

GIBELA

PRASA PROJECT

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

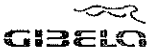
This document and the information contemplated therein have to be considered as Confidential Information pursuant to the provisions of Clause 25 of the MSA, and treated as such.

APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ?
				TC1	M4	M1	M2	M3	TC2		
DTR30223319/3	AAD0001241033	Carshell Assembly TC	CB1210	X						X	YES

REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE
0	09/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018
			CHECKER	Nosizo Pindela	09/04/2018
			COMPILED	Thanyani Mathegu	06/04/2018
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	2018/06/18	MODIFICATION CONTENT	APPROVER	Itumeleng Modiba	2018/06/18
			CHECKER	Nosizo Pindela	2018/06/18
			REVISED BY	Ramokone Motama	2018/06/18
3	2018/12/12	Additional checkpoints	APPROVER	Itumeleng Modiba	2018/12/12
			CHECKER	Nosizo Pindela	2018/12/12
			REVISED BY	Ramokone Motama	2018/12/12
5	22/01/2019	As per Baseline 10.2	APPROVER	Itumeleng Modiba	22/01/2019
			CHECKER	Nosizo Pindela	22/01/2019
			REVISED BY	Vanessa Ntuli	22/01/2019
6	2019/11/03	Record D1 and D2 on Self - Inspection	APPROVER	Itumeleng Modiba	2019/11/03
			CHECKER	Nosizo Pindela	2019/11/03
			REVISED BY	Nosizo Pindela	2019/11/03
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	19/04/2020	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	Mohlame Amogelang	
			REVISED BY	Mohlame Amogelang	
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Mathapo Kelebone	
			REVISED BY	Mohlame Amogelang	
28	07/11/2023	Addition of welding traceability	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Andani Muthelo	
			REVISED BY	Ntokozo Zwane	
TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
229	TC1	LAWRENCE H82999	31/05/24	SI.CB1210.322.V28	16

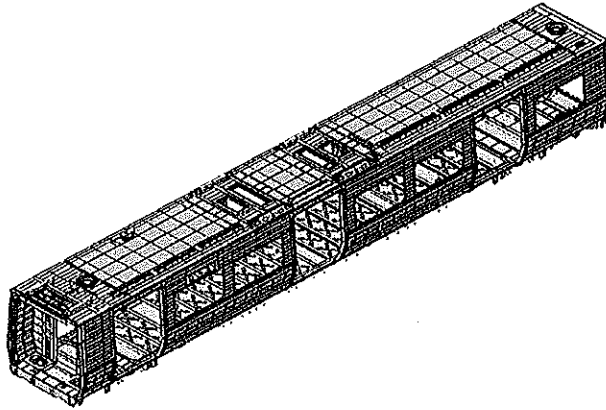
2024-05-20
INDUSTRIAL QUALITY
MANAGEMENT

	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB1210.322.V28
		Date- 07/11/2023	

Car: TC1 & TC2	NCR:	Work station: CB1210
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Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
	P	F	S	S	S	S						
DTR30223319/3	✓						V28		✓		N/A	21/05/24

I.2 - Instruments Control

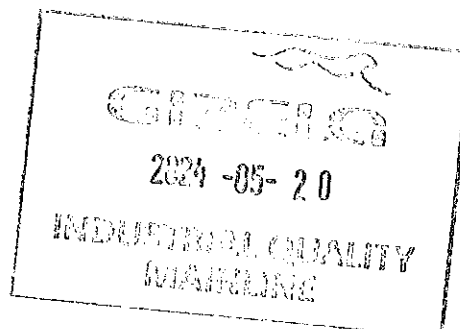
Monitoring and Measuring Instrument Control - Used for Special Process


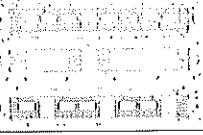
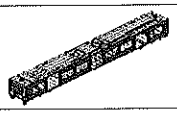
Instruments	Validation	Calibration or Verification Validation Date	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
LAZER TAPE	125425921	01/03/2024	✓		21/05/24	
30 M TAPE	GIBTP0049	24/11/2023	✓		21/05/24	
Tubular	32823-2	15/03/2024	✓		21/05/24	21/05/24

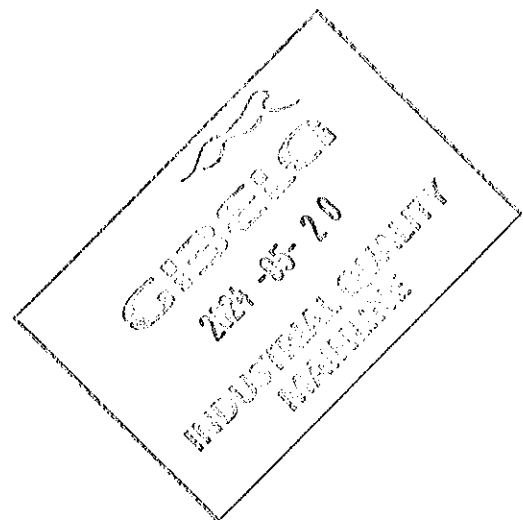
1.3 Consumables


Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	N/A	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	314018-74097	MIG	✓		21/05/24	
ER 308 L	294687-70322	TIG	✓		21/05/24	
ER 309 LSI	316283-73957	MIG	✓		21/05/24	21/05/24

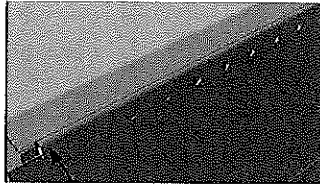


		DTR30223319/3 Carshell Assembly TC		Rev. V28	Project: PRA5A		
				Date: 07/11/2023	SI.CB1210.322.V28		
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	DT00000284980	✓		J. J. J. 21/05/24	21/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓		J. J. J. 21/05/24	21/05/24
03		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓		J. J. J. 21/05/24	21/05/24
04	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		J. J. J. 21/05/24	21/05/24
05	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		J. J. J. 21/05/24	21/05/24
06		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		J. J. J. 21/05/24	21/05/24
07	N/A	Perform visual inspection of welds in 100% of the project. Run by penetrant testing in electric arc welding (weld ring) as IND-SAL-WMS-018.	As the welding procedure IND-SAL-WMS-018 and DTD0000210658	✓		J. J. J. 21/05/24	21/05/24



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB1210.322.V28
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Welder traceability			

Roof ring welds



Boiler maker (Name & Sign): <u>SEAN</u> <u>[Signature]</u> ^{LHS}	Welder (Name & Sign): <u>Bobbert</u> <u>[Signature]</u>
Boiler maker (Name & Sign): <u>Justice</u> <u>[Signature]</u> ^{RHS}	Welder (Name & Sign): <u>Bobbert</u> <u>[Signature]</u>

END 1

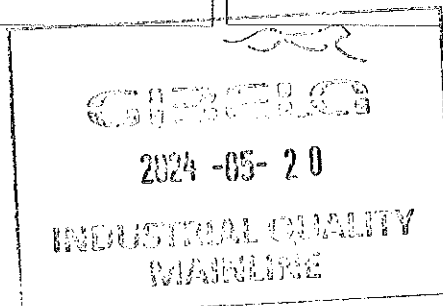
Boiler maker (Name & Sign): <u>SEAN</u> <u>[Signature]</u> ^{LHS}	Welder (Name & Sign): <u>Bobbert</u> <u>[Signature]</u>
Boiler maker (Name & Sign): <u>Justice</u> <u>[Signature]</u> ^{RHS}	Welder (Name & Sign): <u>Bobbert</u> <u>[Signature]</u>


END 2



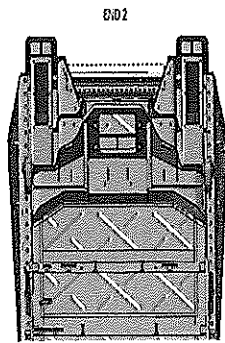
Boiler maker (Name & Sign): <u>Tim Peden</u> <u>[Signature]</u> ^{LHS}
Welder (Name & Sign): <u>Gift</u> <u>[Signature]</u>

Boiler maker (Name & Sign): <u>Tim Peden</u> <u>[Signature]</u> ^{RHS}
Welder (Name & Sign): <u>Gift</u> <u>[Signature]</u>

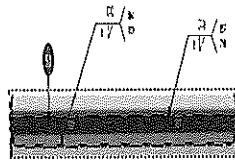


	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
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EUf Reinforcement Plates



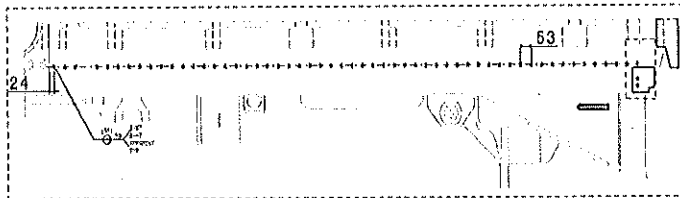
Underneath the CAR



END 2

Boiler maker (Name & Sign): P. Mouton


Welder (Name & Sign): Thibaut Kadda

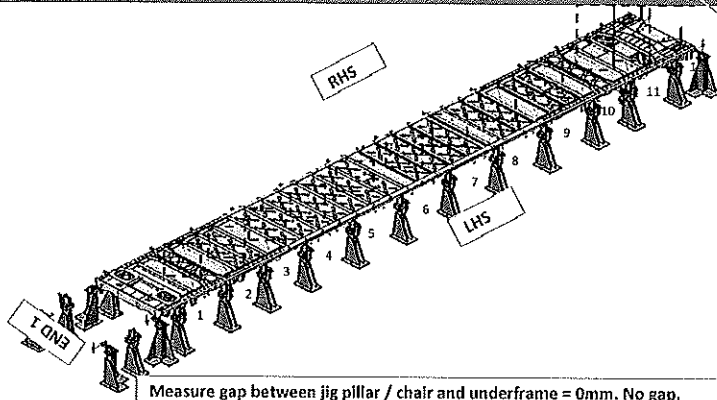


FEDOLI

Operator: Lawrence Wilgore



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB1210.322.V28
		Date- 07/11/2023	
Specifications of Details for CBS measurement			



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

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


After Loading Underframe and Clamping.

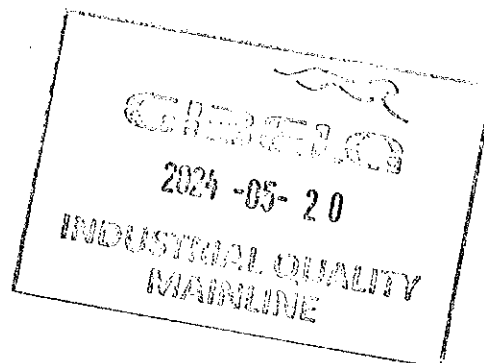
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Left Hand Side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Right Hand Side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature Operations:  Date: 21/05/24

After Welding.

	1	2	3	4	5	6	7	8	9	10	11	12
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Right Hand Side	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature Industrial Quality:  Date: 21/05/24



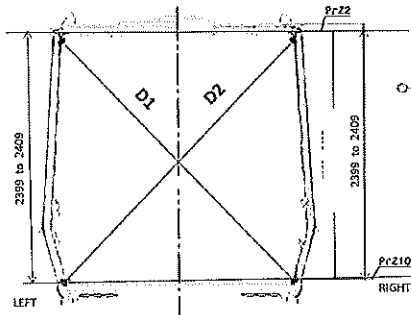
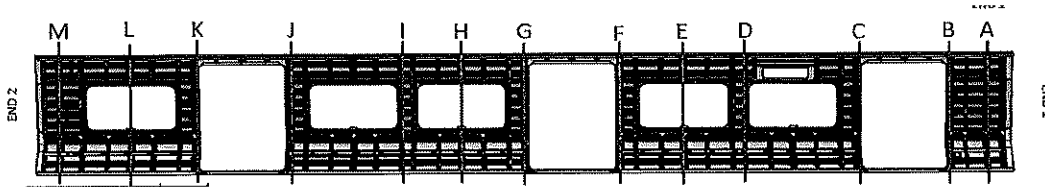


DTR30223319/3 Carshell Assembly TC

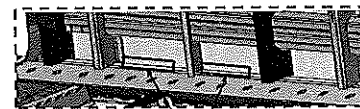
Rev.
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07/11/2023

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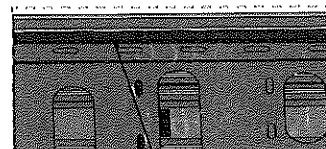
Specifications of Details for CBS measurement



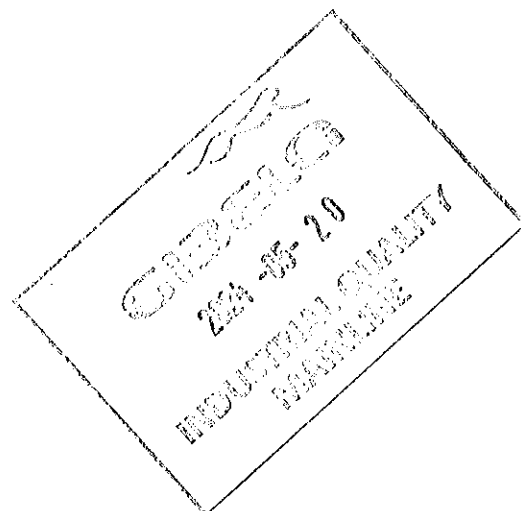
Measurement positions on roof rail and sidewall omega corner.




