

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.

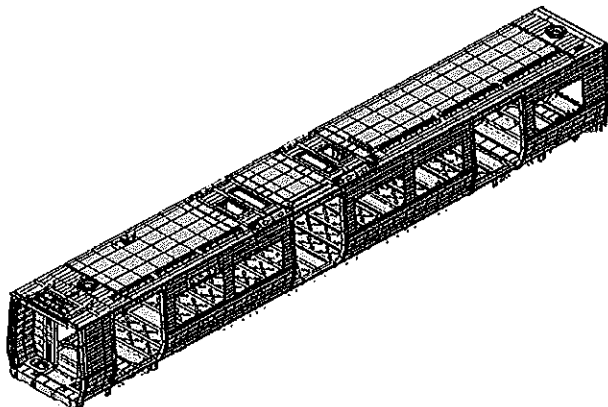
APPLICATION REFERENCE

MOUNTING	DRAWING	DESCRIPTION	STATION	CAR TYPE						WORK INSTRUCTION	SAFETY ?
				TC1	M4	M1	M2	M3	TC2		
DTR30223319/3	AAD0001241033	Carshell Assembly TC	CB2210	X					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	06/08/2020
			REVISED BY	Bongane Masina	06/08/2020
20	19/04/2020	New Baseline change 10.3	APPROVER	Timothy Maimela	19/04/2021
			CHECKER	Bongane Masina	19/04/2021
			REVISED BY	Bongane Masina	19/04/2021
21	17/08/2021	ADDED DIMENSIONS BEFORE WELDING	APPROVER	Mbhombi Collins	17/08/2021
			CHECKER	Mpho Mulaudzi	17/08/2021
			REVISED BY	Mpho Mulaudzi	17/08/2021
25	21/02/2022	New Baseline change 10.3.1	APPROVER	Mbhombi Collins	21/02/2022
			CHECKER	Andani Muthelo	21/02/2022
			REVISED BY	Andani Muthelo	21/02/2022
26	14/04/2023	Addition of welding consumable traceability	APPROVER	Ntuli Vanessa	14/04/2023
			CHECKER	Mohlame Amogelang	14/04/2023
			REVISED BY	Mohlame Amogelang	14/04/2023
27	27/07/2023	Added verification of loaded parts	APPROVER	Ngobeni Tyson	27/07/2023
			CHECKER	Mathapo Kelebene	27/07/2023
			REVISED BY	Mohlame Amogelang	27/07/2023
28	07/11/2023	Addition of welding traceability	APPROVER	Ngobeni Tyson	07/11/2023
			CHECKER	Andani Muthelo	07/11/2023
			REVISED BY	Ntokozo Zwane	07/11/2023
TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
229	702	Wanda 611497	12/05/24	SI.CB2210.322.V28	16

	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA
		Date: 07/11/2023	SI.CB2210.322.V28

Car: TC1 & TC2	NCR:	Work station: CB2210
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I - Documentation and Instruments

I.1 - Documentation Control

Document	Type of car						Revision	Observation	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
	0	1	2	3	4	5						
DTR30223319/3						X					N/A	

I.2 - Instruments Control

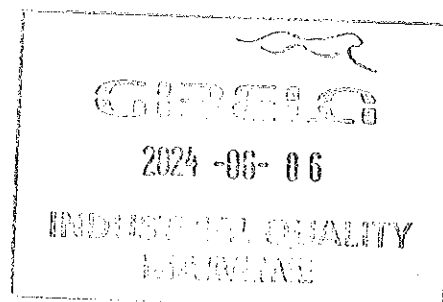
Monitoring and Measuring Instrument Control - Used for Special Process


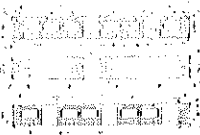
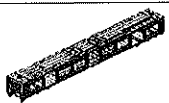
Instruments	Validation	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
TUBULAR	32823-2	15/03/24	✓		22/05/24	
30 M TAPE	GIBTP0084	14/03/24	✓		22/05/24	
LASER TAPE	128425924	08/01/24	✓		22/05/24	

