

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	CB2210	X						PRA.CB2210.DTR3022331 9/3.V25	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
			COMPILER	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	Mohlampe Amogelang	
			REVISED BY	Mohlampe Amogelang	
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Mathapo Kelebone	
			REVISED BY	Mohlampe 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
B300	TC2	R. MALATJI 4004804	12/04/24	SI.CB2210.322.V28	16



DTR30223319/3 Carshell Assembly TC

Rev. V28

Project: PRASA

Date- 07/11/2023

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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	✓		
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓		
03		Functionals dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓		
04	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		
05	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		
06		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		
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	✓		

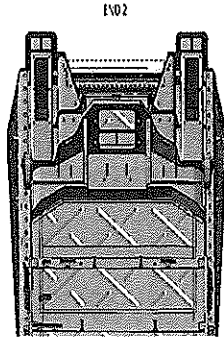


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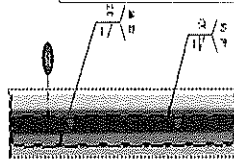
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EUF Reinforcement Plates



Underneath the CAR



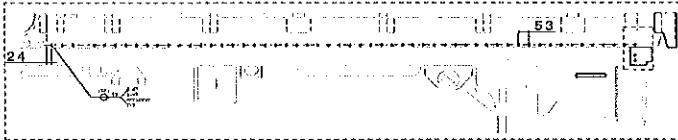
END 2

Boiler maker (Name & Sign):

Forstbo

Welder (Name & Sign):

Costa



FEDOLI

Operator:

LUNGA



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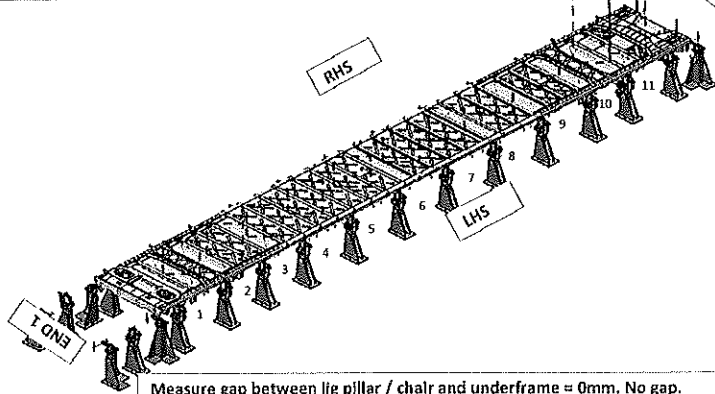
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Specifications of Details for CBS measurement




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.


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

Signature Operallons: 

Date: 12/04/24

After Welding.

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

Signature Industrial Quality: 

Date: 12/04/24

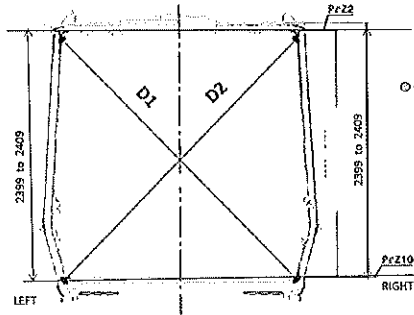
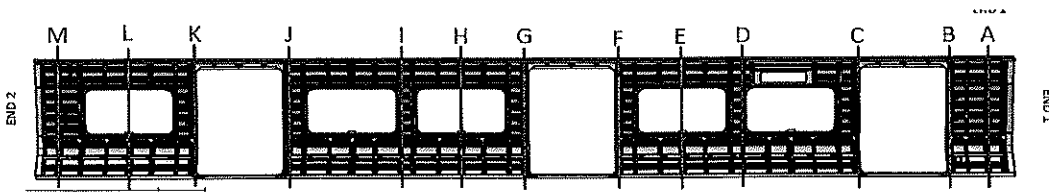


DTR30223319/3 Carshell Assembly TC

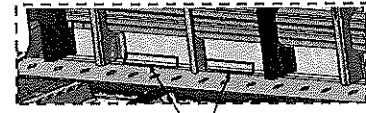
Rev.
V28
Date-
07/11/2023

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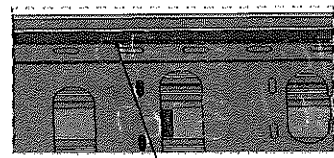
Specifications of Details for CBS measurement



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.



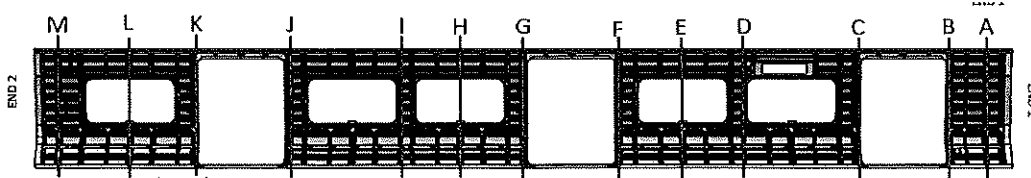
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Specifications of Details for CBS measurement

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	3296	3298	2	2404	2404	0
B	3296	3297	1	2404	2405	1
C	3298	3298	0	2406	2404	2
D	3269	3268	1	2403	2404	1
E	3267	3267	0	2405	2404	1
F	3295	3296	1	2400	2404	0
G	3296	3298	2	2403	2405	2
H	3269	3268	1	2404	2406	2
I	3269	3269	0	2404	2403	1
J	3299	3296	3	2404	2404	0
K	3298	3298	0	2405	2404	1
L	3267	3269	2	2403	2404	1
M	3296	3296	0	2404	2405	1


409964
12/04/24



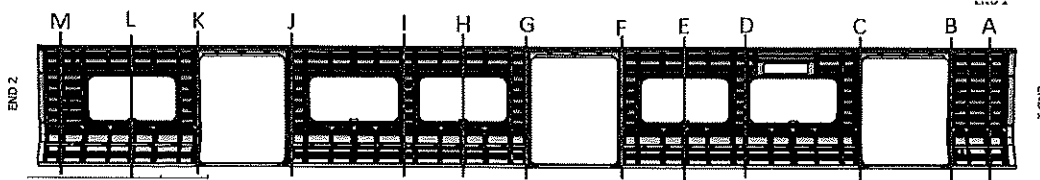
DTR30223319/3 Carshell Assembly TC

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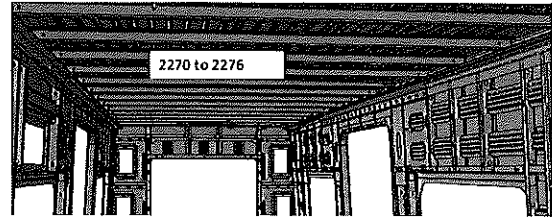
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Specifications of Details for CBS measurement

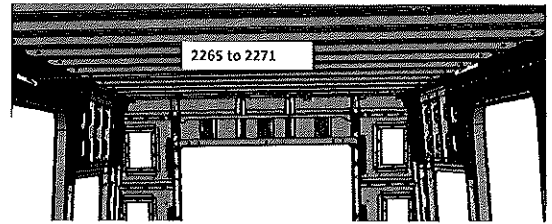
AFTER WELDING



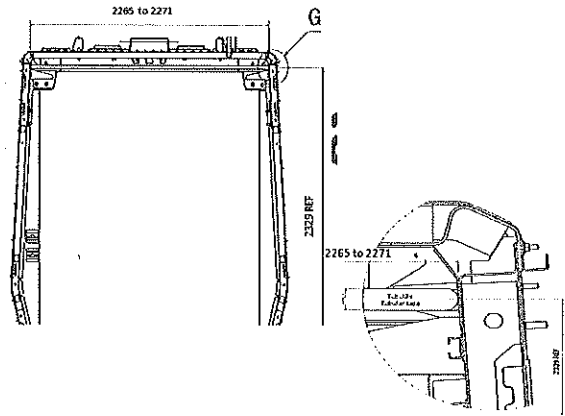
	2265 to 2271	2270 to 2276
A		
B		
C		
D		
E		
F		
G		
H		
I		
J		
K		
L		
M		



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



Take measurement close to radius (considering reinforcement)



Handwritten signature and date: 409964 12/04/24

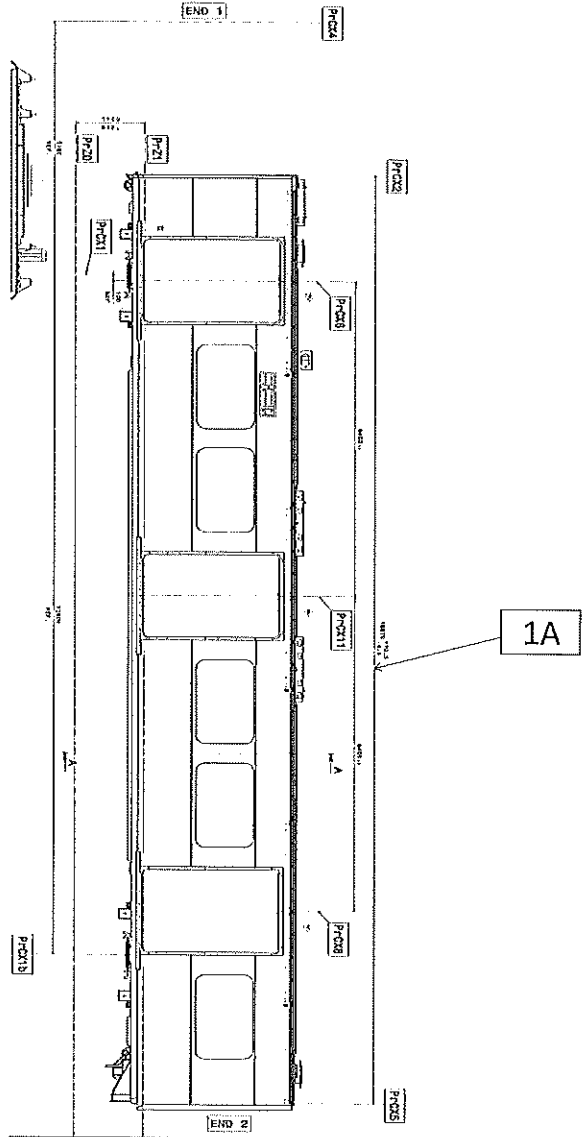


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Specifications of Details for CBS measurement