Measurement positions on sidewall and side sill corner.

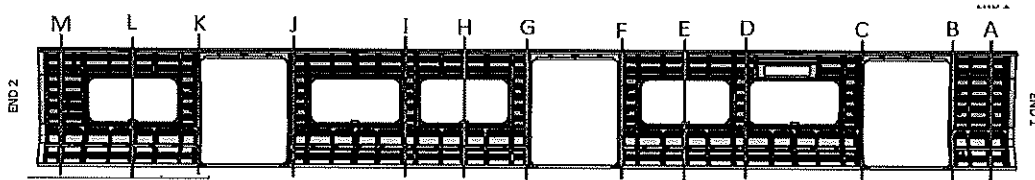


Reinforcement area measurement positions on roof reinforcement area.



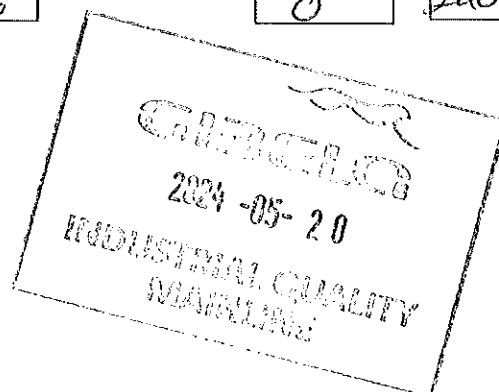
	DTR30223319/3 Carshell Assembly TC	Rev. V28 Date: 07/11/2023	Project: PRASA SI.CB1210.322.V28
Specifications of Details for CBS measurement			


BEFORE WELDING



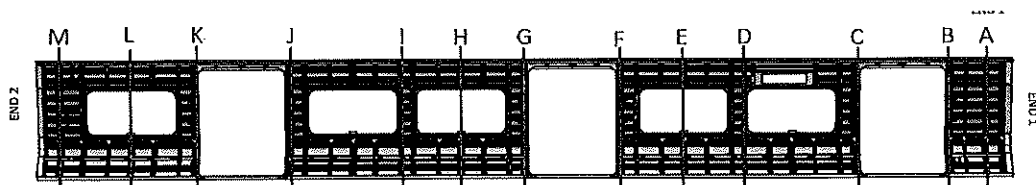
PME: The difference in Height values measured on the LHS and RHS should be $\leq 2\text{MM}$ on each point.

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



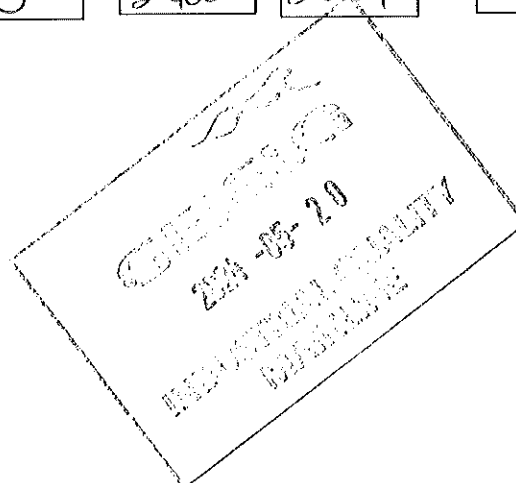
	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB1210.322.V28
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Specifications of Details for CBS measurement			


AFTER WELDING



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

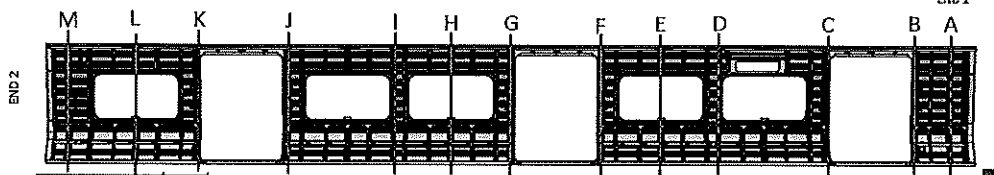
	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3267	3267	0	2405	2404	1
B	3294	3294	0	2404	2404	0
C	3294	3293	1	2405	2404	1
D	3266	3266	0	2404	2404	0
E	3266	3266	0	2405	2404	1
F	3292	3292	0	2404	2405	1
G	3293	3292	1	2406	2404	2
H	3267	3267	0	2404	2405	1
I	3266	3267	1	2404	2406	2
J	3294	3294	0	2405	2405	0
K	3294	3293	1	2404	2404	0
L	3267	3268	1	2405	2405	0
M	3294	3294	0	2404	2404	0



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB1210.322.V28
		Date- 07/11/2023	

CBS measurement

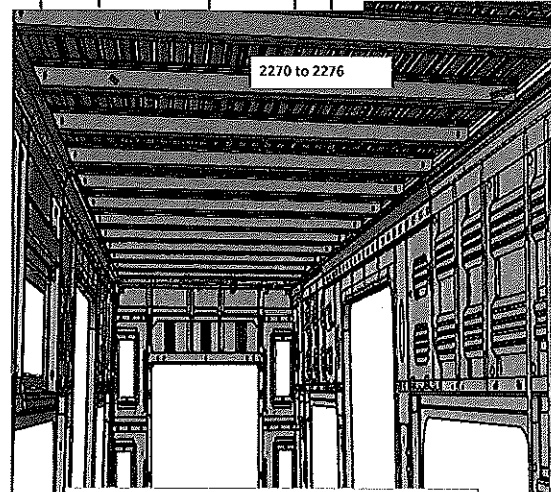
BEFORE WELDING



2270 to 2276

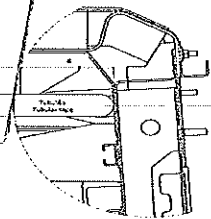
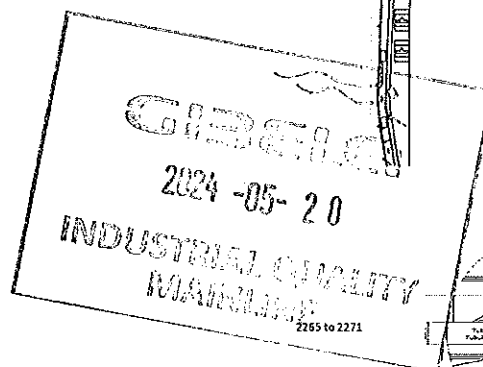
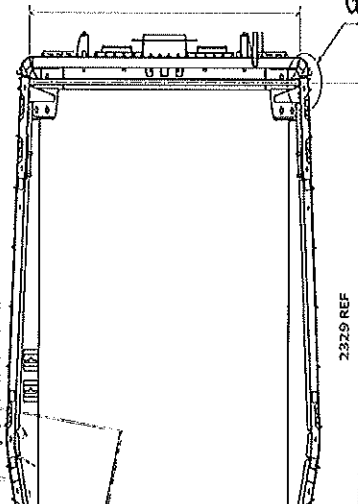
2268 a 2274

A	2270
B	2272
C	2272
D	2271
E	2274
F	2274
G	2275
H	2272
I	2270
J	2272
K	2274
L	2270
M	2271



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

2265 to 2271



Detail G
Consider the reinforcement plate



DTR30223319/3 Carshell Assembly TC

Rev.
V28

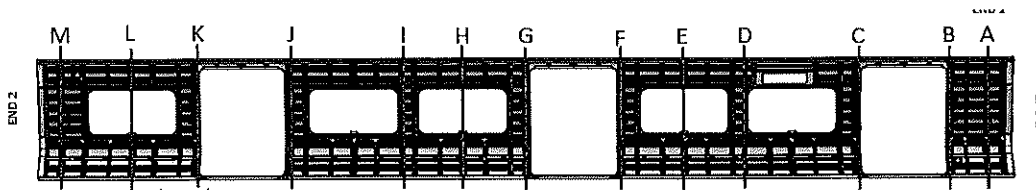
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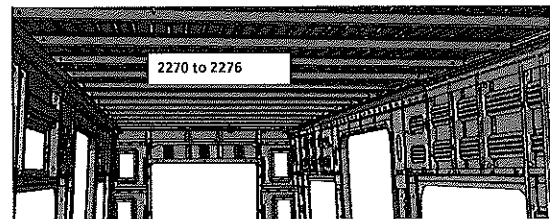
SI,CB1210.322.V28

Specifications of Details for CBS measurement

AFTER WELDING

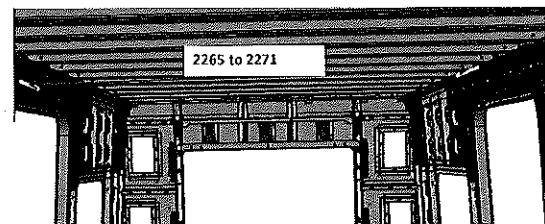


	2265 to 2271	2270 to 2276
A	N/A	2270
B	2268	N/A
C	2268	N/A
D	N/A	2271
E	N/A	2274
F	2270	N/A
G	2271	N/A
H	N/A	2272
I	N/A	2270
J	2268	N/A
K	2270	N/A
L	N/A	2270
M	2267	N/A



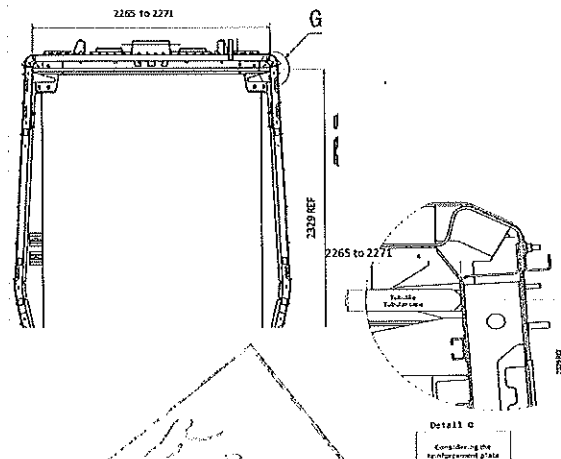
2270 to 2276

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



2265 to 2271

Take measurement close to radius (considering
reinforcement)

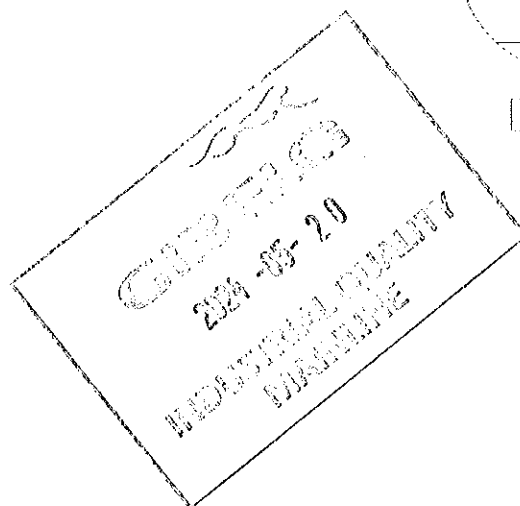


2265 to 2271

2270 REF

2265 to 2271

Detail c
Consider reinforcement plate





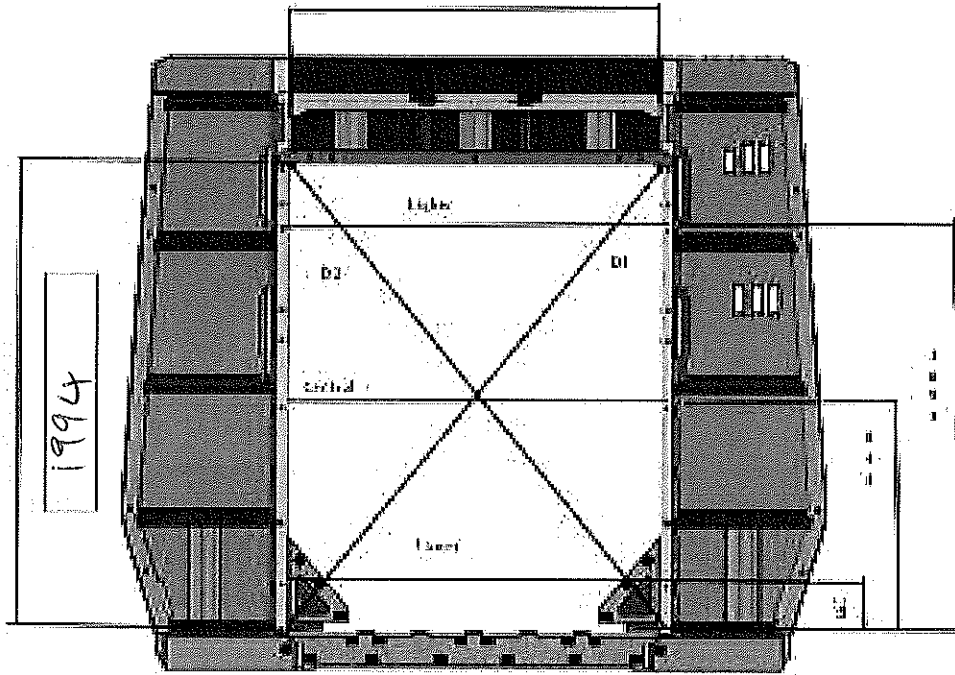
DTR30223319/3 Carshell Assembly TC

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V28
Date-
07/11/2023

Project: PRASA
SI.CB1210.322.V28

Specifications of Details for CBS measurement

Endframe 2



Upper Dimension

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

Upper Dimension

1380

D1

2415

Central Dimension

1381

D2

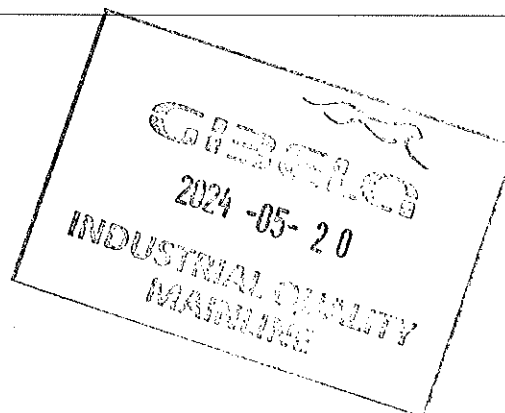
2414

Lower Dimension

1380

D1-D2

1





DTR30223319/3 Carshell Assembly TC

Rev.