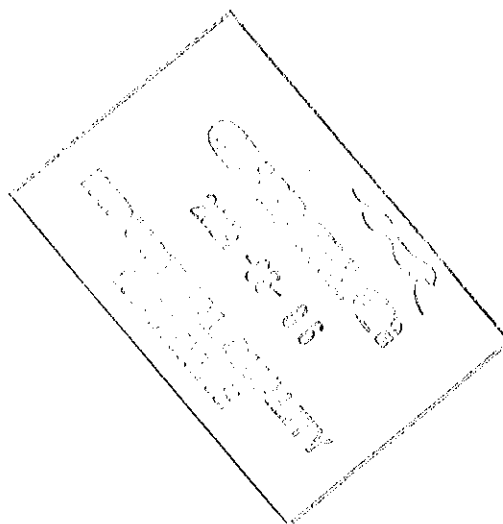
I.3 Consumables


Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
AUTROD 308 LSI	E221880	MIG	✓		22/05/24	
E12309 LSI	318394	MIG	✓		22/05/24	



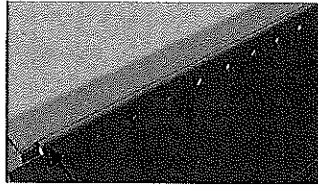
		DTR30223319/3 Carshell Assembly TC		Rev. V28	Project: PRASA		
				Date- 07/11/2023	SI.CB2210.322.V28		
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	Verification of correct parts loaded (Sidewalls, Endframes, Roof and Underframe)	DT00000284980	✓		10/10 22/05/24	22/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓		10/10 22/05/24	22/05/24
03		Functional dimensions approved according drawing or complementary document approved by Alstom engineering and registered in this document.	Approved according specified on pages below.	✓		10/10 22/05/24	22/05/24
04	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		10/10 22/05/24	22/05/24
05	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		10/10 22/05/24	22/05/24
06		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		10/10 22/05/24	22/05/24
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	✓		10/10 22/05/24	22/05/24



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB2210.322.V28
		Date: 07/11/2023	

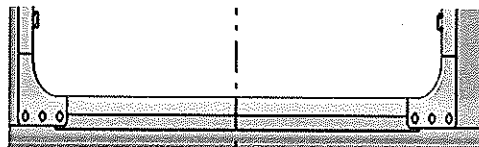
Welder traceability

Roof ring welds

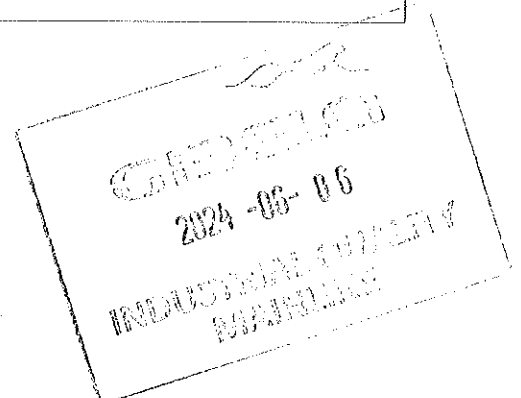



LHS		END 1
Boiler maker (Name & Sign): <u>LUNGA [Signature]</u>	Welder (Name & Sign): <u>MTHEKUZISI [Signature]</u>	
RHS		
Boiler maker (Name & Sign): <u>Tim [Signature]</u>	Welder (Name & Sign): <u>MTHEKUZISI [Signature]</u>	

LHS		END 2
Boiler maker (Name & Sign): <u>LUNGA [Signature]</u>	Welder (Name & Sign): <u>MTHEKUZISI [Signature]</u>	
RHS		
Boiler maker (Name & Sign): <u>Tim [Signature]</u>	Welder (Name & Sign): <u>MTHEKUZISI [Signature]</u>	