LEFT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	18870 $\begin{matrix} +10.5 \\ -9.5 \end{matrix}$	18871

RIGHT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	18870 $\begin{matrix} +10.5 \\ -9.5 \end{matrix}$	18871

12/04/24

Dye penetrant test

Dye-penetration test to be performed by quality personnel





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Self Inspection - Final Result

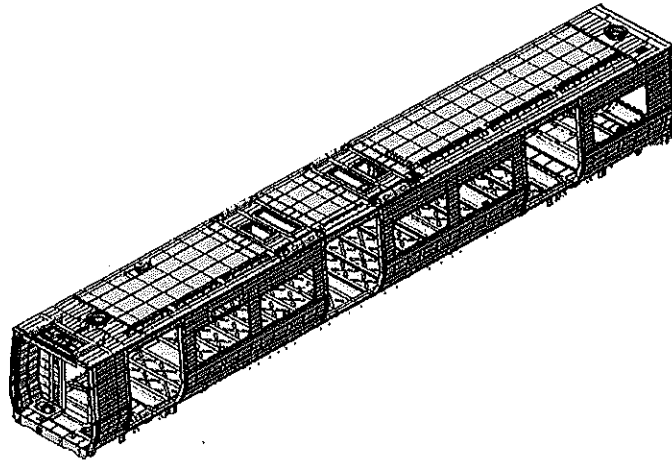
Is the car good to advance to the next workstation/process? (Approval of Operations and Industrial Quality)				DATE	NAME	SIGNATURE
HOLD POINT	GO	If activities are not complete, the missing activities must not impact the next stage!		12/04/2023	Pontso	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)		12/04/2023	N Tokow	
	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	Action	Responsible	Due date	Status	

Operations

Quality

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Carro Car: TC1, TC2	NCR:	Work station: CB2220
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I - Documentation and Instruments

1.1 - Documentation Control

Document	Type of car						Revision	Observation	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
	TC1	M1	M2	M3	M4	TC2					
DTR30223319/2						X	29	28/10/2023	L.	N/A	<i>[Signature]</i> 15/10/24

1.2 - Instruments Control

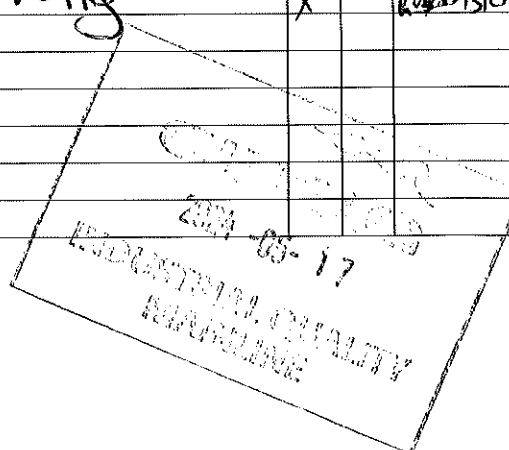
Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Tubular	32823-3	15/03/2024 - 15/03/2025	X	<i>[Signature]</i> 15/04/24	<i>[Signature]</i> 15/04/24
Measuring Tape	GIB A001	22/07/2023 - 22/09/2024	X	<i>[Signature]</i> 15/04/24	<i>[Signature]</i> 15/04/24

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
Welding 308LS1	E2221880	Mig	X	<i>[Signature]</i> 13/04/2024	<i>[Signature]</i> 14/04/24





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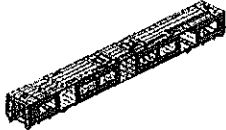
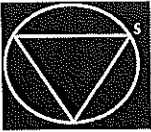
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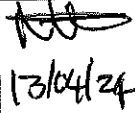

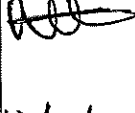
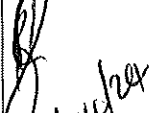
28/10/2023


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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.CB2220.DTR30225487/2 Verification of fitment for all reinforcement brackets.	DTR30223319/2	/	13/04/24 [Signature]	15/04/24 [Signature]
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	/	13/04/24 [Signature]	15/04/24 [Signature]
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	/	13/04/24 [Signature]	15/04/24 [Signature]
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	/	13/04/24 [Signature]	15/04/24 [Signature]
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	/	13/04/24 [Signature]	15/04/24 [Signature]
06	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.	/	13/04/24 [Signature]	[Signature]
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	/	13/04/24 [Signature]	15/04/24 [Signature]
08	N/A	Before application of sealant record the expiry date and make sure that the room temperature and humidity are within specified values as per Works Instructions Specified: Temperature Min - Max (I) Min-Max 10°C - 35°C Relative humidity Min - Max (II) Min-Max 25% - 60%	Sealant Batch No: <u>LV7003</u> Exp Date: <u>05/24</u> Actuals Temperature: <u>16</u> Humidity: <u>50</u>	/	13/04/24 [Signature]	15/04/24 [Signature]

		DTR30223319/2 Carshell Assembly TC	Rev.	Project: PRASA		
			Date-	SI.CB2220.323.V29		
			28/10/2023			
09	NA	Verification of sealant application in certain regions in the drawing.	AAD0001241033	✓		 13/04/24  13/04/24
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	✓		 13/04/24  13/04/24

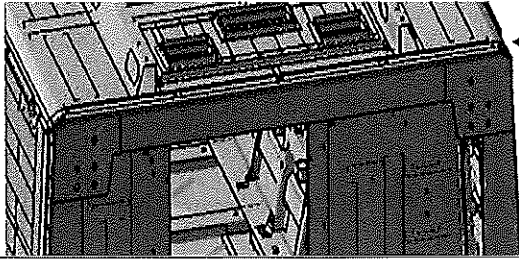

2024-05-17
INDUSTRIAL QUALITY
MANAGEMENT



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28/10/2023

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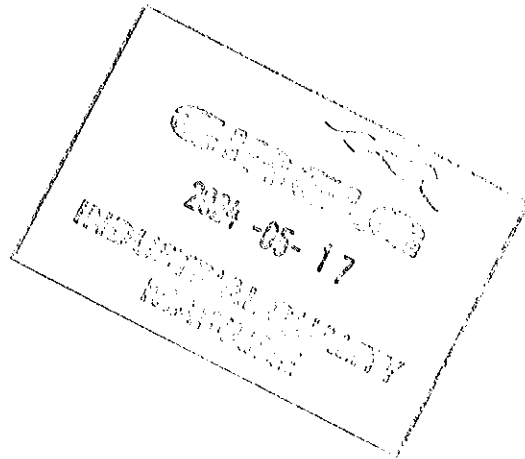
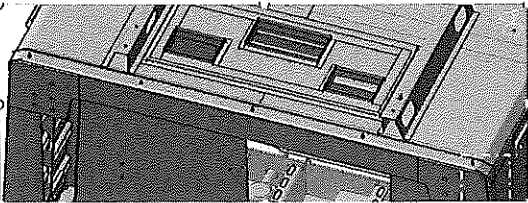
END 1
SEALANT


OPERATOR
(Name & sign):

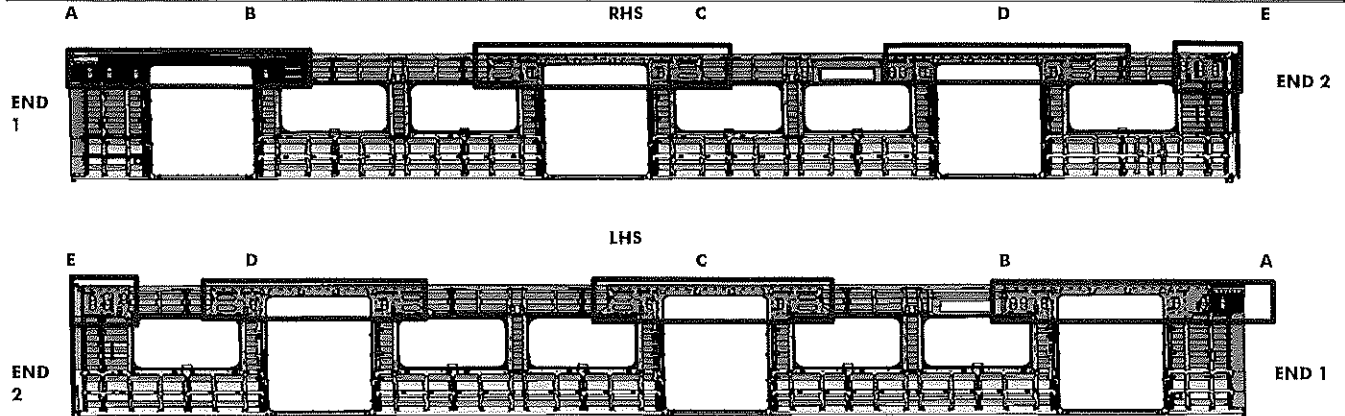
Mthokozisi AJ

OPERATOR
(Name & sign):