V28

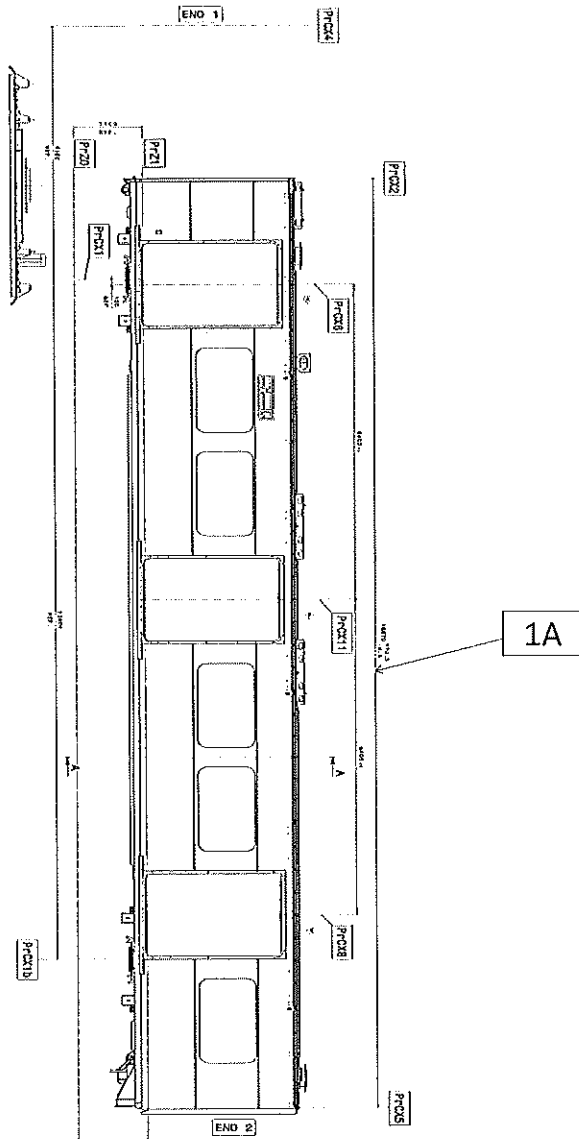
Project: PRASA

Date-

07/11/2023

SI.CB1210.322.V28

Specifications of Details for CBS measurement



LEFT SIDE

SPECIFICATION SIZE

ACTUAL SIZE

1A

18870

+10.5
-4.5

18874

RIGHT SIDE

SPECIFICATION SIZE

ACTUAL SIZE

1A

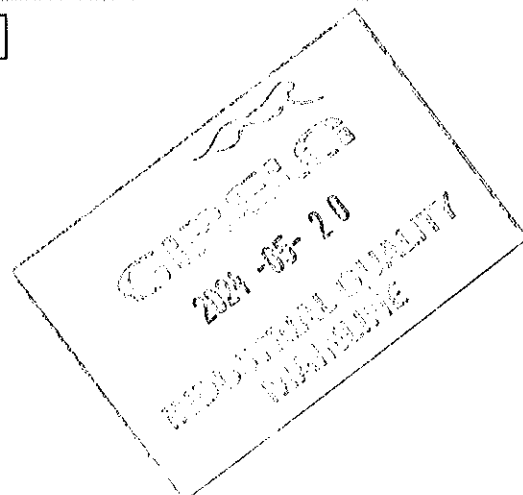
18870

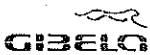
+10.5
-4.5


18874


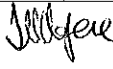

Dye penetrant test

Dye-penetration test to be performed by quality personnel



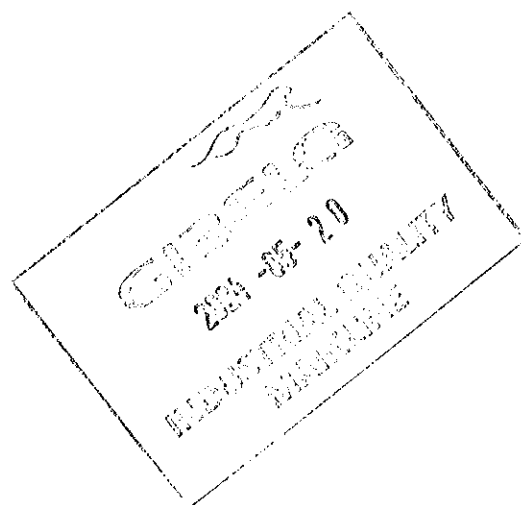
		DTR30223319/3 Carshell Assembly TC		Rev. V28		Project: PRASA			
				Date- 07/11/2023		SI.CB1210.322.V28			
Item	Description of the Issue					OK	Signature/Date (Manufacturing)		Signature/Date (Quality)
II.2 - Check List REX									
Check List Items									
Item	Picture/Drawing	Description	Criteria /Record	OK				Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. How defects must be added on the REX						



2024-05-20
INDUSTRIAL QUALITY
MAINLINE

		DTR30223319/3 Carshell Assembly TC		Rev. V28	Project: PRASA	
				Date- 07/11/2023	SI.CB1210.322.V28	
Self Inspection - Final Result						
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT	GO	If activities are not complete, the missing activities must not impact the next stage!		21/05/24	LAWRENCE	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)		21/05/24	Richmond	
		There are activities pendings 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	Action	Responsible	Due date	Status	

Operations

Quality

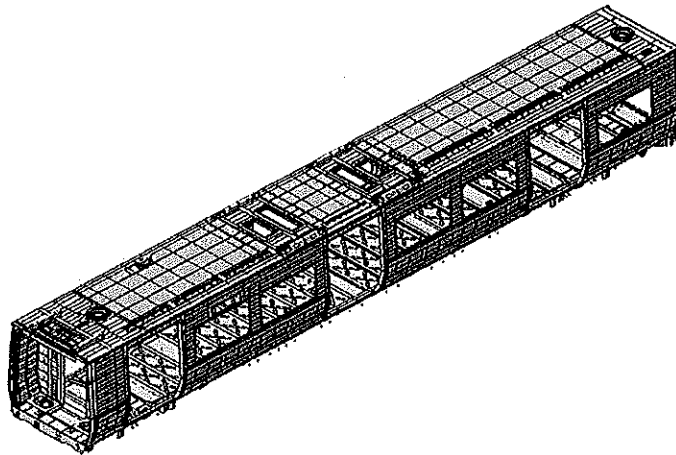


	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date- 28/10/2023	

Carro Car:	TC1, TC2	NCR:	Work station:	CB1220
---------------	----------	------	---------------	--------



Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	TC	M1	M2	M3	M4					
DTR30223319/2	✓					29	22/05/24	✓	N/A	<i>[Signature]</i>

I.2 - Instruments Control


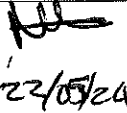

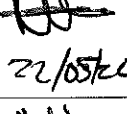

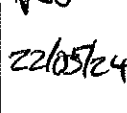



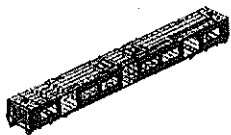
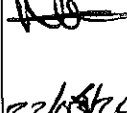

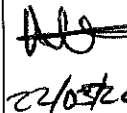


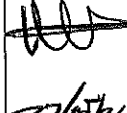



Monitoring and Measuring Instrument Control - Used for Special Process






Instruments	Validation	Calibration or Verification Validation Date	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tabular	32823-3	15/03/2025	✓	<i>[Signature]</i> 22/05/24	<i>[Signature]</i>
Tape measure	GIBTA428	2025/04/17	✓	<i>[Signature]</i> 22/05/24	<i>[Signature]</i>

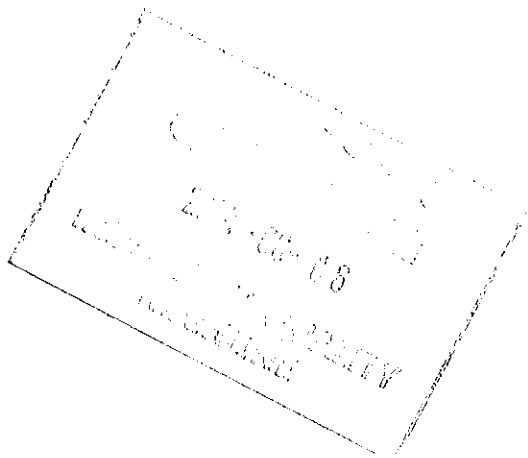
1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
308	333779	308 MIG	✓	<i>[Signature]</i> 22/05/24	<i>[Signature]</i>

		DTR30223319/2 Carshell Assembly TC		Rev. 29	Project: PRASA										
				Date-	SI.CB1220.323.V29										
				28/10/2023											
II - Control Activities of Production															
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.DTR30225487/2 Verification of fitment for all reinforcement brackets.	DTR30223319/2	✓		 22/05/24	 22/05/24								
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓		 22/05/24	 22/05/24								
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		 22/05/24	 22/05/24								
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		 22/05/24	 22/05/24								
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		 23/05/24	 24/05/24								
06	N/A	Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓		 22/05/24	 22/05/24								
07		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	✓		 22/05/24	 22/05/24								
08	N/A	<p>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</p> <p>Specified:</p> <table border="1"> <tr> <td>Temperature Min - Max (t)</td> <td>Min-Max</td> </tr> <tr> <td>10°C - 35°C</td> <td></td> </tr> <tr> <td>Relative humidity Min - Max (t)</td> <td>Min-Max</td> </tr> <tr> <td>25% - 60%</td> <td></td> </tr> </table> <p>Sealant Batch No: 15R-7003 Exp Date: 09 / 06 / 24</p> <p>Actuals</p> <p>Temperature: 19°C Humidity: 29%</p>	Temperature Min - Max (t)	Min-Max	10°C - 35°C		Relative humidity Min - Max (t)	Min-Max	25% - 60%					 22/05/24	 22/05/24
Temperature Min - Max (t)	Min-Max														
10°C - 35°C															
Relative humidity Min - Max (t)	Min-Max														
25% - 60%															

		DTR30223319/2 Garshell Assembly TC		Rev. 29	Project: PRASA			
				Date- 28/10/2023	SI.CB1220.323.V29			
09	NA	Verification of sealant application in certain regions in the drawing.	AAD0001241033	✓			 22/05/24	 22/05/24
10	NA	Verification of sealant application on the roof and sidewall finishers	Sealant must be: -Applied straight and even (1.5mm) -Free of gaps,cracks,damage and debris (flashes, dirt, dust) Refer to Annexure B	✓			 22/05/24	 22/05/24





DTR30223319/2 Carshell Assembly TC

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29

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28/10/2023

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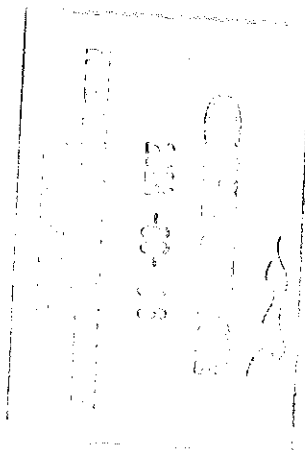
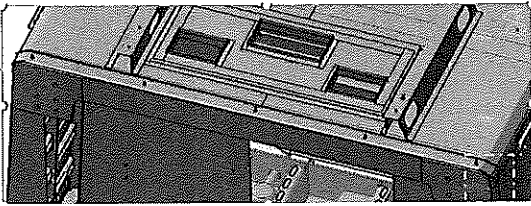
END 1
SEALANT


OPERATOR
(Name & sign):

