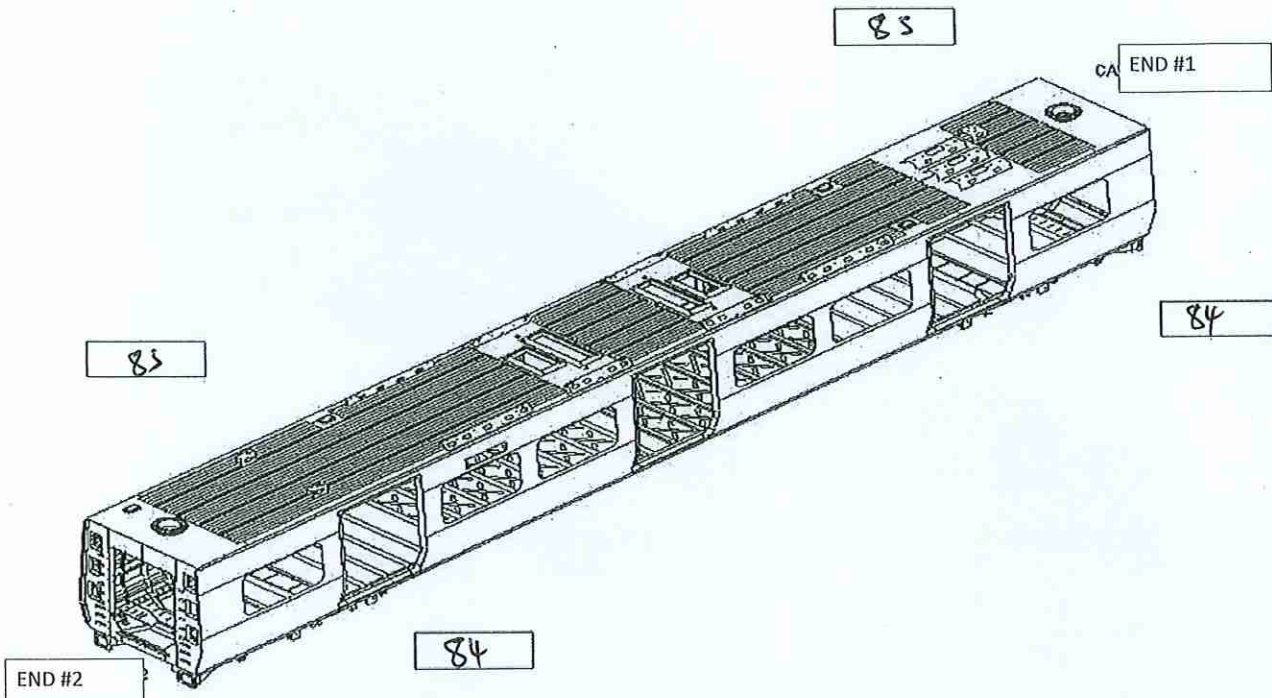
Rev.
30Date
06/11/2023

Project: PRASA

SI.CB1230.277.V29

Specifications of Details for CBS measurement CB1230

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



TWIST FOUND ON END 1

TRANVERSE

1

LONGITUDINAL

0

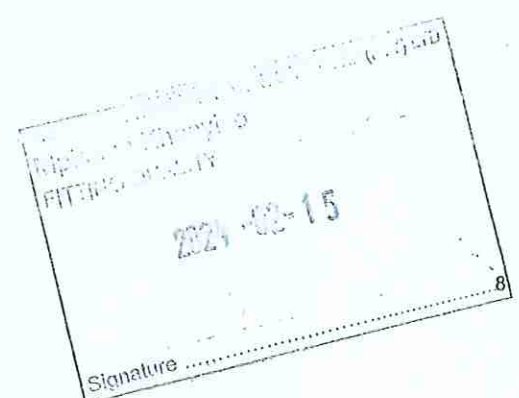
TWIST FOUND ON END 2

TRANVERSE

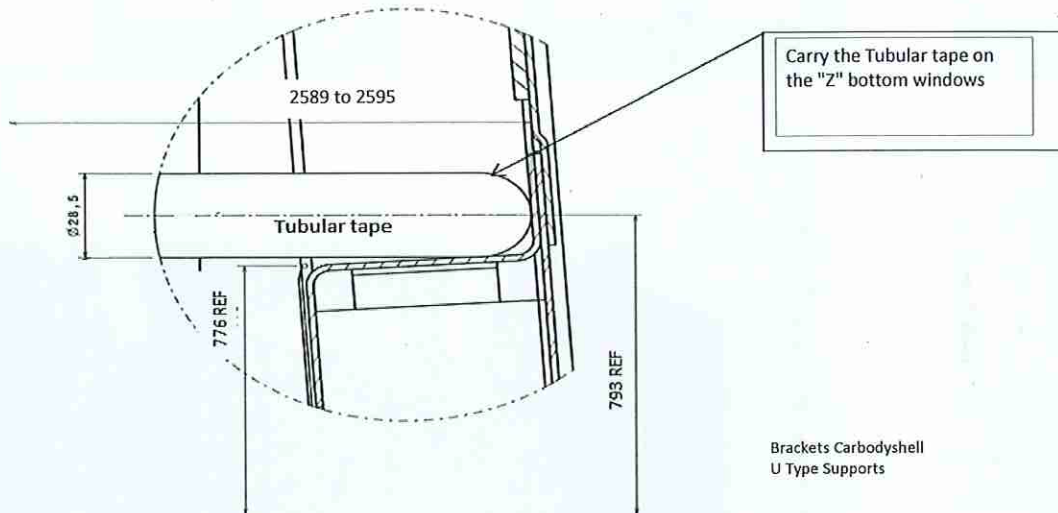
1

LONGITUDINAL

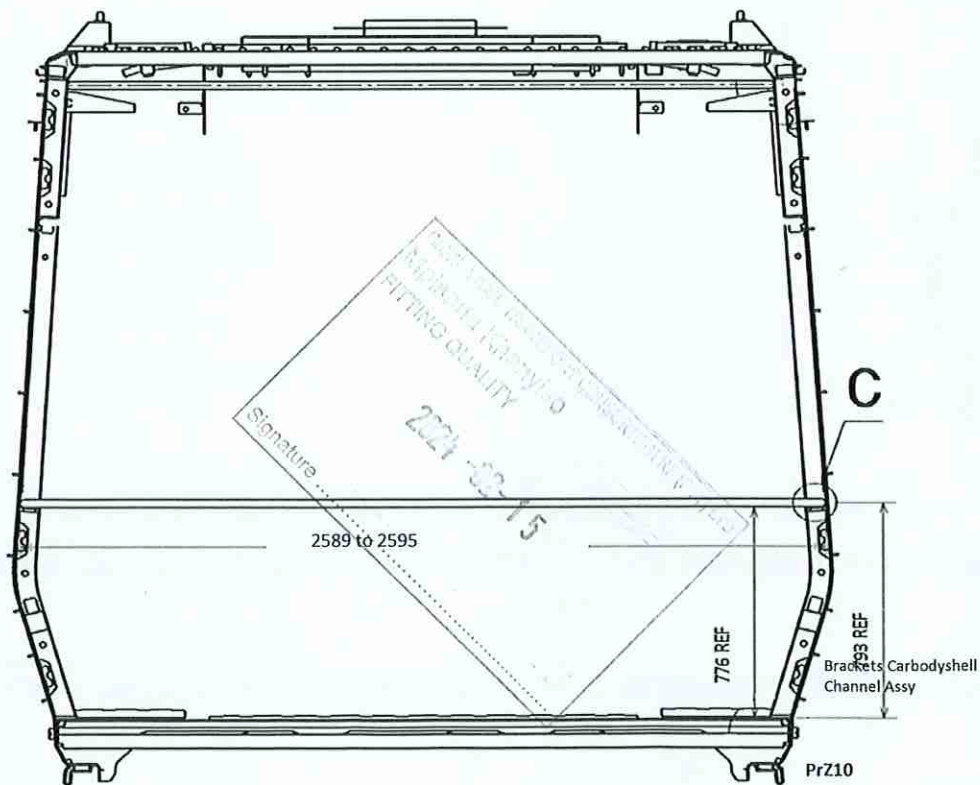
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Specifications of Details for CBS measurement CB1230



Detail C





CARBODYSHELL M2 ASSEMBLY AA00001374497

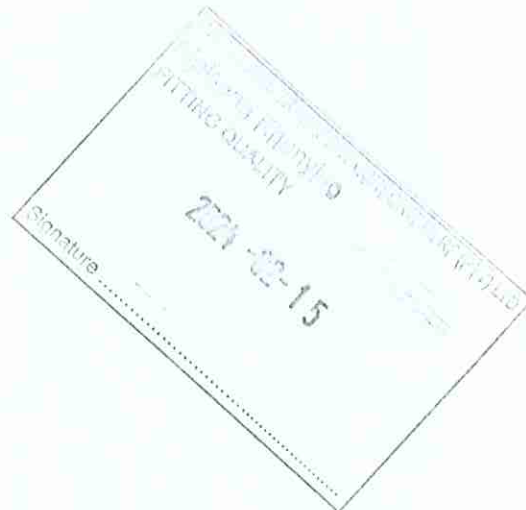
Rev.
30

Date

06/11/2023

Project: PRASA

SI.CB1230.277.V29





CARBODYSHELL M2 ASSEMBLY AA00001374497

Rev.
30

Project: PRASA

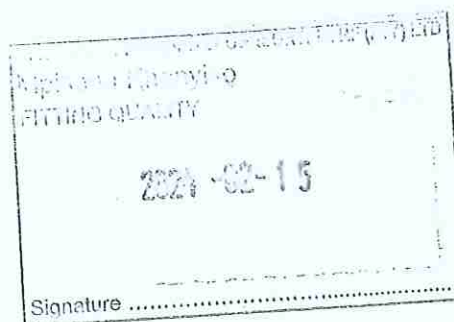
Date

06/11/2023

SI.CB1230.277.V29

Dye penetrant test

Dye-penetration test to be performed by quality personnel







CARBODYSHELL M2 ASSEMBLY AA00001374497

Rev.
30

Date

06/11/2023

Project: PRASA

SI.CB1230.277.V29

Self Inspection - Final Result

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

DATE

NAME

SIGNATURE

GO

(If activities are not complete, the missing activities must not impact the next stage!)

26/02/24

Zende

Operations

Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)

26/02/24

Richmond

Industrial Quality

NO GO

There are activities pending that impact/stop the activities of the next process
Obs: (To describe problems below)

There are non-conformities impact the quality of the product and there is no corrective action defined yet)

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