Mthokozisi AJ



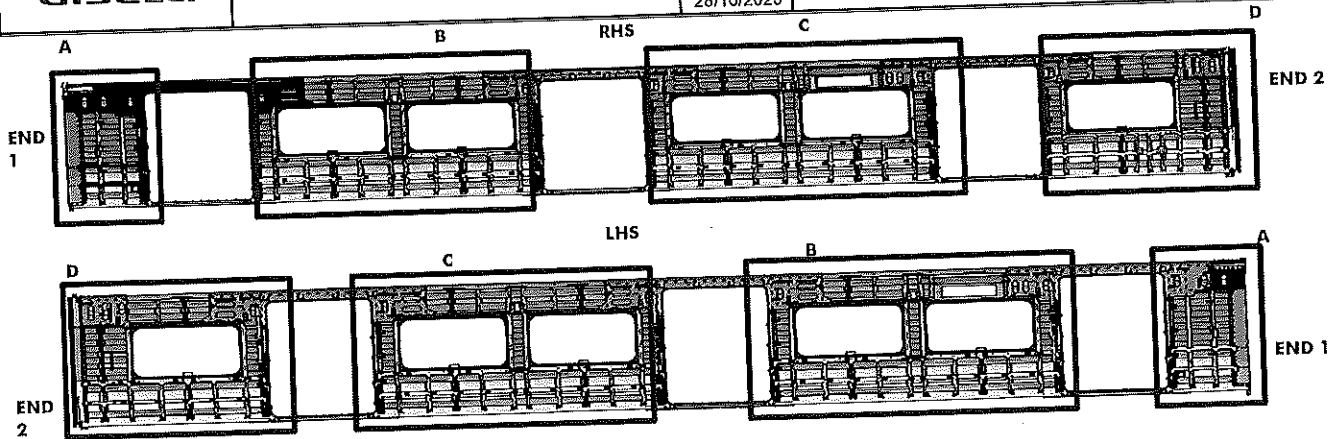
	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date- 28/10/2023	



REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>S. NADIA</u>	<u>S. NADIA</u>
B	Operator (Name&sign): <u>LINDA</u>	<u>S. NADIA</u>
C	Operator (Name&sign): <u>Teddy</u>	<u>Kiki</u>
D	Operator (Name&sign): <u>Sibing</u>	<u>MARSUCIA Moch</u>
E	Operator (Name&sign): <u>Sibing</u>	<u>MARSUCIA Moch</u>





BRACKETING

C-RAILS: Operator: INSTALLATION Priscilla Carson

DOOR MECHANISMS: Operator: Mashudu Mashudu

TAPPING PADS: Operator: Mthoko Mthoko

Operator: _____

SEAT & LUGGAGE BRACKETS: Operator: INSTALLATION & VERIFICATION Leni WBB

SEAT BRACKETS VERIFICATION: Operator: WBB Leni

Operator: _____

WELDING

AREA: LHS : Operator (Name&sign): VA

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

B (Seat brackets) : Operator (Name&sign): LINDO

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

C (Seat brackets) : Operator (Name&sign): LINDO

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

D (Seat brackets) Operator (Name&sign): Mmasheho Mmasheho

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

RHS : Operator (Name&sign): NVA

Operator (Name&sign): Sudharto

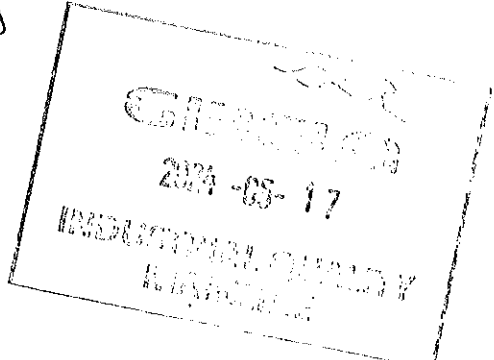
Operator (Name&sign): Jus

Operator (Name&sign): ABU

Operator (Name&sign): STAL

Operator (Name&sign): Mmasheho

Operator (Name&sign): Mmasheho





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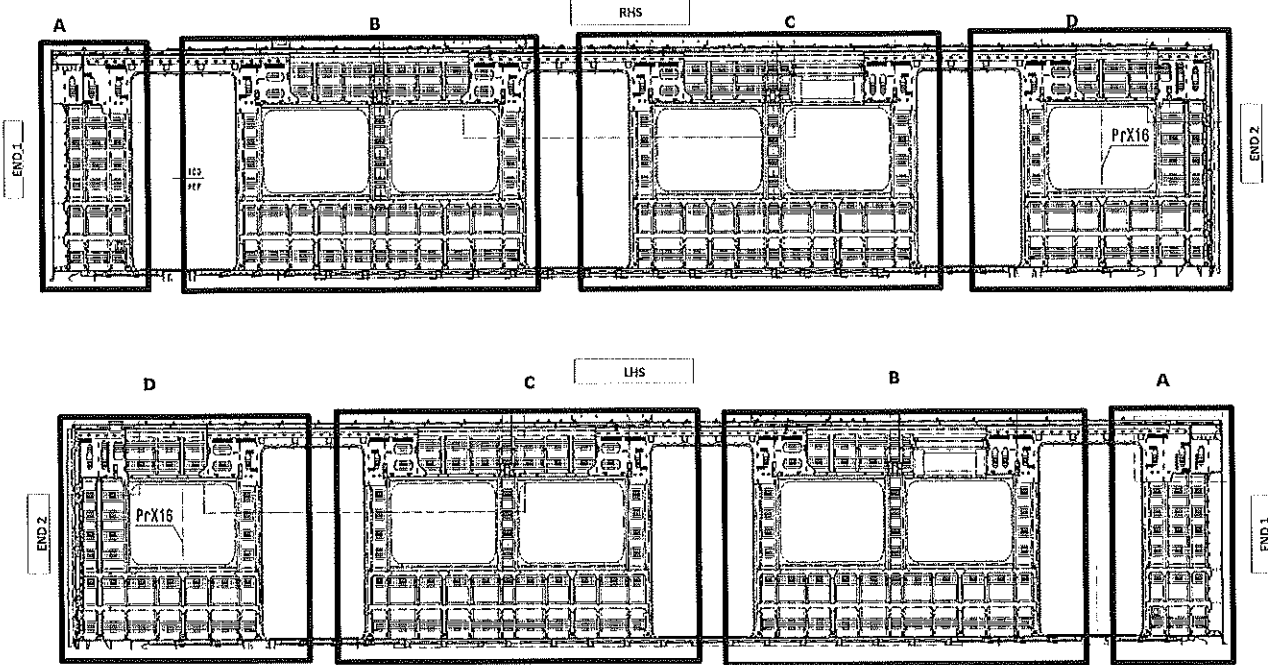
Project: PRASA

Date-

28/10/2023

SI.CB2220.323.V29

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	13	/	
EARTH BUSH	A	1	/	
	B	4	/	
	C	5	/	
	D	4	/	

ROOF ENDS:

CRAILS 2 OFF END 2
EARTH BUSH 4 OFF END 2

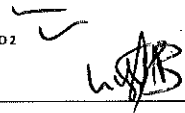
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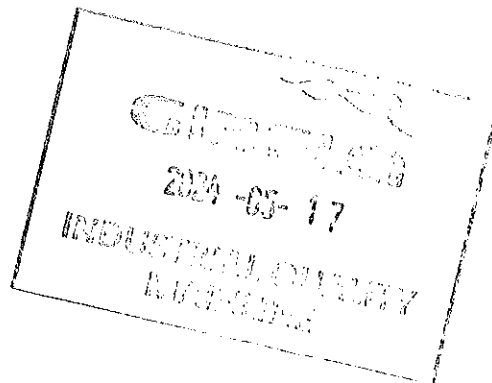
LHS

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

ROOF ENDS:

CRAILS 2 OFF END 2
EARTH BUSH 4 OFF END 2

VERIFICATION BY: 

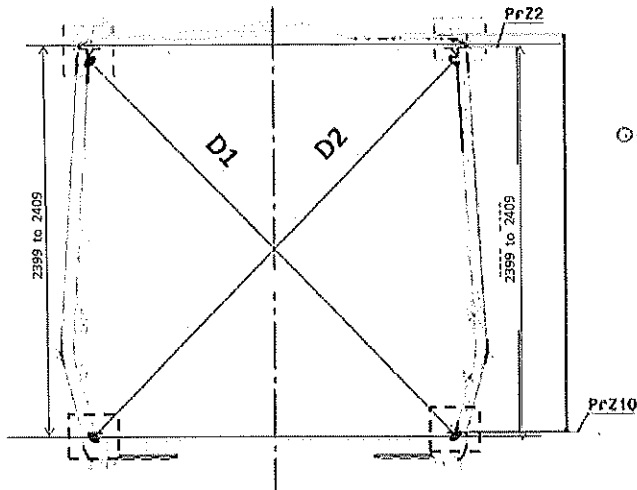




DTR30223319/2 Carshell Assembly TC

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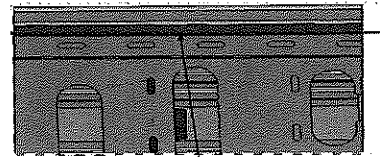
Project: PRASA
SI.CB2220.323.V29



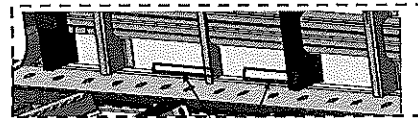
Take measurement close to radius



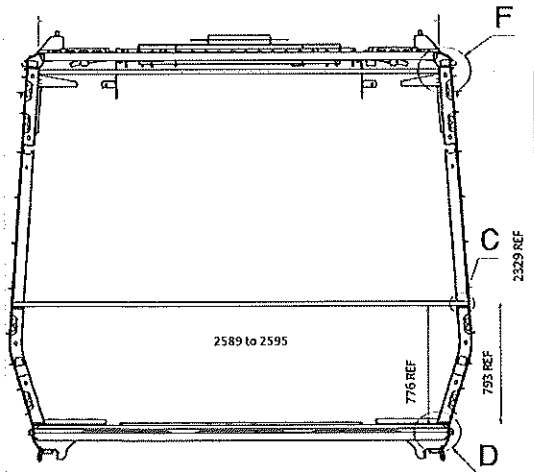
Measurement positions on roof rail and sidewall omega corner.