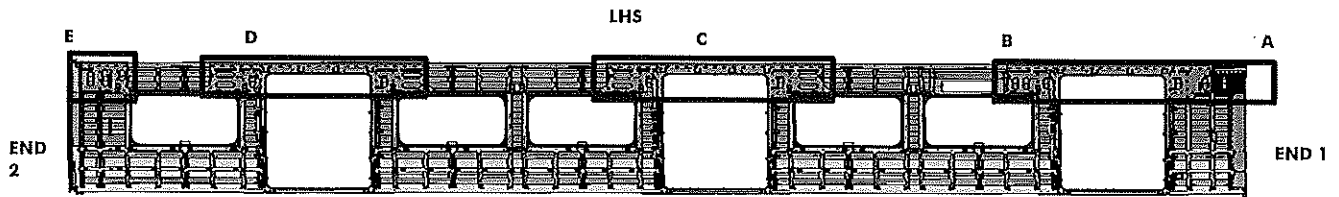
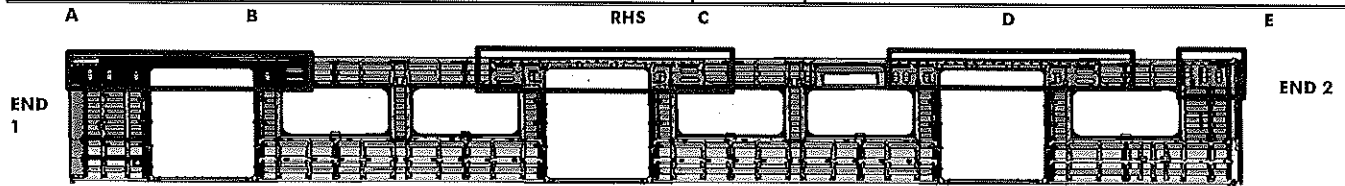
Leroy

OPERATOR
(Name & sign):

Leroy

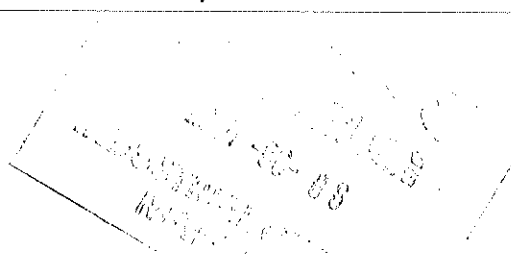



	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date-	
		28/10/2023	

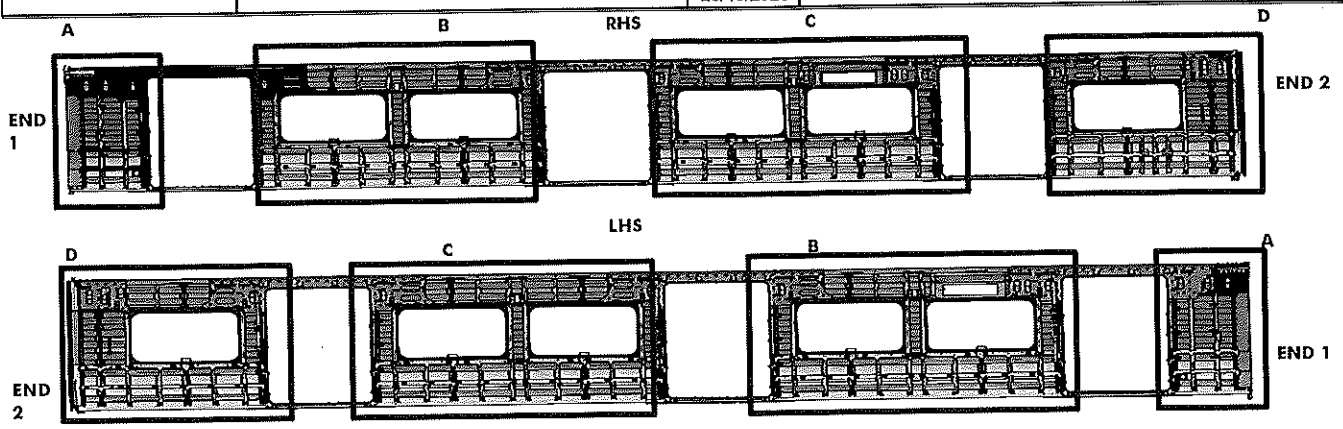


REINFORCEMENT WELDING

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




	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date- 28/10/2023	





BRACKETING

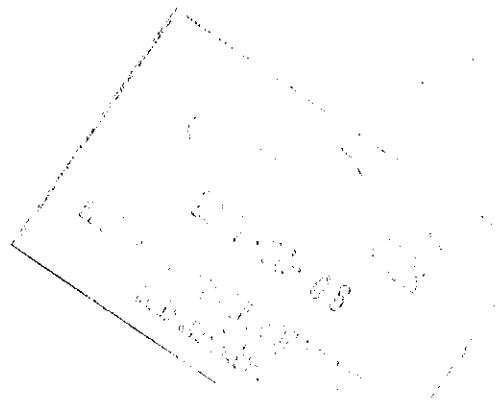
C-RAILS:	Operator:	INSTALLATION <i>ACAPADA</i>
	Operator:	
DOOR MECHANISMS:	Operator:	<i>M. hokozis</i>
	Operator:	
TAPPING PADS	Operator:	<i>M. hokozis</i>
	Operator:	
SEAT & LUGGAGE BRACKETS:	Operator:	INSTALLATION & VERIFICATION <i>Totelo</i>
	Operator:	<i>Pucilla</i>
SEAT BRACKETS VERIFICATION:	Operator:	<i>Totelo</i>
	Operator:	


AREA	WELDING	
	LHS	RHS
A (Seat brackets)	: Operator (Name&sign): <i>NA</i>	<i>NA</i>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <i>Xuh</i>	<i>Xuh</i>
B (Seat brackets)	: Operator (Name&sign): <i>Xuh</i>	<i>Xuh</i>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <i>Xuh</i>	<i>Xuh</i>
C (Seat brackets)	: Operator (Name&sign): <i>Xuh</i>	<i>THUAN</i>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <i>Xuh</i>	<i>THUAN</i>
D (Seat brackets)	: Operator (Name&sign): <i>Xuh</i>	<i>THUAN</i>
(C-rails, Luggage and earth bushes)	: Operator (Name&sign): <i>Xuh</i>	<i>THUAN</i>

	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date-	
		28/10/2023	

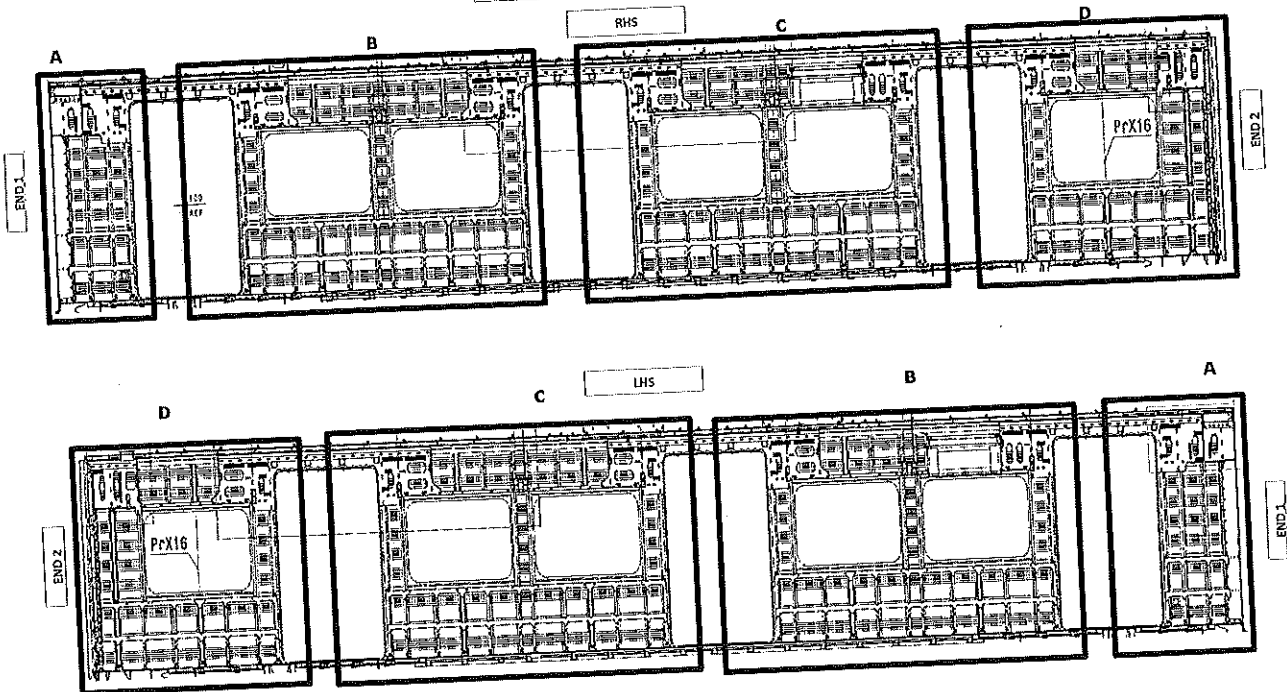
ENDS

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



	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date-	
		28/10/2023	

TC BRACKET INSTALLATION



QUANTITIES (TC)

RHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	4	✓	
	B	4	✓	
	C	8	✓	
	D	12	✓	
SEAT BRACKETS	A	0	✓	
	B	21	✓	
	C	21	✓	
	D	4	✓	
EARTH BUSH	A	1	✓	
	B	4	✓	
	C	5	✓	
	D	4	✓	

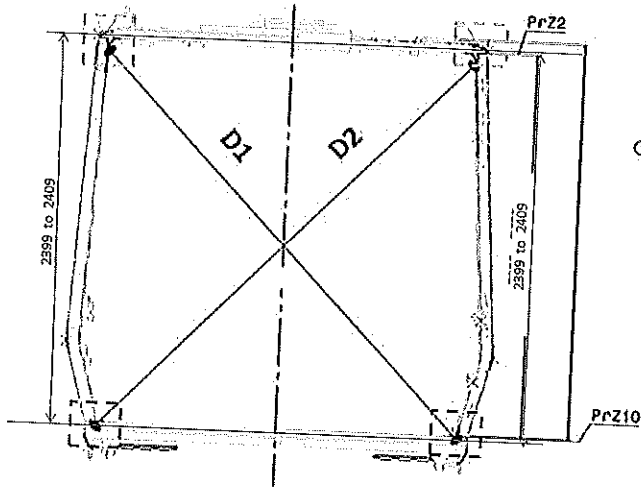
ROOF ENDS:
 C-RAILS 2 OFF END 2
 EARTH BUSH 4 OFF END 2

VERIFICATION BY: Mthelkops: ALO

LHS				
	SECTION	QUANTITY	OK	NOK
C-RAILS	A	4	✓	
	B	8	✓	
	C	4	✓	
	D	6	✓	
SEAT BRACKETS	A	0	✓	
	B	21	✓	
	C	21	✓	
	D	13	✓	
EARTH BUSH	A	1	✓	
	B	4	✓	
	C	4	✓	
	D	2	✓	

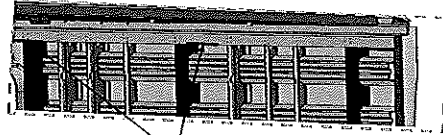
ROOF ENDS:
 C-RAILS 2 OFF END 2
 EARTH BUSH 4 OFF END 2

VERIFICATION BY: Mthelkops: ALO

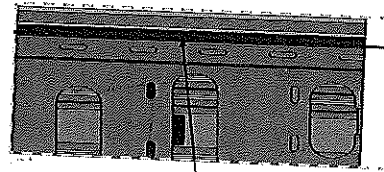


Take measurement close to radius

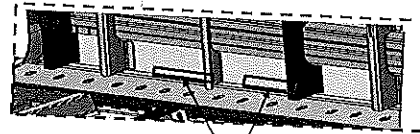
①



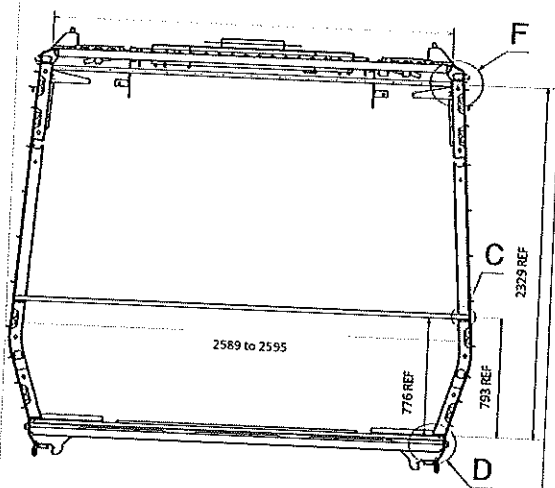
Measurement positions on roof rail and sidewall omega corner.



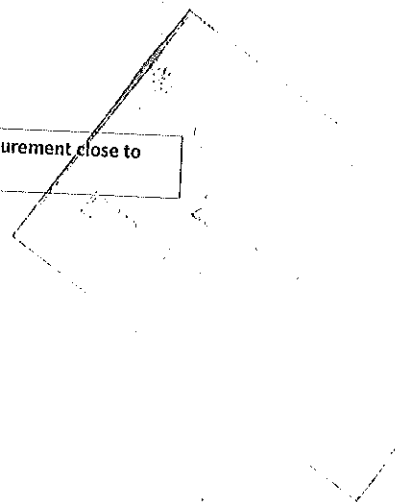
Reinforcement area measurement positions on roof reinforcement area.