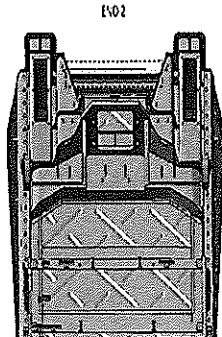


LHS	RHS
Boiler maker (Name & Sign): <u>LUNGA [Signature]</u>	Boiler maker (Name & Sign): <u>LUNGA [Signature]</u>
Welder (Name & Sign): <u>MTHEKUZISI [Signature]</u>	Welder (Name & Sign): <u>MTHEKUZISI [Signature]</u>

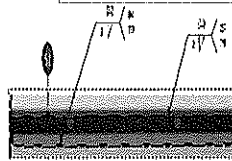


	DTR30223319/3 Carshell Assembly TC	Rev. V28 Date- 07/11/2023	Project: PRASA SI.CB2210.322.V28
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EUFR Reinforcement Plates



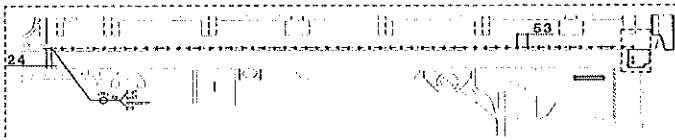
Underneath the CAR



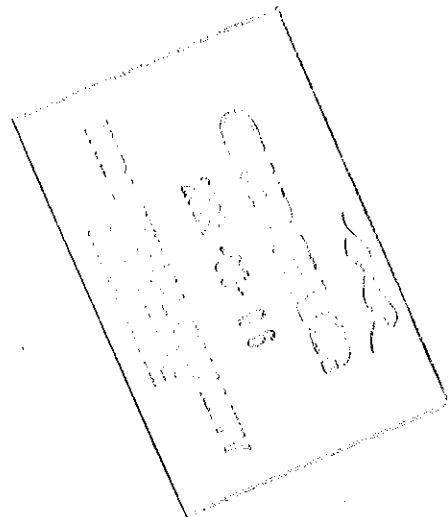
END 2


Boiler maker (Name & Sign): GERARD G. Nasda

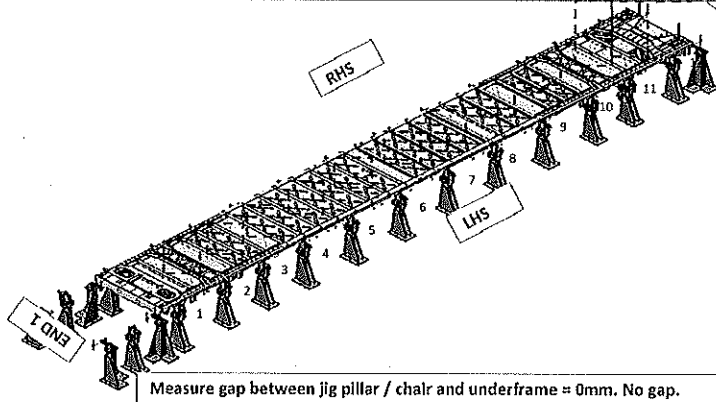
Welder (Name & Sign): S. Phontey



FEDOLI
Operator: Lebago



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB2210.322.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 foundon each Jlg pillars / chair and underframe should be 0mm.


After Loading Underframe and Clamping.

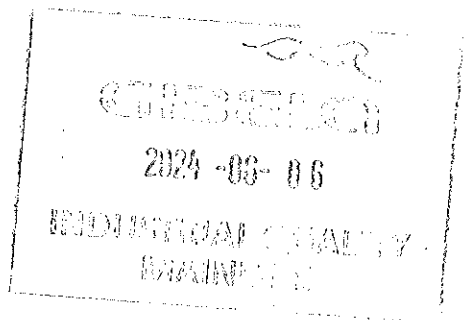
	1	2	3	4	5	6	7	8	9	10	11	12
Left Hand Side	0	0	0	0	0	0	0	0	0	0	0	0
Right Hand Side	0	0	0	0	0	0	4	5	3	0	0	0