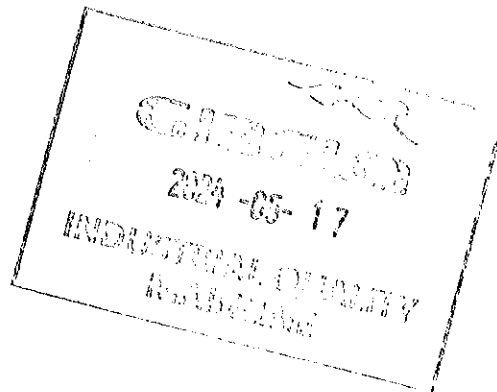
Reinforcement area measurement positions on roof reinforcement area.



Measurement positions on sidewall and side sill corner.



Take measurement close to radius

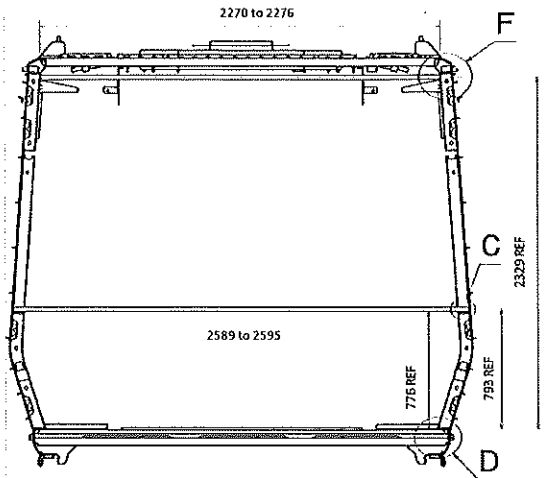




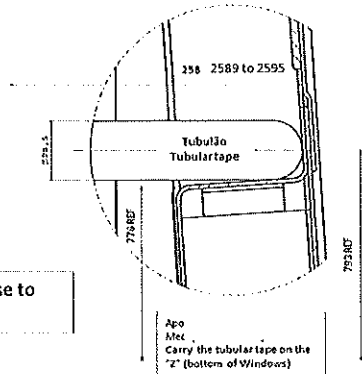
DTR30223319/2 Carshell Assembly TC

Rev.
29
Date-
28/10/2023

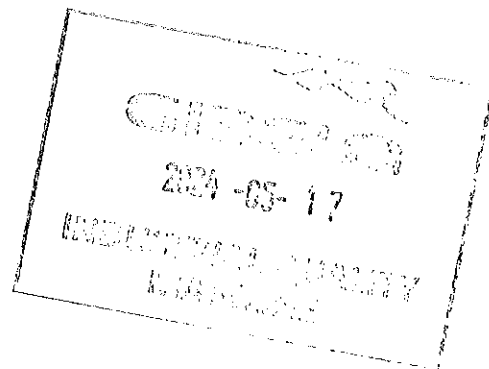
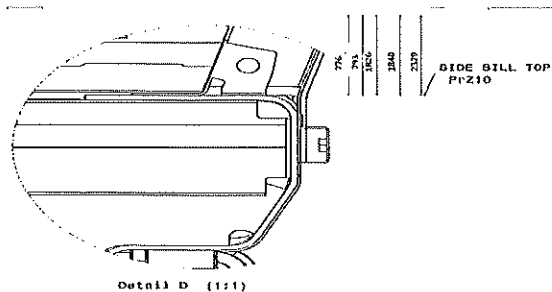
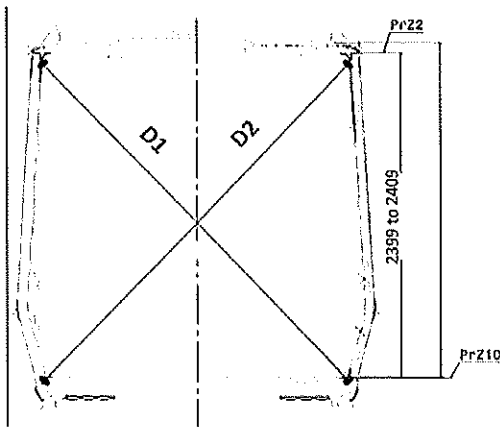
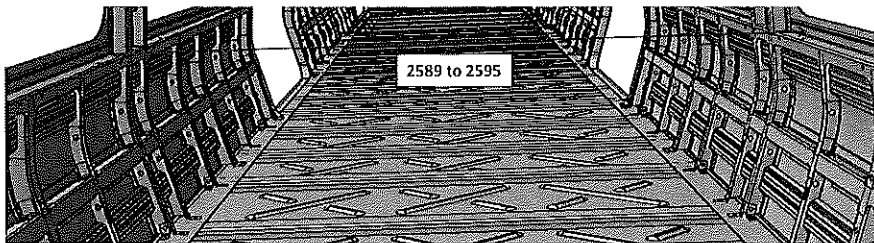
Project: PRASA
SI.CB2220.323.V29



Take measurement close to radius



Detail C





DTR30223319/2 Carshell Assembly TC

Rev.

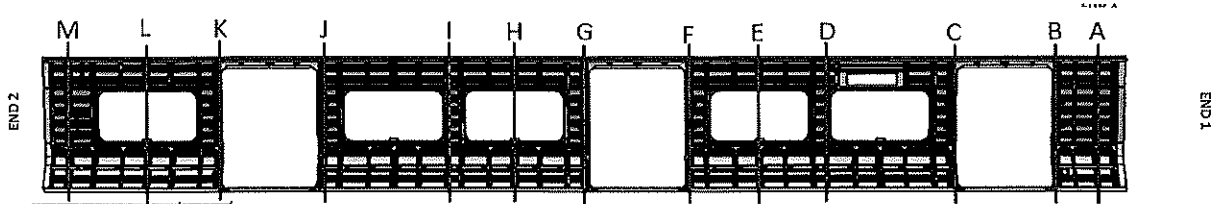
29

Project: PRASA

Date-

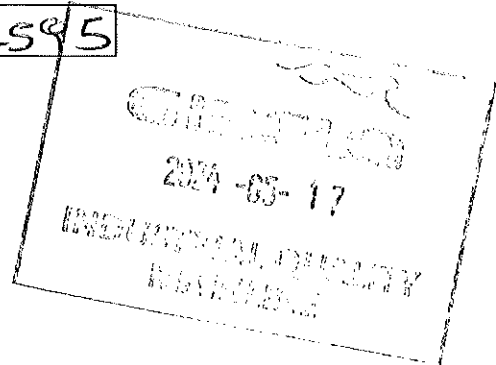
28/10/2023

SI.CB2220.323.V29



BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A				
B				
C	3296	3298	2	2595
D	3268	3266	2	2590
E	3260	3258	2	2590
F	3297	3298	1	2590
G	3298	3299	1	2590
H	3265	3260	5	2594
I	3262	3265	3	2595
J	3293	3294	1	2593
K	3292	3296	4	2592
L	3264	3265	1	2594
M	3294	3296	2	2595

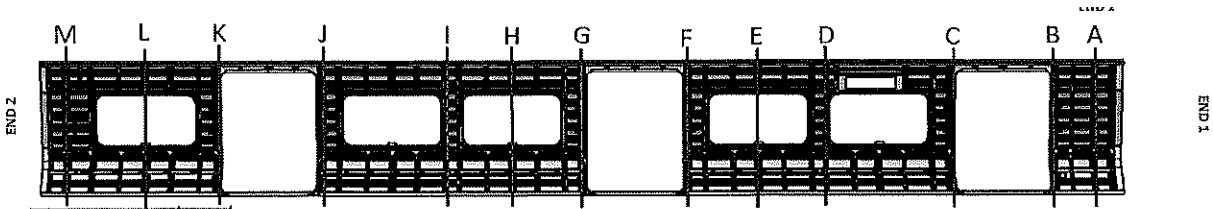




DTR30223319/2 Carshell Assembly TC

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Project: PRASA
SI.CB2220.323.V29



AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3294	3290	4	-
B	3296	3293	3	-
C	3292	3294	2	-
D	3268	3266	2	-
E	3268	3265	3	-
F	3290	3292	2	-
G	3298	3296	2	-
H	3265	3260	5	-
I	3265	3267	2	-
J	3299	3296	3	-
K	3294	3294	0	-
L	3265	3264	1	-
M	3296	3295	1	-