Measurement positions on sidewall and side sill corner.



Take measurement close to radius





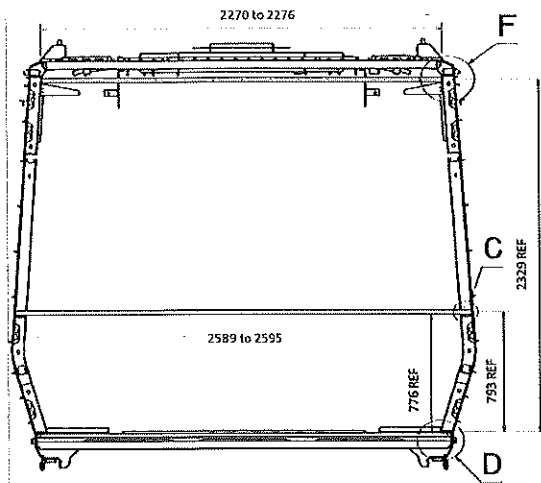
DTR30223319/2 Carshell Assembly TC

Rev.
29

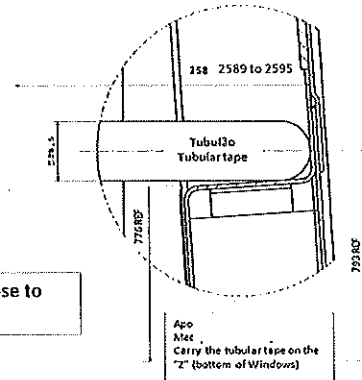
Date-
28/10/2023

Project: PRASA

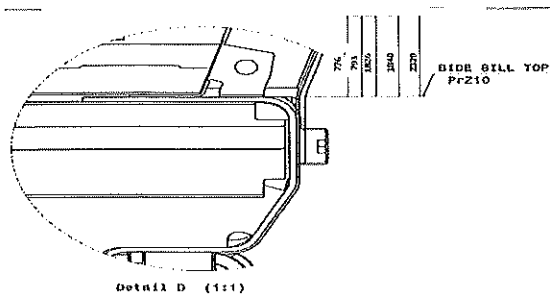
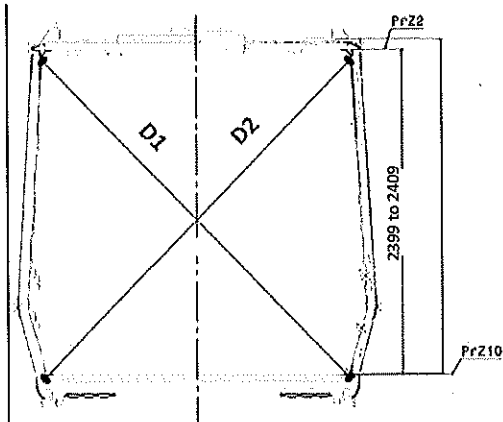
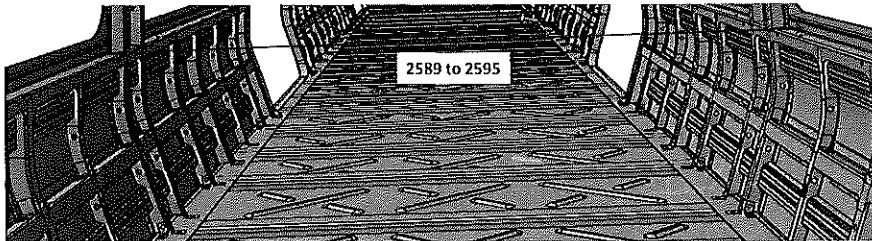
SI.CB1220.323.V29



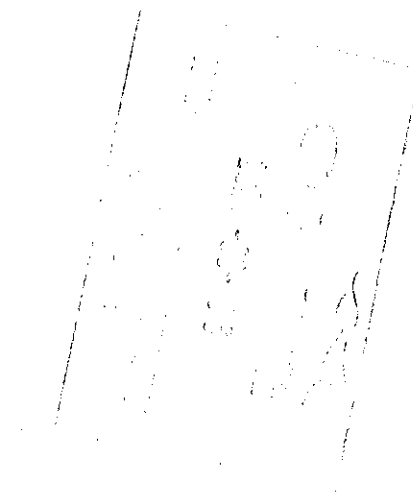
Take measurement close to
radius




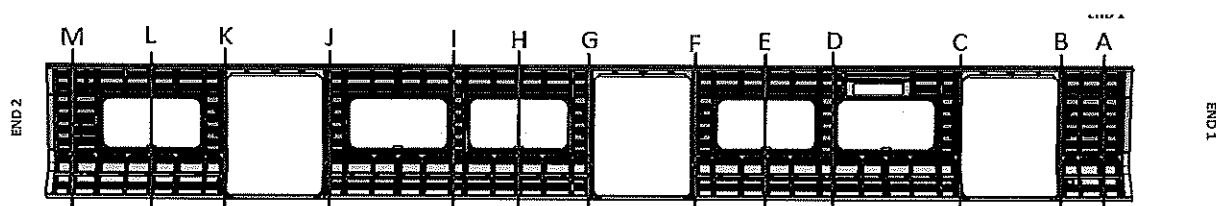
Detail C



Detail D (1:1)



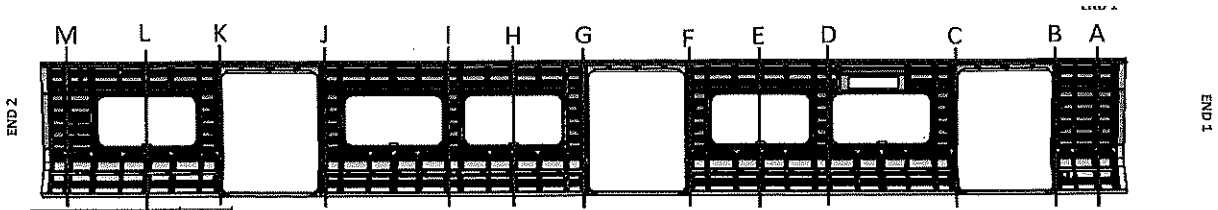
	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date-	
		28/10/2023	



BEFORE WELDING


	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3267	3260	7	-
B	3294	3285	9	-
C	3294	3295	1	-
D	3263	3263	0	-
E	3262	3264	2	-
F	3292	3294	2	-
G	3294	3292	2	-
H	3262	3263	1	-
I	3264	3264	0	-
J	3294	3292	2	-
K	3294	3294	0	-
L	3263	3264	1	-
M	3297	3294	3	-

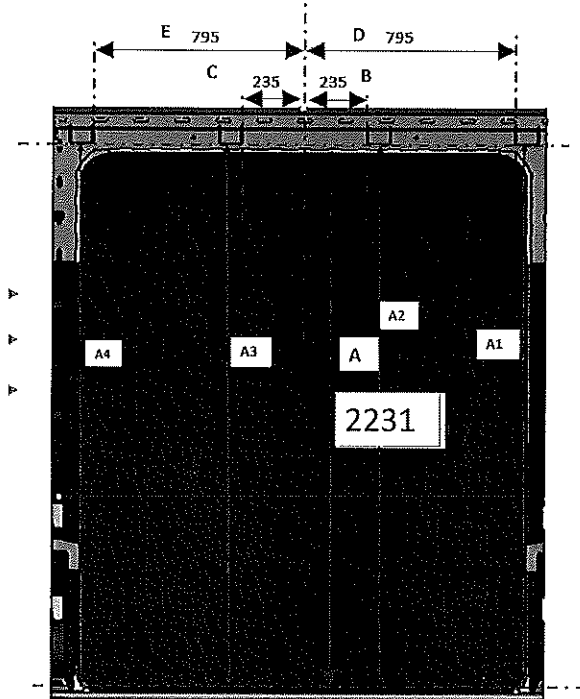
2024-03-10
INDUSTRIAL PROPERTY



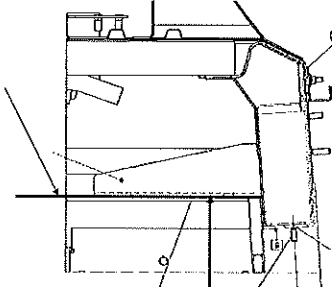
AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3259	3241	18	2594
B	3284	3284	20	2589
C	3289	3300	10	2589
D	3262	3268	4	2594
E	3264	3264	0	2595
F	3294	3298	4	2595
G	3290	3295	5	2591
H	3260	3264	4	2594
I	3264	3264	0	2595
J	3293	3295	2	2593
K	3290	3295	5	2589
L	3264	3264	0	2591
M	3292	3294	2	2595

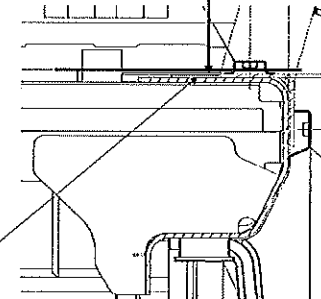
	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date-	
		28/10/2023	
Specifications of Details for CBS measurement			



Brackets Carbodyshell
U Type Supports



Brackets Carbodyshell
Channel Assy



DOOR 1 - LHS

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

DOOR 2 - LHS

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

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

DOOR 1 - RHS

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

DOOR 2 - RHS

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

DOOR 3 - RHS

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

17/10/2023 15:00



DTR30223319/2 Carshell Assembly TC

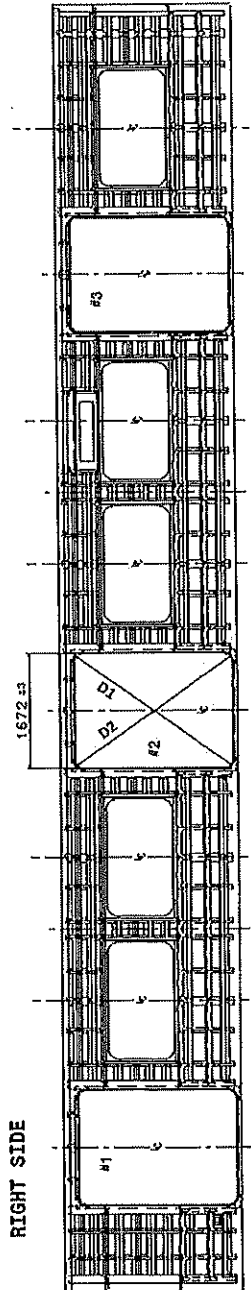
Rev.
28
Date-
28/10/2023

Project: PRASA

SI.CB1220.323.V29

Specifications of Details for CBS measurement

End #2



End #1

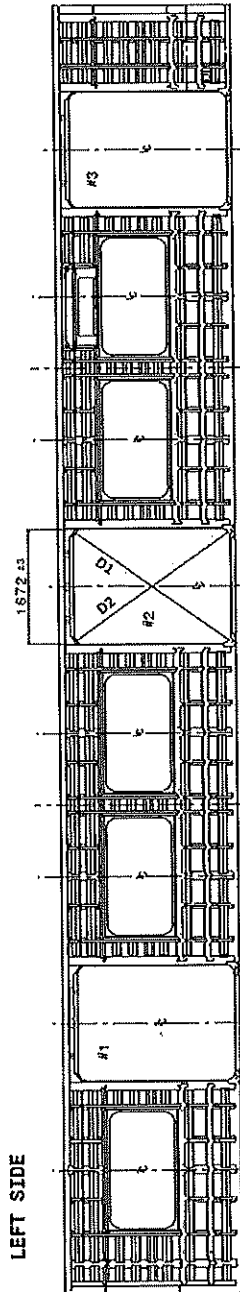
Doors diagonal D1-D2 maximum difference ≤ 4 mm

	#1	#2	#3
D1	2750	2751	2747
D2	2748	2750	2746
D1-D2	2	1	1

Doors length - 1672 ± 3 mm

	#1	#2	#3
HIGHER DIMENSION	1672	1671	1673
CENTRAL DIMENSION	1674	1675	1674
LOWER DIMENSION	1673	1671	1672

End #1





LEFT SIDE


Doors diagonal D1-D2 maximum difference ≤ 4 mm

	#1	#2	#3
D1	2748	2749	2747
D2	2750	2750	2750
D1-D2	2	1	2

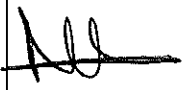

Vão de Portas - 1672 ± 3 mm

	#1	#2	#3
HIGHER DIMENSION	1672	1672	1671
CENTRAL DIMENSION	1671	1674	1672
LOWER DIMENSION	1671	1673	1676

	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29			
		Date-				
		28/10/2023				
Specifications of Details for CBS measurement						
Dye penetrant test						
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Dye-penetration test to be performed by quality personnel</div> 						
Item	Description of the Issue			OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
II.2 - Check List REX <div style="text-align: center; margin-top: 10px;">Check List Items</div>						
Item	Picture/Drawing	Description	Criteria /Record	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX			

	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA	
		Date-		SI.CB1220.323.V29
		28/10/2023		

Self Inspection - Final Result

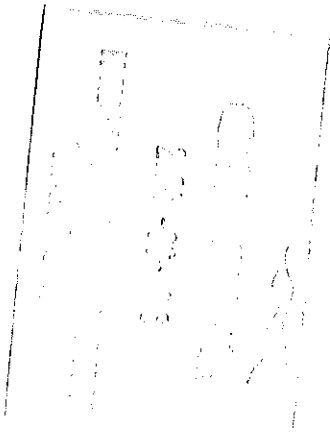
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT	GO	If activities are not complete, the missing activities must not impact the next stage!		22/05/24	Mtthehozi	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)		22/05/24	N. Nkomo	
		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	Action	Responsible	Due date	Status

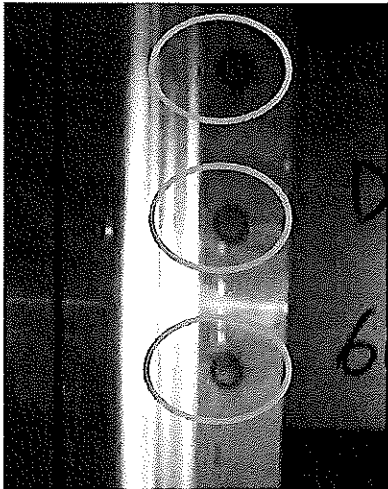
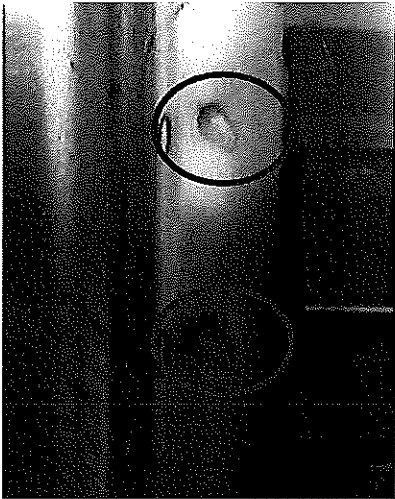
Operations

Quality



	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB1220.323.V29
		Date-	
		28/10/2023	

ANNEXURE A: Spot Welding Quality Acceptance Standard



GIBELA

PRASA PROJECT

APPLICABLE FOR TRAINSET 100+ ONLY AS PER BASELINE 10.3.1

SELF INSPECTION SHEET

CONFIDENTIAL INFORMATION

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

APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ?
				TC1	M4	M3	M2	M1	TC2		
DT00000223319	AAD0001238553	DT00000223319 Carshell Assembly TC	CB1230	X						PRA.CB1230.DT0000012 23319.V20	YES
REV	DATE	MODIFICATION CONTENT	RESPONSIBLE	NAME	DATE						
0	06/04/2018	GIBELA NEW CREATION	APPROVER	Itumeleng Modiba	09/04/2018						
			CHECKER	Nosizo Pindela	09/04/2018						
			COMPILER	Thanyani Mathegu	06/04/2018						
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	05/07/2018	Certain dimensional checks moved to CB1220	APPROVER	Itumeleng Modiba	05/07/2018						
			CHECKER	Nosizo Pindela	05/07/2018						
			COMPILER	Ramkone Motama	05/07/2018						
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						
			COMPILER	Nosizo Pindela	13/03/2019						
7	17/09/2019	Added Cab Fire Barrier Flatness Measurements	APPROVER	Itumeleng Modiba	17/09/2019						
			CHECKER	Nosizo Pindela	17/09/2019						
			COMPILER	Nosizo Pindela	17/09/2019						
10	20/09/2019	New Baseline 10.2.5	APPROVER	Itumeleng Modiba	20/09/2019						
			CHECKER	Nosizo Pindela	20/09/2019						
			COMPILER	Nosizo Pindela	20/09/2019						
15	28/01/2021	New Baseline 10.2.6	APPROVER	Timothy Maimela	28/01/2021						
			CHECKER	Bongane Masina	28/01/2021						
			COMPILER	Bongane Masina	28/01/2021						
20	19/04/2021	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021						
			CHECKER	Bongane Masina	19/04/2021						
			COMPILER	Bongane Masina	19/04/2021						
25	20/04/2022	New Baseline change 10.3.1	APPROVER	Collins Mhombhi	20/04/2022						
			CHECKER	Andani Muthelo	20/02/2022						
			COMPILER	Andani Muthelo	20/02/2022						
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Collins Mhombhi	14/06/2022						
			CHECKER	Andani Muthelo							
			COMPILER	Andani Muthelo							
27	26/07/2022	Threshold measurements addition	APPROVER	Collins Mhombhi	26/07/2022						
			CHECKER	Andani Muthelo							
			COMPILER	Andani Muthelo							
28	17/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mhombhi	17/10/2022						
			CHECKER	Ntokozi Zwane							
			COMPILER	Amogelang Mhlangeni							
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023						
			CHECKER	Ntokozi Zwane							
			COMPILER	Amogelang Mhlangeni							
30	06/11/2023	Added traceability for thresholds for boiler makers and welders	APPROVER	Tyson Ngobeni	06/11/2023						
			CHECKER	Andani Muthelo							
			COMPILER	Ntokozi Zwane							
TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES						
229	TC1	Mhombhi 427423	23/05/24	SI.CB1230.324.V28	14						

GIBELA
2024-05-21
INDUSTRIAL QUALITY
MANAGEMENT



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Carro
Car:

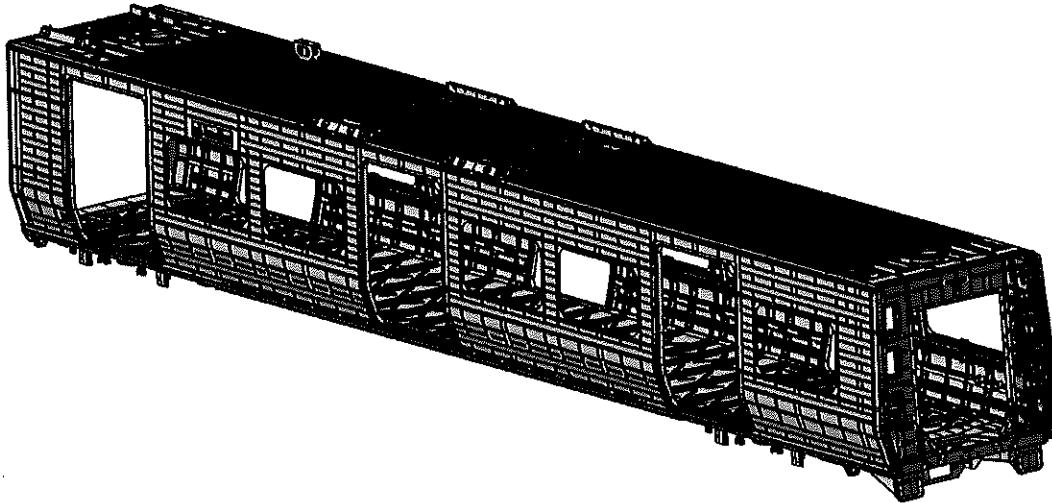
NCR:

Work station:

CB1230



Safety Related



I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK	NOK	Rework	Signature/Date (Operations)	Signature/Date (Quality)
	TC1	M1	M2	M3	M4	TC2							
DT00000223319	X						30		✓		N/A	23/05/24	23/05/24

I.2 - Instruments Control

Monitoring and Measuring instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK	NOK	Signature/Date (Operations)	Signature/Date (Quality)
Tubular	12062-2	19/02/2025	✓		23/05/24	23/05/24
Measuring Tape	GIBTP0306	20/02/2025	✓		23/05/24	23/05/24
Combination Square	GIBCS0082	17/06/2024				

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	✓		23/05/24	23/05/24
308 LSI	E532740	TIG	✓		23/05/24	23/05/24



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II - Control Activities of Production

II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOX	REWORK	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° DT00000223319	DT00000223319	✓			Kgote 23/05/24	
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓			Tham 23/05/24	
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 DTD0000210675	✓			Tham 23/05/24	
04	N/A	Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓			Tham 23/05/24	
05	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	✓			Tham 23/05/24	
06	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (1) Min-Max 10°C - 35°C Relative humidity Min - Max (1) 25% - 60%	Lot FA Sealant Batch No: 23323496 Exp Date: 09/06/24 Actuals Temperature: 15°C Humidity: 62%	✓			23/05/24	
07	N/A	Verification of sealant application in regions of roof and sideframe finishers.	Sealant must be: -Applied straight and even (1.5mm) -Free of gaps, cracks, damage and debris (flashes, dirt, dust) Refer to Annexure B	✓			23/05/24	



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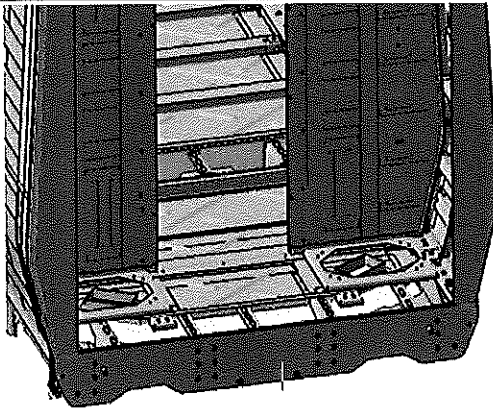
Date-

06/11/2023

Project: PRASA

SI.CB1230.324.V29

VIEW A



END 1
SEALANT

OPERATOR
(Name & sign):

(LHS) Bokumelo
Buhle Ngala

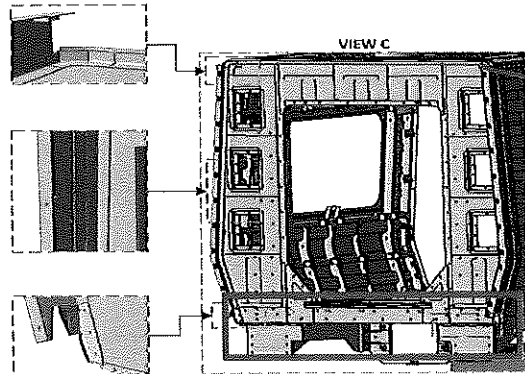
[Signature]

OPERATOR
(Name & sign):

(RHS) Lerato

[Signature] ...

VIEW C



OPERATOR
(Name&sign):

Leroy *[Signature]*

OPERATOR
(Name&sign):

Leroy *[Signature]*

OPERATOR
(Name&sign):

Leroy *[Signature]*





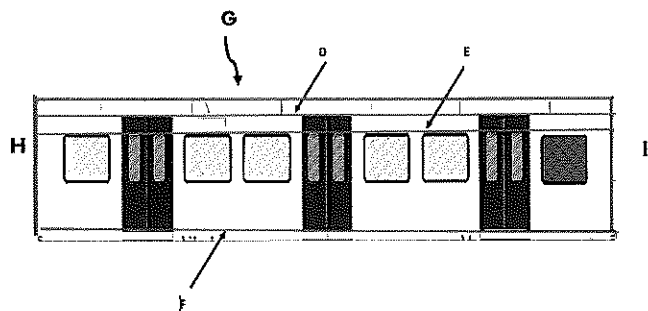
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Area D,E,F,G,H,I