GIBEL
2024-05-17
KONSTRUKCIJA I PROJEKCIJA
KAROSERIJAMA



DTR30223319/2 Carshell Assembly TC

Rev. 29

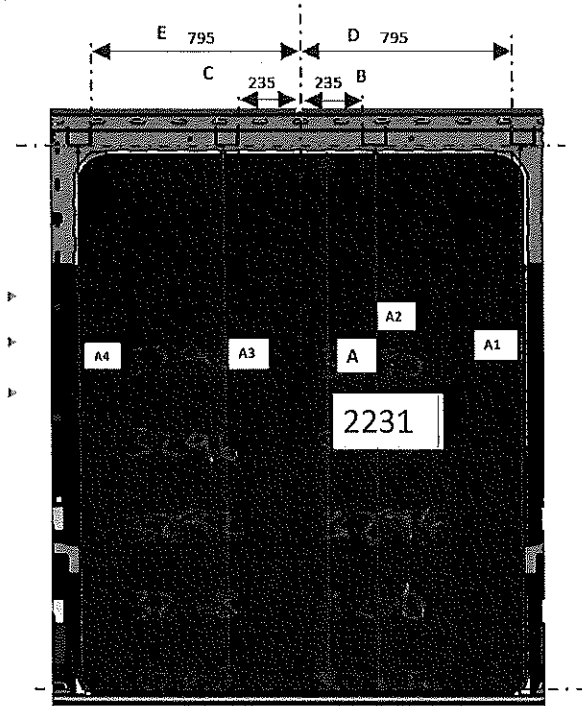
Project: PRASA

Date-

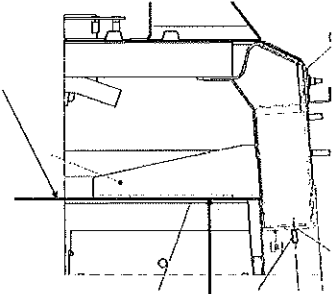
SI.CB2220.323.V29

28/10/2023

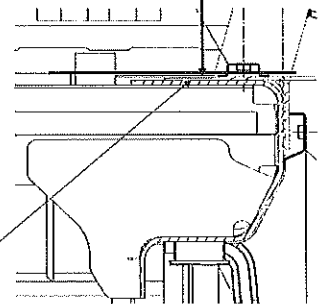
Specifications of Details for CBS measurement



Brackets Carbodshell
U Type Supports



Brackets Carbodshell
Channel Assy



DOOR 1 - LHS

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

DOOR 2 - LHS

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

DOOR 3 - LHS

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

DOOR 1 - RHS

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

DOOR 2 - RHS

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

Handwritten notes and signatures at the bottom right of the page.



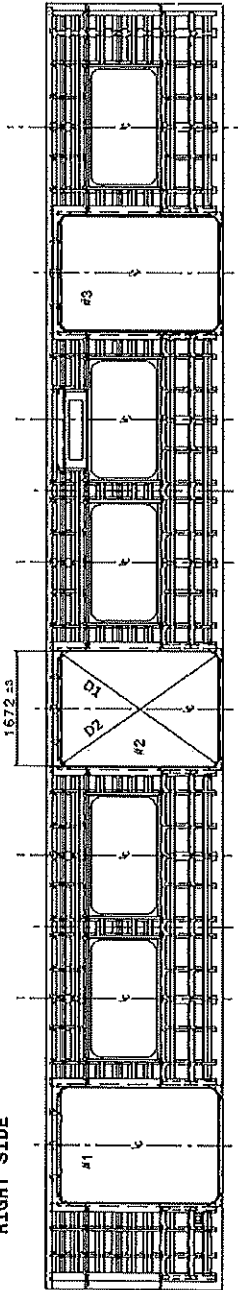
DTR30223319/2 Carshell Assembly TC

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SI.CB2220.323.V29

Specifications of Details for CBS measurement

End #2



End #1

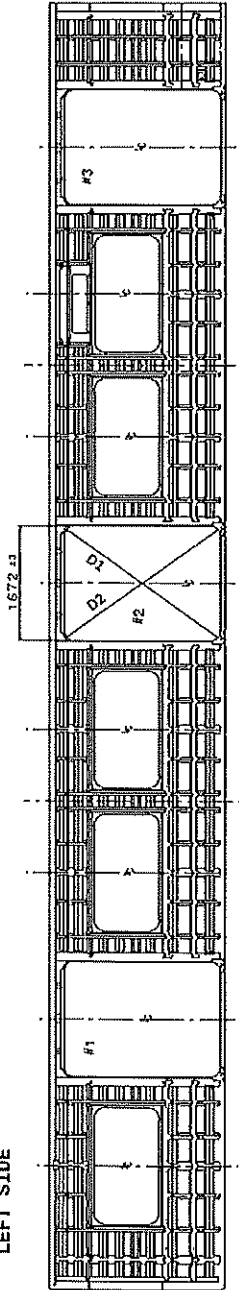
Doors diagonal D1-D2 maximum difference ≤ 4 mm

#1	2547	#2	2549	#3	2548
D1	2547	D2	2547	D1-D2	2
D2	2548				
D1-D2	2				

Doors length - 1672 ± 3 mm

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

End #1



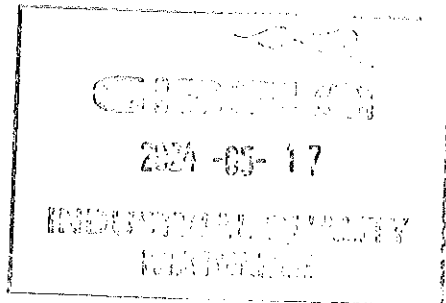
End #2

Diagonal de portas - diferença D1-D2 ≤ 4 mm

#1	2548	#2	2549	#3	2547
D1	2548	D2	2547	D1-D2	1
D2	2548				
D1-D2	1				

Vão de Portas - 1672 ± 3 mm

#1	1671	#2	1673	#3	1672
DIMENSÃO SUPERIOR	1671	HIGHER DIMENSION	1673	CENTRAL DIMENSION	1672
HIGHER DIMENSION	1672	CENTRAL DIMENSION	1673	LOWER DIMENSION	1671





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Specifications of Details for CBS measurement

Dye penetrant test

Dye-penetration test to be performed by quality personnel




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. New defects must be added on the REX			

GIBELA
2024-05-17
INDUSTRIAL QUALITY
MANAGEMENT

	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date- 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!	13/04/2024	Levi Operations	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	14/04/24	Mokow Industrial Quality	
	NO GO	There are activities pendings that impact/stop the activities of the next process Obs: (To describe problems below)			Operations
		There are non-conformities impact the quality of the product and there is no corrective action defined yet)			Industrial Quality

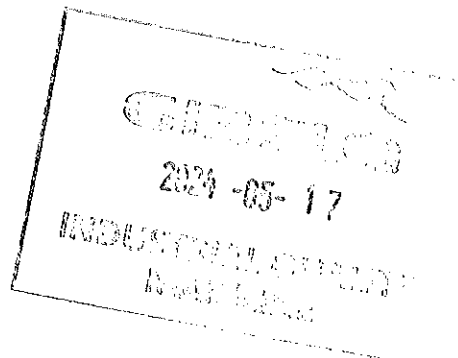
In case of "NO GO", describe blocking problems

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



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
				TC	MC	MS	ME	MW	TC			
DT0000022319	AAD0001238983	DT0000022319 Carshell Assembly TC	CB1230	X							PRA.CB2230.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	Ramokone 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 Mhombhli	20/02/2022
			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 Mhombhli	14/06/2022
			CHECKER	Andani Muthelo	14/06/2022
			COMPILER	Andani Muthelo	14/06/2022
27	27/07/2022	Threshold measurements addition	APPROVER	Collins Mhombhli	26/07/2022
			CHECKER	Andani Muthelo	26/07/2022
			COMPILER	Andani Muthelo	26/07/2022
28	19/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mhombhli	19/10/2022
			CHECKER	Ntokozo Zwane	19/10/2022
			COMPILER	Amogelang Mohlampe	19/10/2022
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokozo Zwane	14/04/2023
			COMPILER	Amogelang Mohlampe	14/04/2023
30	06/11/2023	Added threshold traceability for boiler makers and welders	APPROVER	Tyson Ngobeni	06/11/2023
			CHECKER	Andani Muthelo	06/11/2023
			COMPILER	Ntokozo Zwane	06/11/2023

TRAINSET	CAR	OPERATOR NAME & ALP NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
200	TC 2	Smile 426955	15/04/24	SI.CB2230.324.V29	12



DT00000223319 Carshell Assembly TC

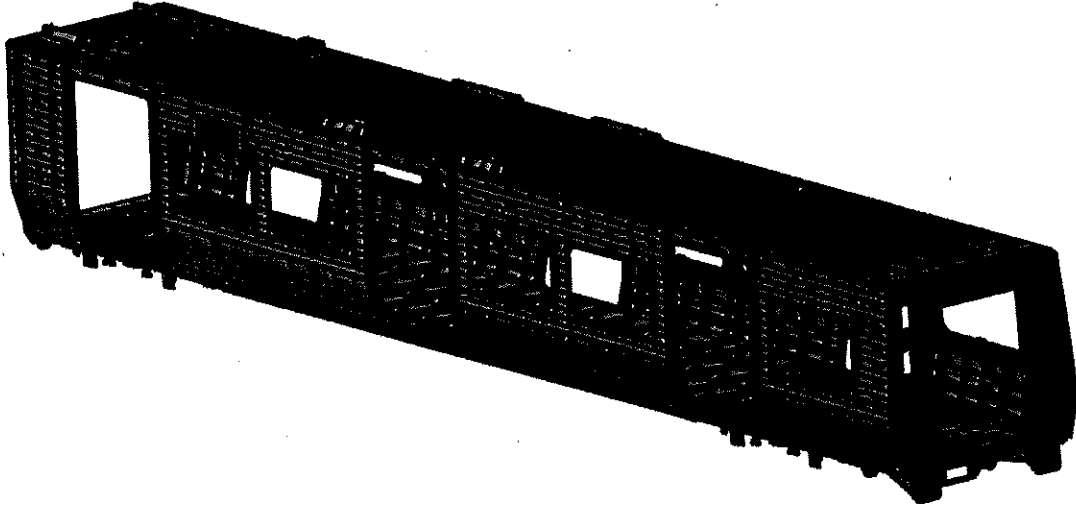
Rev.
30
Date-
06/11/2023

Project: PRASA
SI.CB2230.324.V29

Carro:
Car:

NCR:

Work station: CB2230



I - Documentation and Instruments

1.1 - Documentation Control

Document	Type of car					Revision	Observation	OK	N/A	Signature/Date (Operations)	Signature/Date (Quality)
	T01	M1	M2	M4	T02						
DT00000223319						30		OK	N/A	15/24	16/04/24