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

Operator (Name & sign): Boitumelo

Operator (Name & sign): Burite

Operator (Name & sign): _____

Operator (Name & sign): _____

Operator (Name & sign): _____

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

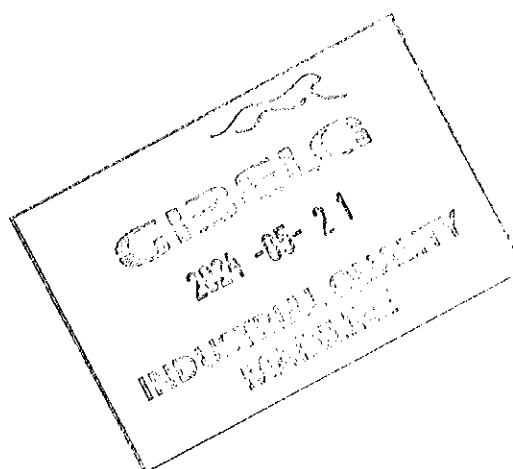
Operator (Name & sign): Boitumelo

Operator (Name & sign): Burite

Operator (Name & sign): _____

Operator (Name & sign): _____

Operator (Name & sign): _____



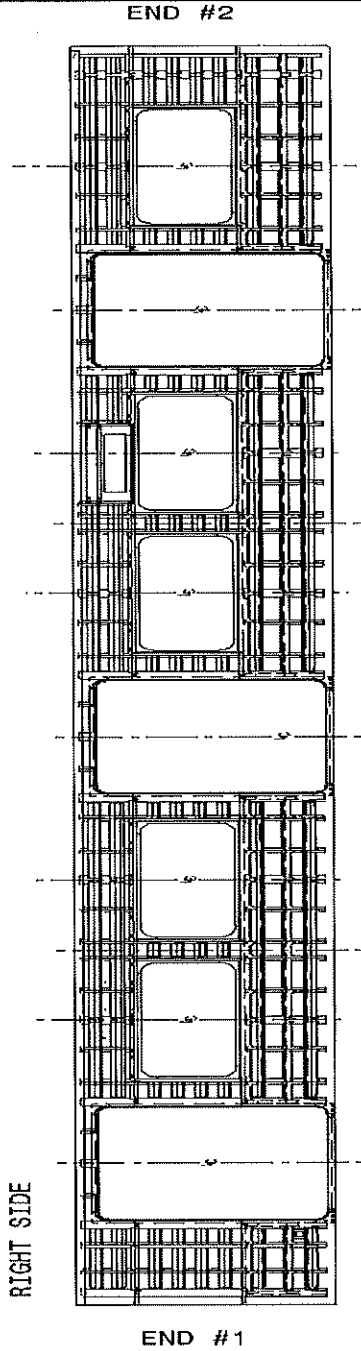


DT00000223319 Carshell Assembly TC

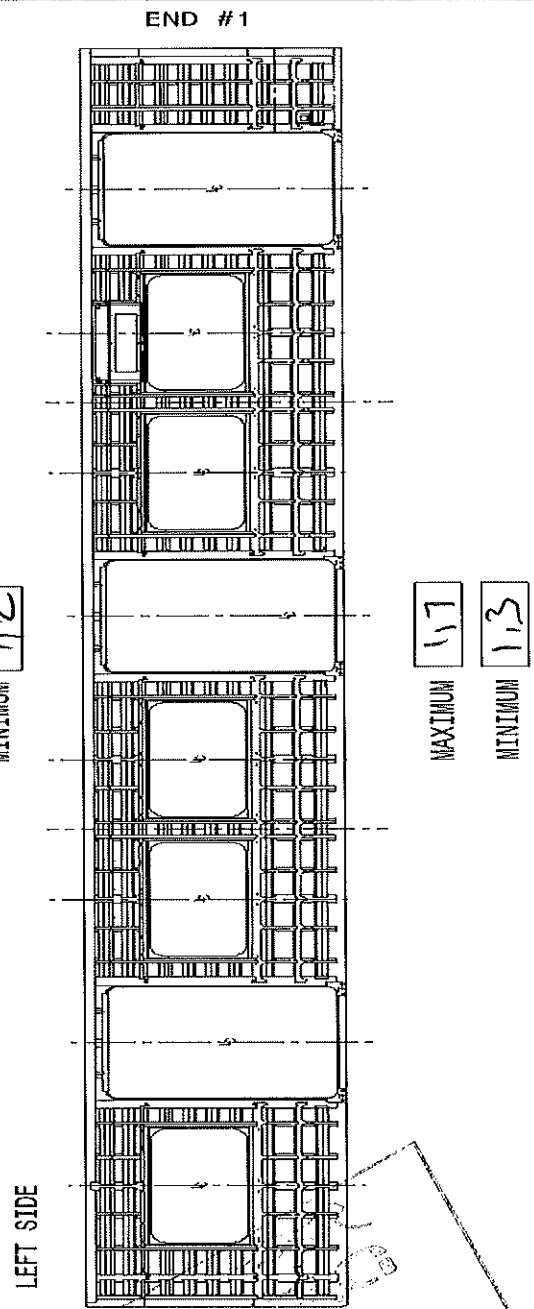
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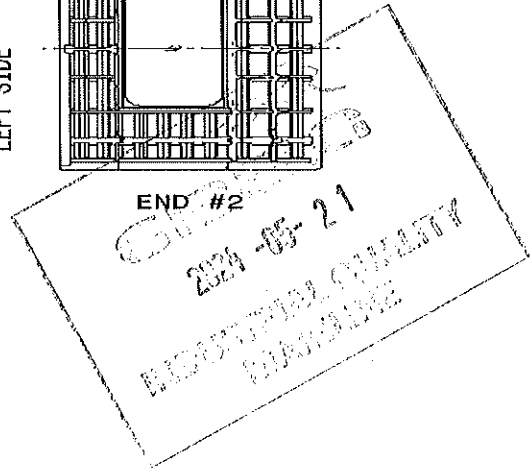
Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm. Recod the maximum and minimum value foundand indicate the corresponding region.



MAXIMUM 1,6
MINIMUM 1,2



MAXIMUM 1,7
MINIMUM 1,3





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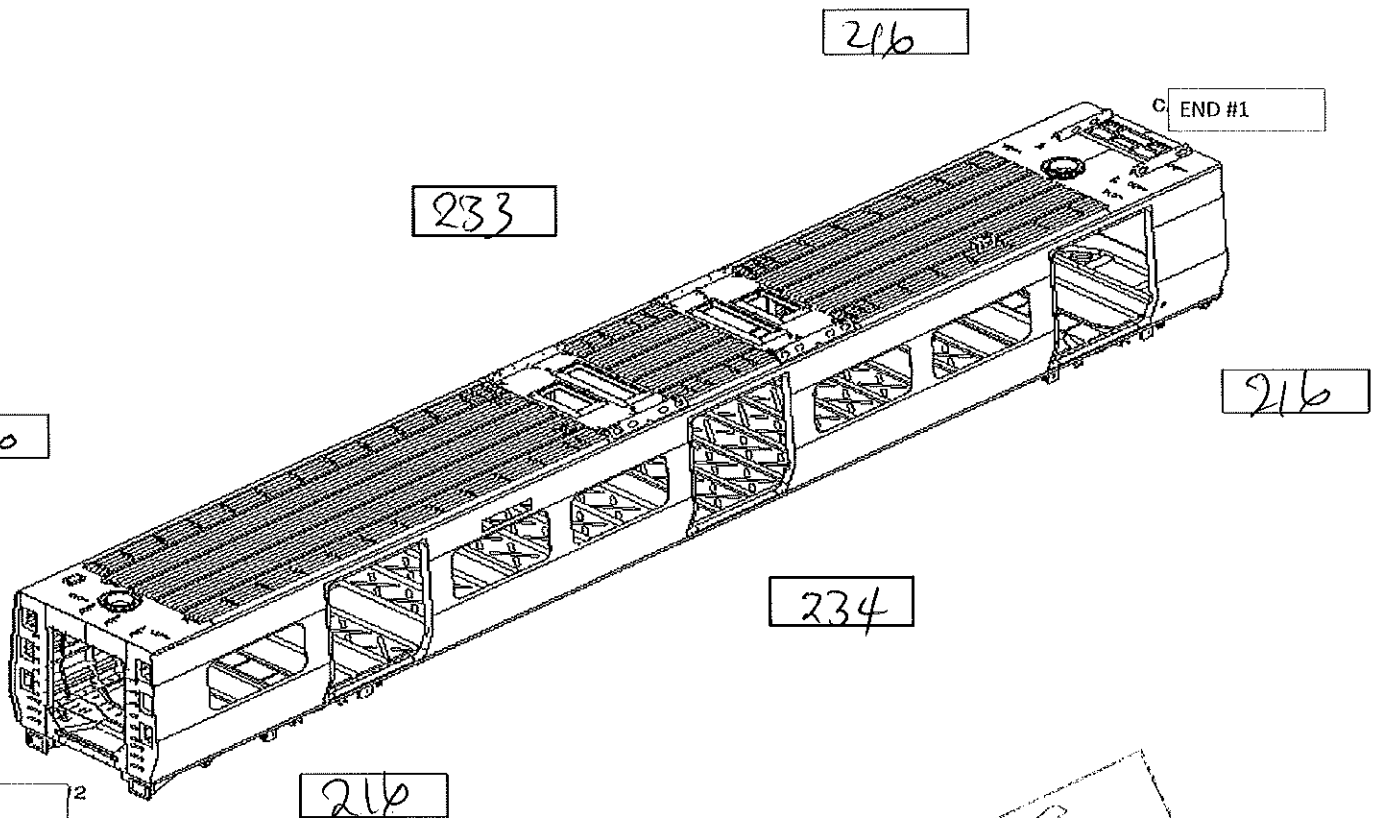
06/11/2023

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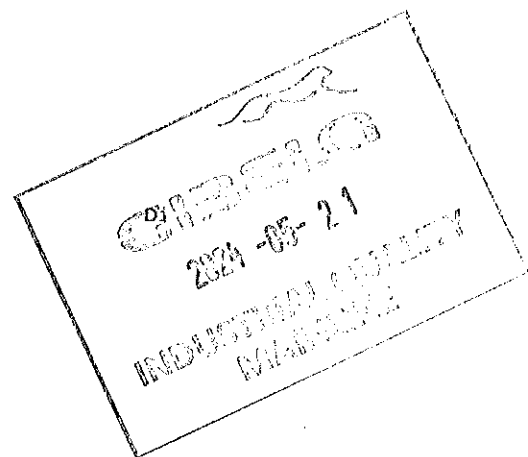
Specifications of Details for CBS measurement CB1230

Specified Camber for car out of jig is 16mm (-0mm + 2mm)