1.2 - Instruments Control

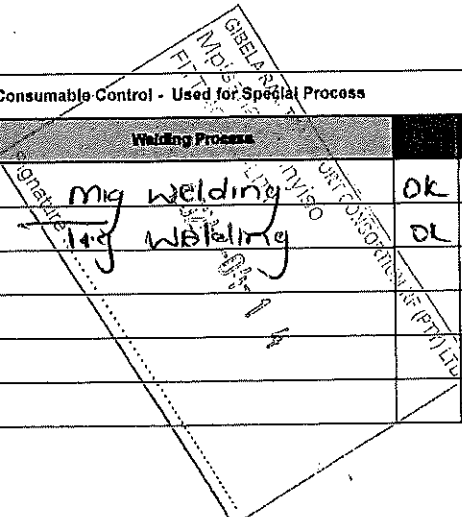
Monitoring and Measuring Instrument Control - Used for Special Process

Instruments	Validation	Calibration or Verification Validation Date	OK	Signature/Date (Operations)	Signature/Date (Quality)
Combination Square	GIBCS 0137	2024/10/11	OK	15/04/24	16/04/24
Tubular	22713-1	29/11/24	OK	15/24	16/04/24
Measuring tape	GIBTA 0394	24/04/205	OK	15/24	16/04/24

1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
ER 308 LSI	E231067	MIG welding	OK	15/04/24	16/04/24
ER 308 L	310442	MIG welding	OK	15/04/24	16/04/24





DT00000223319 Carshell Assembly TC

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30
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06/11/2023

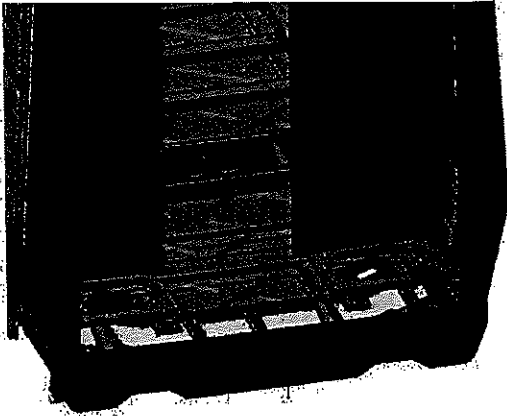
Project: PRASA
SI.CB2230.324.V29

II - Control Activities of Production

It.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Signature/Date (Operations)	Signature/Date (Quality)						
01	N/A	Assembly according to instruction Engineering n° DT00000223319	DT00000223319	OK	15/04/24	15/04/24						
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	OK	15/04/24	15/04/24						
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 DTD0000210675	OK	15/04/24	15/04/24						
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.	OK	15/04/24	15/04/24						
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	OK	15/04/24	15/04/24						
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: <table border="1" style="width: 100%;"> <tr> <td>Temperature Min - Max (1)</td> <td>Min-Max</td> <td>10°C - 35°C</td> </tr> <tr> <td>Relative humidity Min - Max (1)</td> <td>Min-Max</td> <td>25% - 80%</td> </tr> </table>	Temperature Min - Max (1)	Min-Max	10°C - 35°C	Relative humidity Min - Max (1)	Min-Max	25% - 80%	Sealant Batch No: <u>ISR 70-30</u> Exp Date: <u> </u> / <u>09</u> / <u>06</u> Actuals Temperature: <u>21°C</u> Humidity: <u>52%</u>	OK	15/04/24	15/04/24
Temperature Min - Max (1)	Min-Max	10°C - 35°C										
Relative humidity Min - Max (1)	Min-Max	25% - 80%										
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	OK	15/04/24	15/04/24						

VIEW A



END 1 SEALANT

OPERATOR
(Name & sign):

Siwle

OPERATOR
(Name & sign):

Tshenolo

VIEW C

END 2 SEALANT (VIEW C)

OPERATOR
(Name & sign):

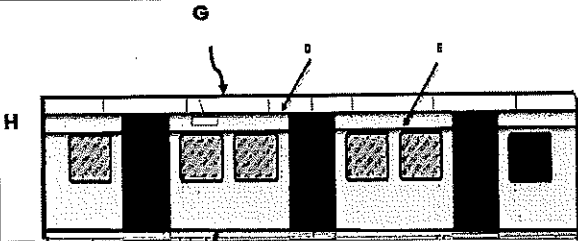
LEROY

OPERATOR
(Name & sign):

LEROY

OPERATOR
(Name & sign):

LEROY



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

Operator (Name & sign):

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

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

Operator (Name & sign):

Siwle

Siwle

Operator (Name & sign):

Operator (Name & sign):

Tshenolo

Tshenolo

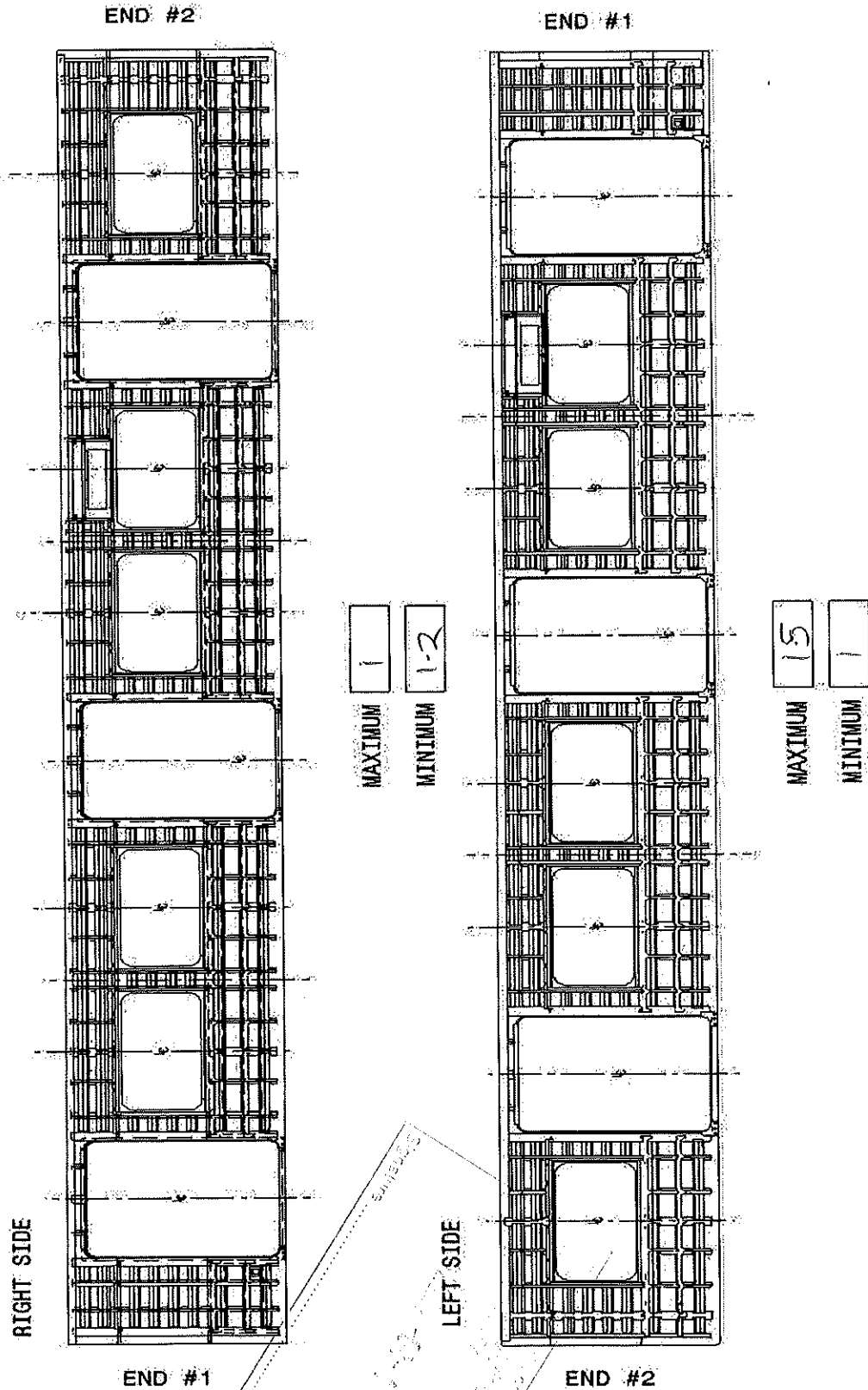
Operator (Name & sign):

Operator (Name & sign):

Signature
2023-08-11

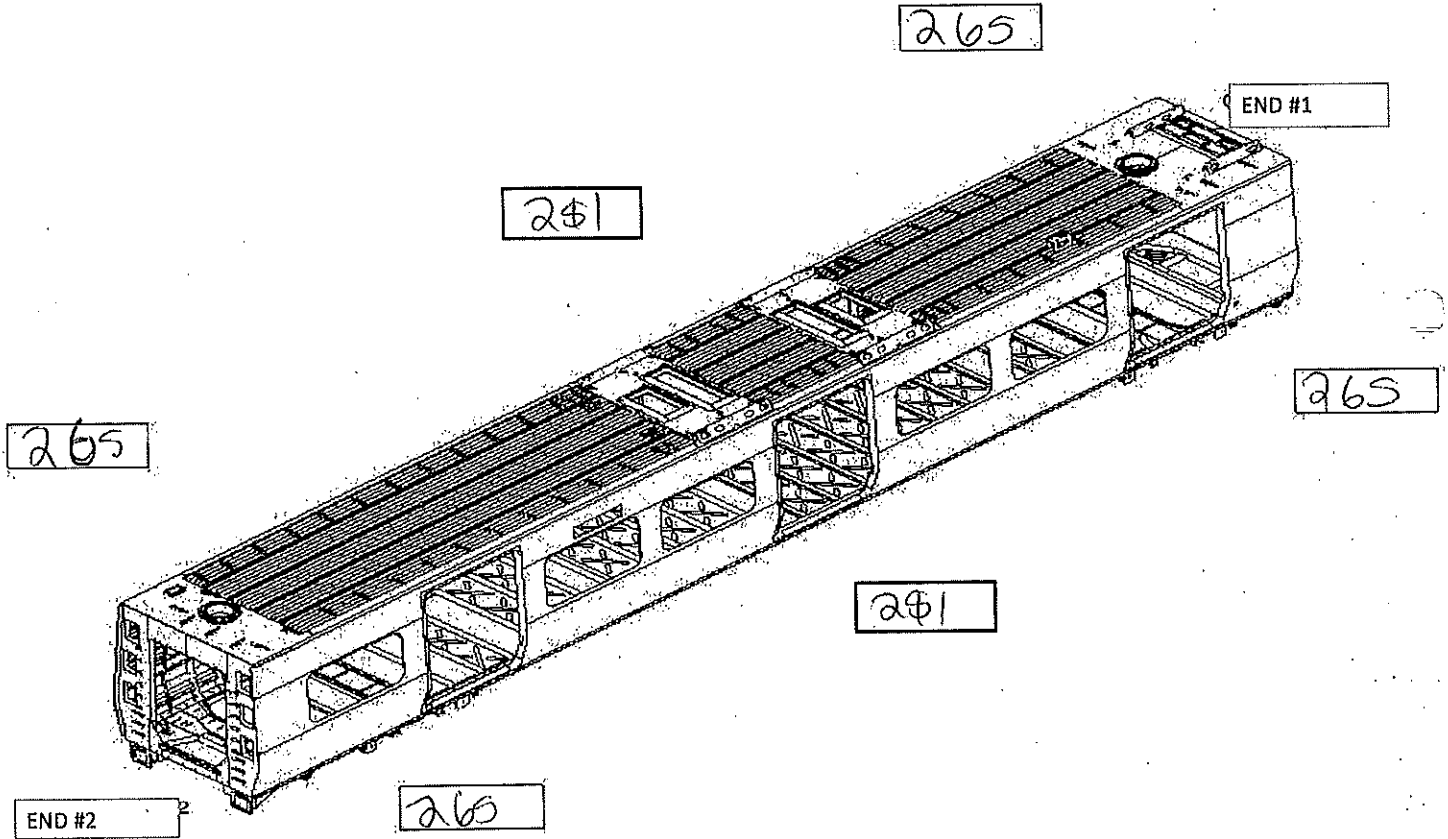
Specifications of Details for CBS measurement CB2230

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



Specifications of Details for CBS measurement CB2230

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

**MEASURED CAMBER VALUES**

RIGHT

16

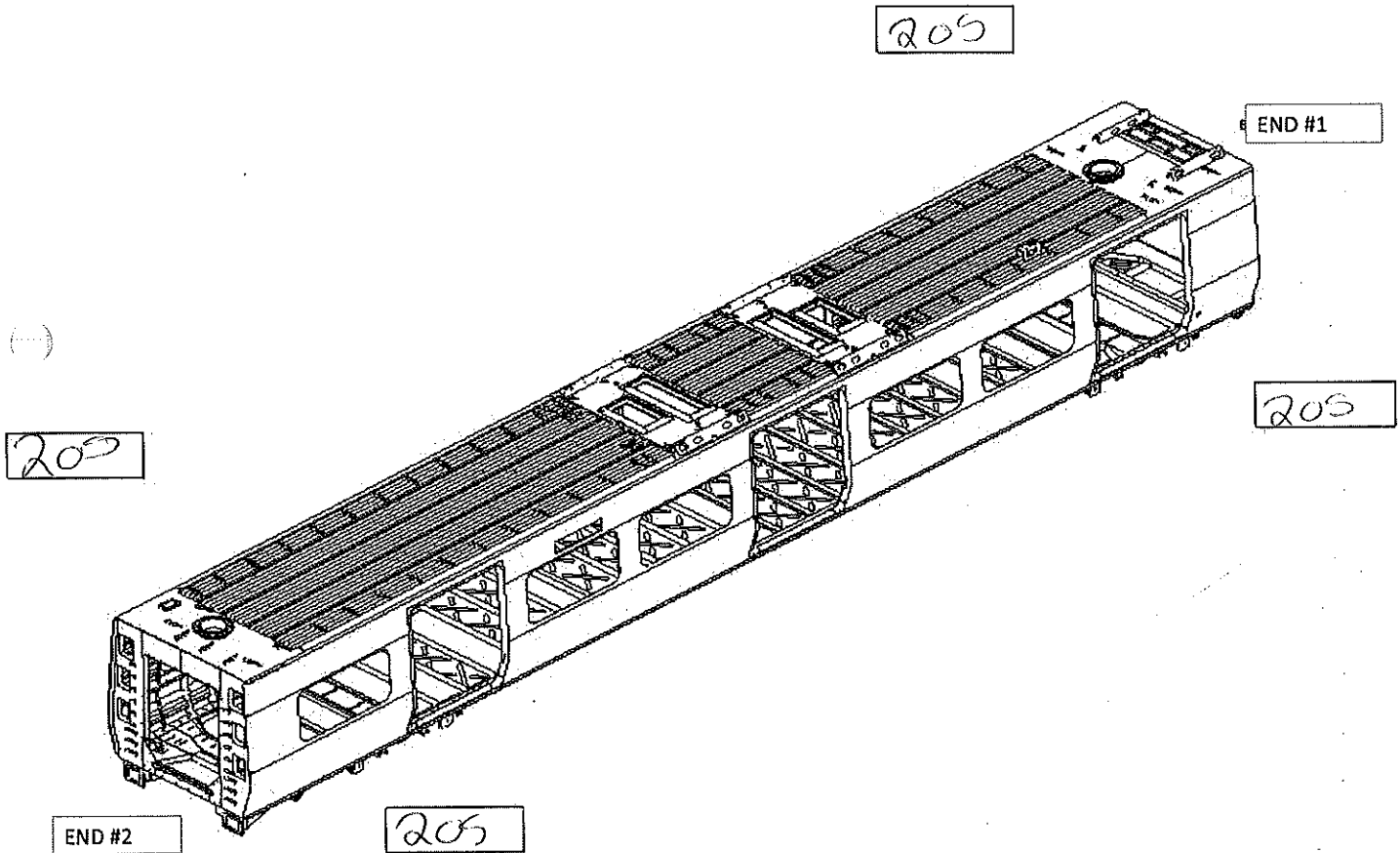
LEFT

16

Signature.....
2023-06-15

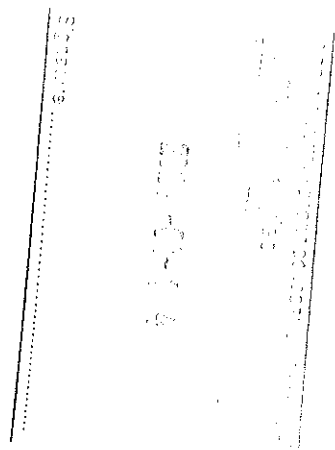
Specifications of Details for CBS measurement CB2230

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.