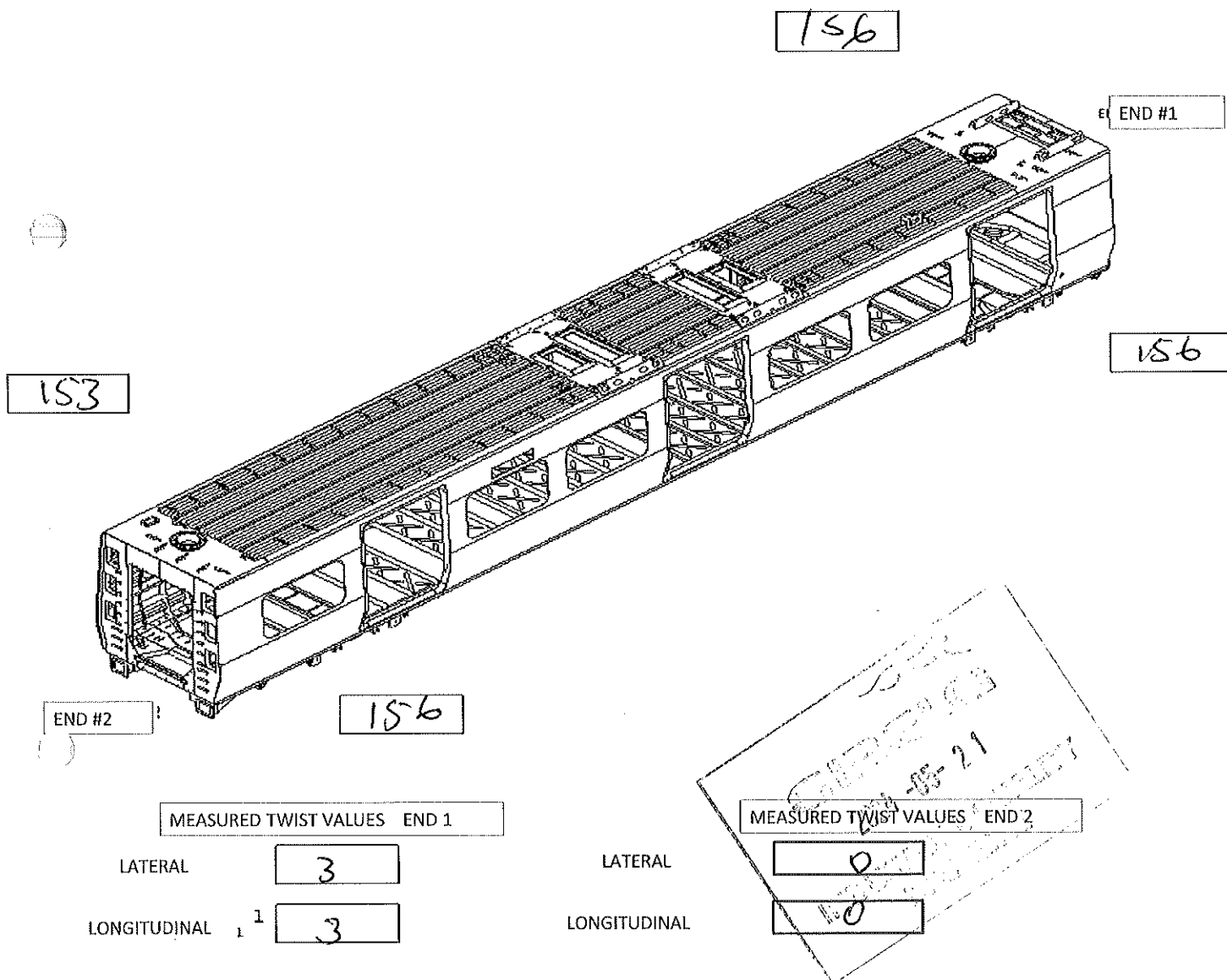
MEASURED CAMBER VALUES

RIGHT \rightarrow 18
LEFT \leftarrow 17

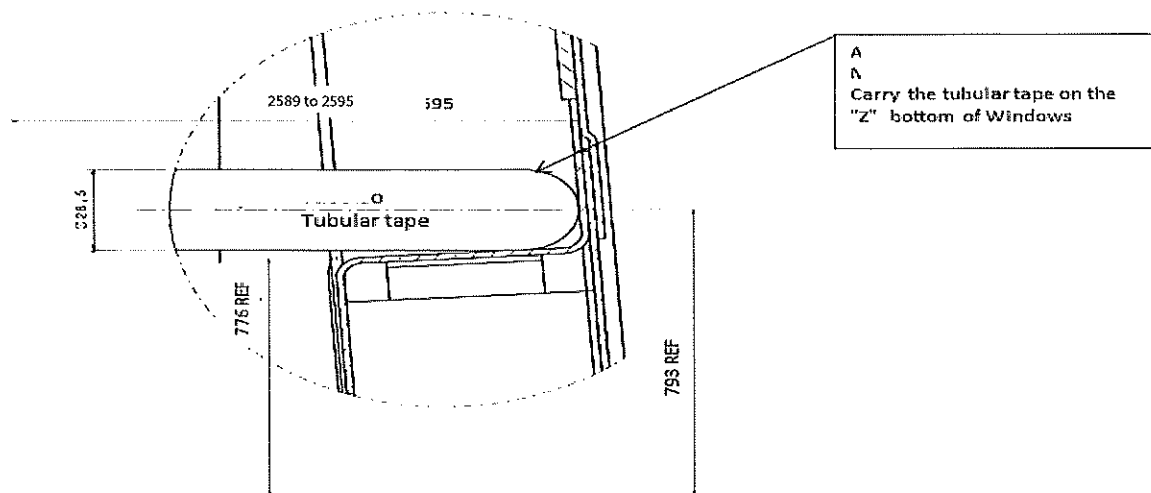


Specifications of Details for CBS measurement CB1230

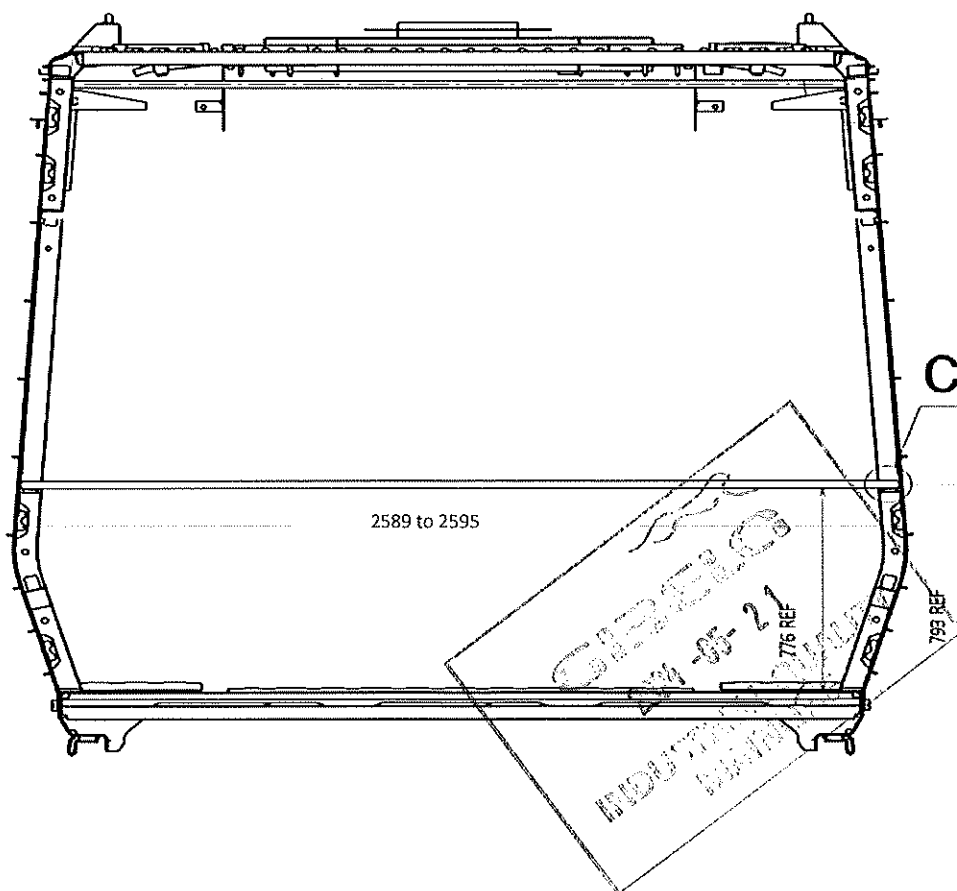
Twist measured in transversal and longitudinal = Maximum 3mm. Measure twist on air spring plates (LHS and RHS), both End 1 and End 2 following twist measurement document.



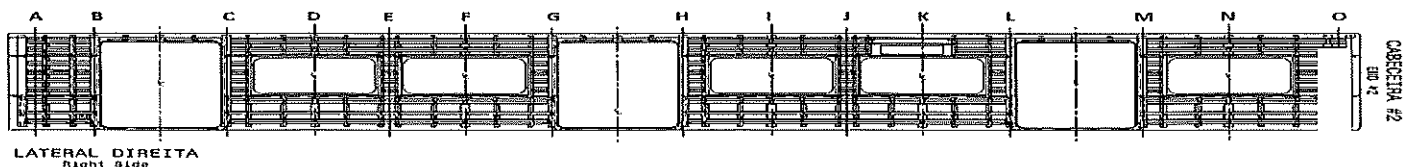
Details for measuring on the CB1230 stage, after completion of activities



Detail C



Specifications of Details for CBS measurement



2589 to 2595mm

A 2590

B 2591

C 2592

D 2593

E 2592

F 2591

G 2590

H 2589

I 2589

J 2591

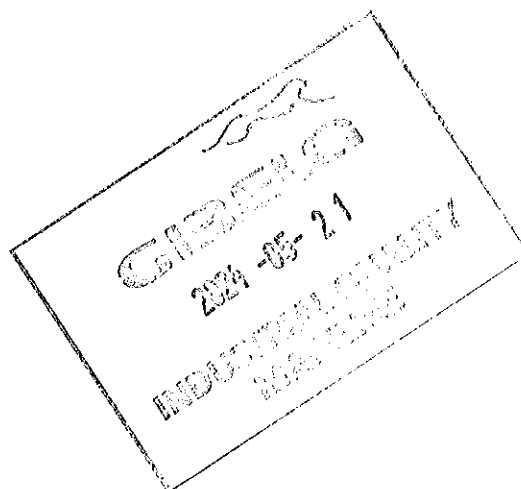
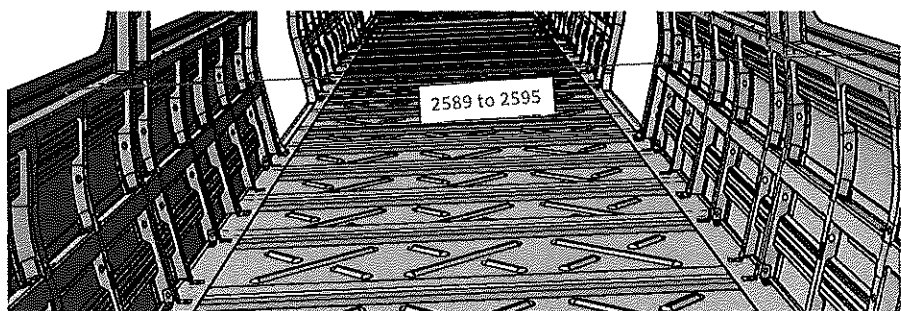
K 2590

L 2589

M 2593

N 2592

O 2591



Threshold verification

Nominal value :38

Door 1

Door 2

Door 3

L

R

L

R

L

R

38

38

38

38

38

38

Door 4

Door 5

Door 6

L

R

L

R

L

R

38

38

38

38

38

38

BOILER MAKER:

Nonrianna

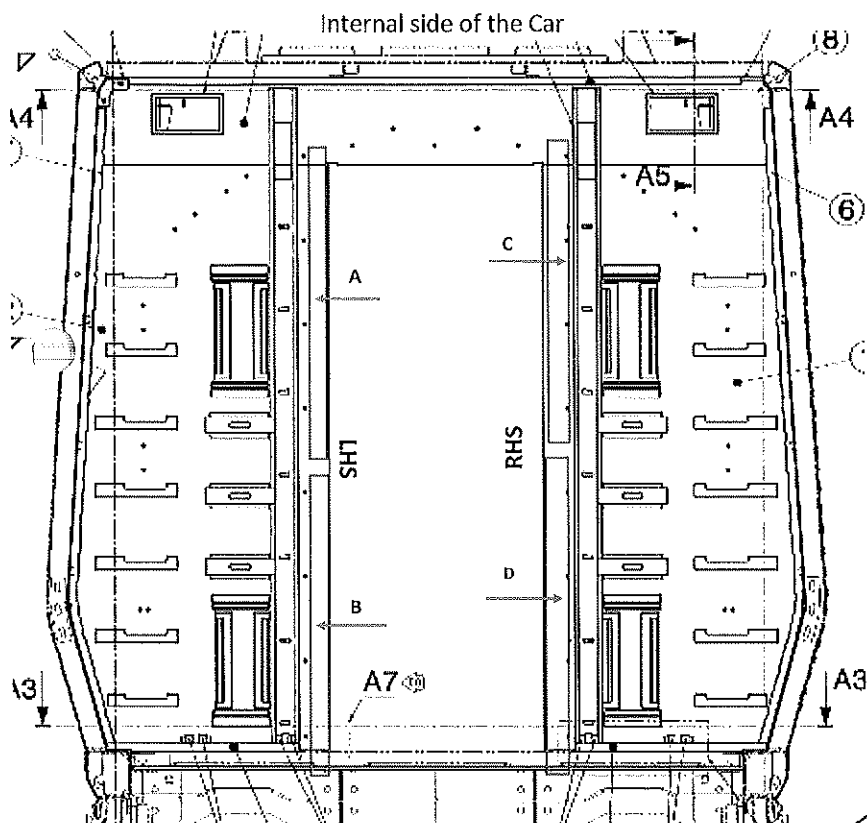
WELDER:

Nonrianna

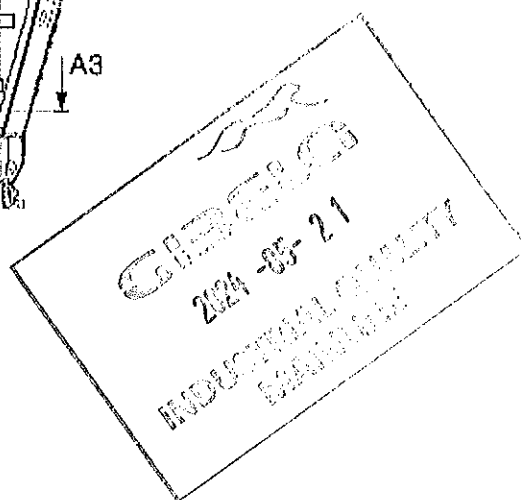
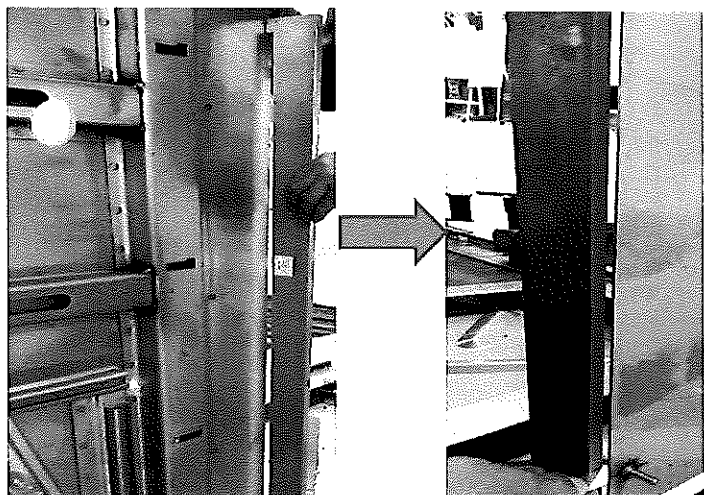
Specifications of Details for CBS measurement

Measure the flatness on the Cab Fire Barrier after installation and welding. Measure positions A, B, C and D using 1000mm flatness ruler and taper gauge.

Specified Maximum Flatness deviation on Cab Fire Barrier = 2mm



Measured Values			
	Minimum	Maximum	Deviation
A	11.1	12	0.9
B	10.8	11.8	1
C	11.6	12.6	1
D	10	11	1





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Dye penetrant test

Dye-penetration test to be performed by quality personnel

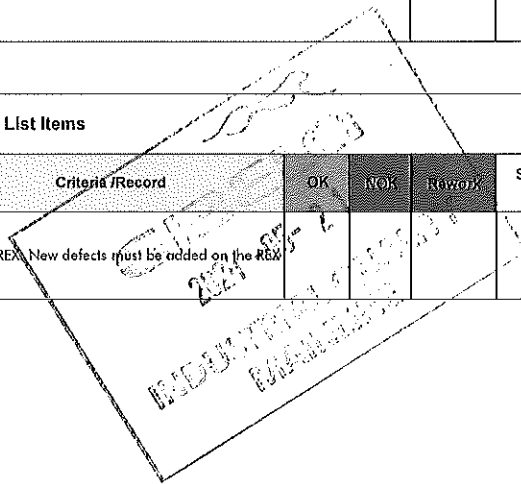


Item	Description of the Issue	OK	Signature/Date (Operations)	Signature/Date (Quality)

II.2 - Check List REX

Check List Items

Item	Picture/Drawing	Description	Criteria /Record	OK	NOK	ReWork	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX					





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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!		23/05/2024	Thonkhanha	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)		23/05/24	Ntobore	
	NO GO	There are activities pendings 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	Action	Responsible	Due date	Status

Operations