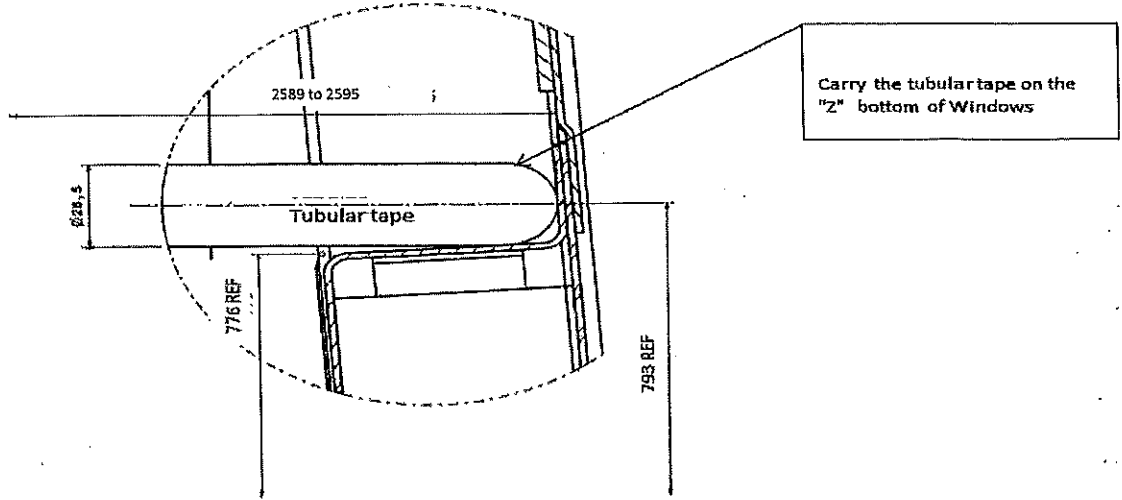


MEASURED TWIST VALUES END 1	
LATERAL	0
LONGITUDINAL	0

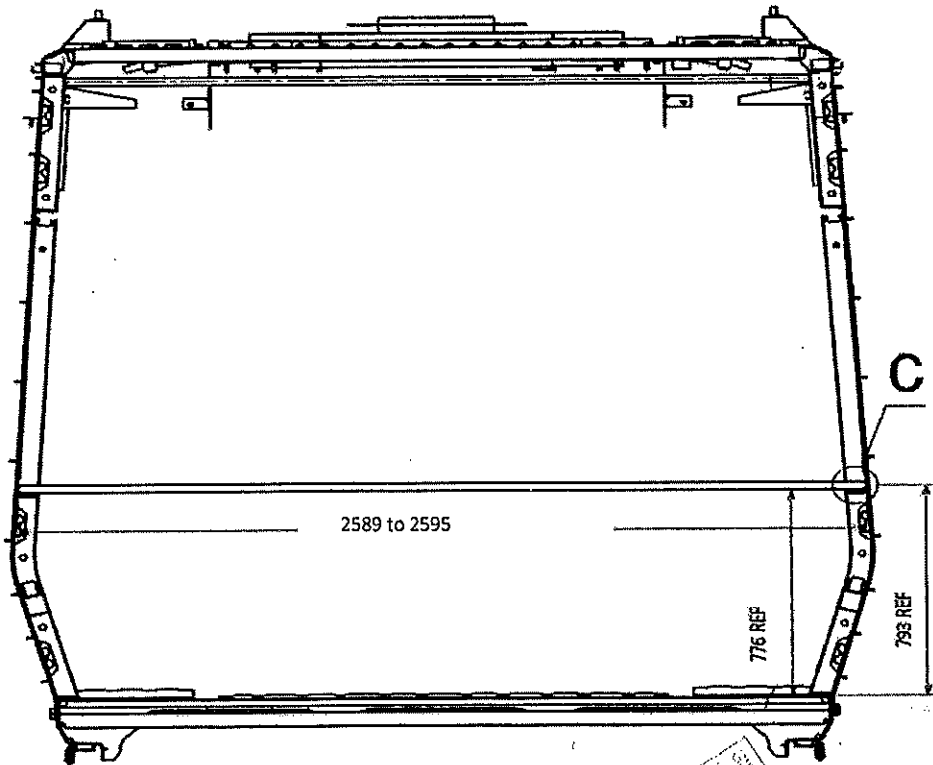
MEASURED TWIST VALUES END 2	
LATERAL	0
LONGITUDINAL	0



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



Detail C

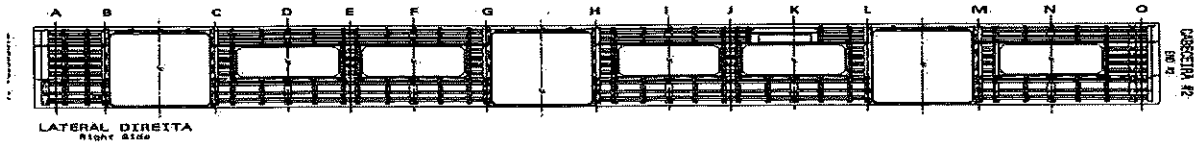


Signature.....

2023-06-11 10:00

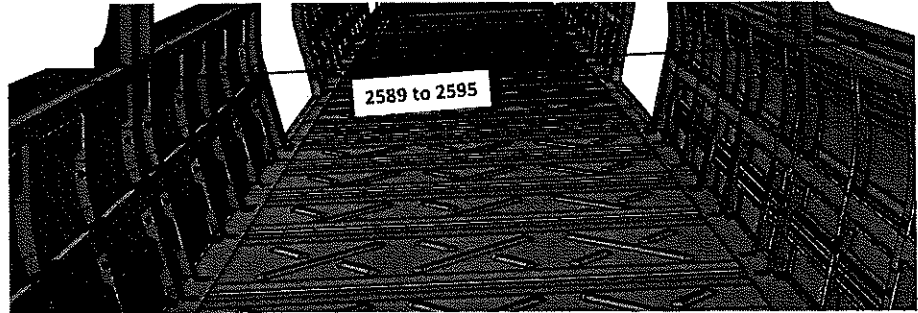
SI.CB2230.324.V29

06/11/2023

Specifications of Details for CBS measurement


2589 to 2595mm

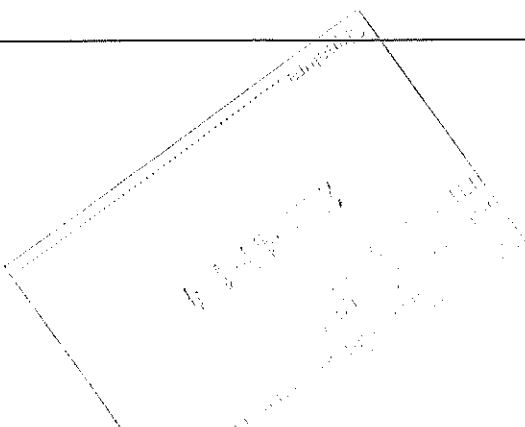
A	2591
B	2589
C	2592
D	2590
E	2591
F	2593
G	2592
H	2593
I	2594
J	2590
K	2590
L	2591
M	2594
N	2595
O	2592


Threshold verification

Nominal value :38

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

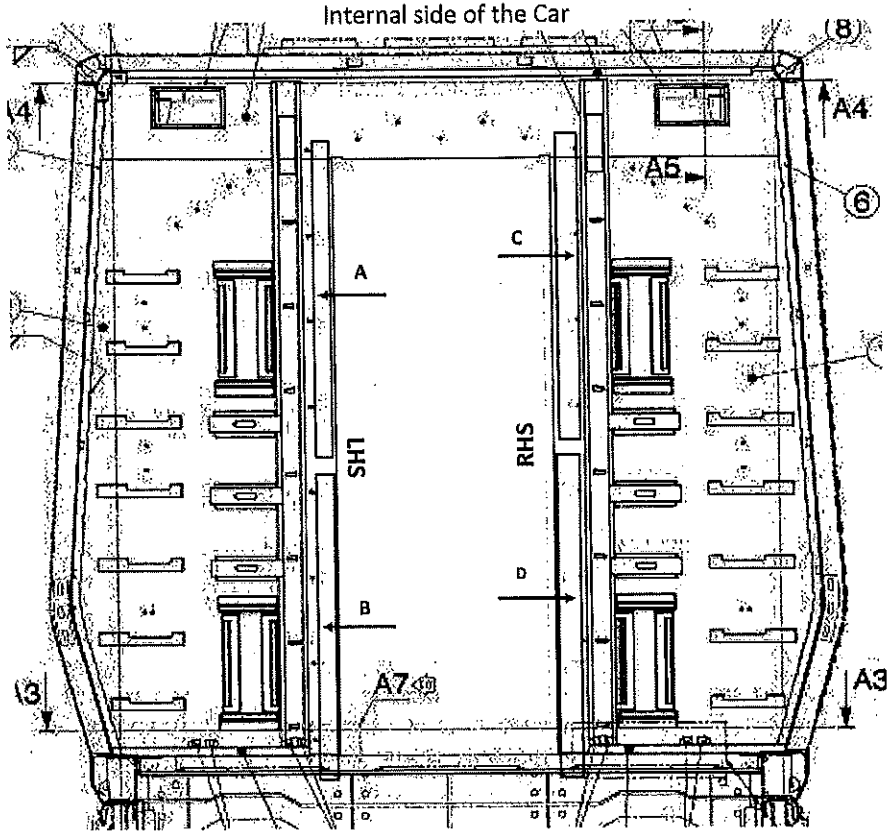
 BOILER MAKER: Sinle (s) & Tshenolo (s) [Signature]

 WELDER: mma-thapelo [Signature]


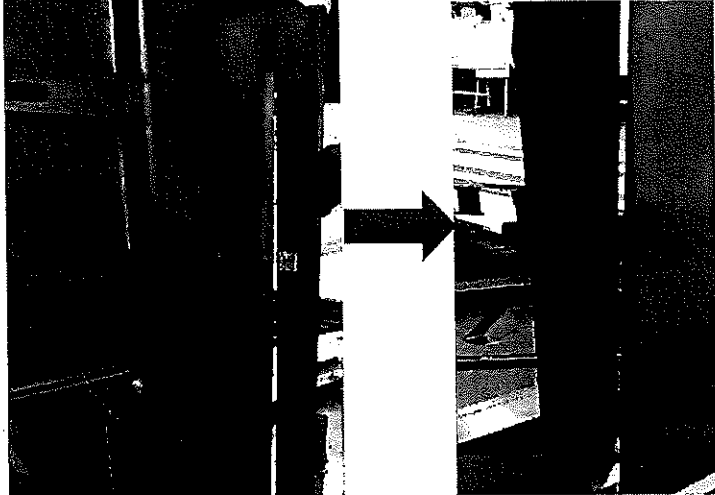
Specifications of Details for CBS measurement

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	Devlation
A	10.1	10.2	0.1
B	10.8	10.9	0.1
C	8.6	9.6	1
D	9.2	10.3	1.1



Signature: _____
Date: 2023-10-14



DT00000223319 Carshell Assembly TC

Rev. 30
Date- 06/11/2023

Project: PRASA
SI.CB2230.324.V29

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	Signature/Date (Team Leader)	Signature/Date (Quality Technician)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX			

11/06/2023 10:00 AM
 11/06/2023 10:00 AM
 11/06/2023 10:00 AM



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Self Inspection - Final Result

Is the car good to advance to the next workstation/process? (Approval of Operations Manager and Industrial Quality)		DATE	NAME	SIGNATURE
HOLD POINT	If activities are not complete, the missing activities must not impact the next stage!	15/04/24	Simle Operations	
	Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	15/04/24	Andoni Industrial Quality	
	There are activities pending that impact/stop the activities of the next process Obs: (To describe problems below)		Operations	
	There are non-conformities impact the quality of the product and there is no corrective action defined yet)		Industrial Quality	

In case of "NO GO", 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

PRASA
 Dept. de Operações
 Industrial Quality
 2024-04-15
 Signature