Signature Operations:  Date: 22/05/24

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	5	3	0	0	0

Signature Industrial Quality:  Date: 22/05/24





DTR30223319/3 Carshell Assembly TC

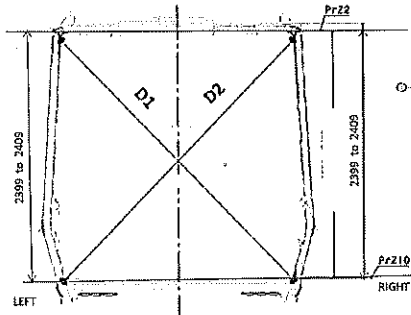
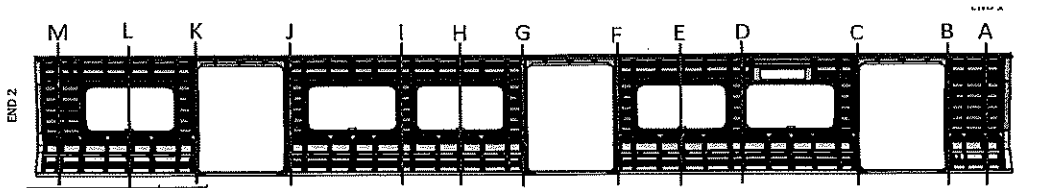
Rev.
V28

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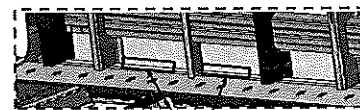
Date-
07/11/2023

SI.CB2210.322.V28

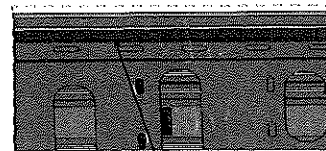
Specifications of Details for CBS measurement



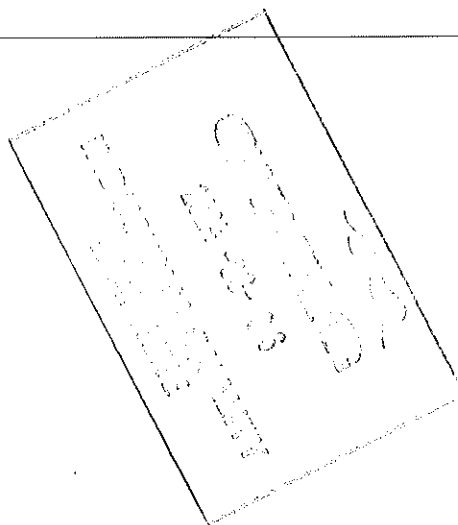
Measurement positions on roof rail and sidewall omega corner.




Measurement positions on sidewall and side sill corner.



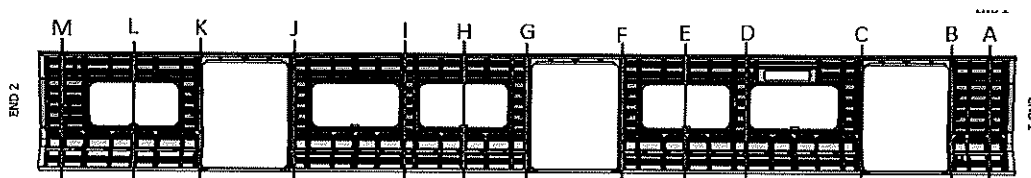
Reinforcement area measurement positions on roof reinforcement area.



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

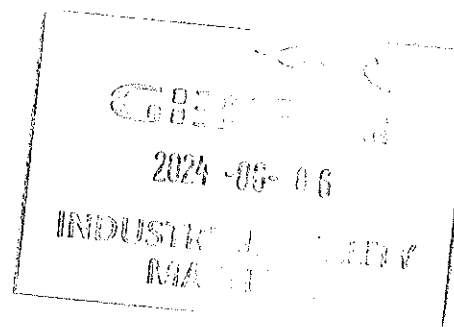
BEFORE WELDING




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

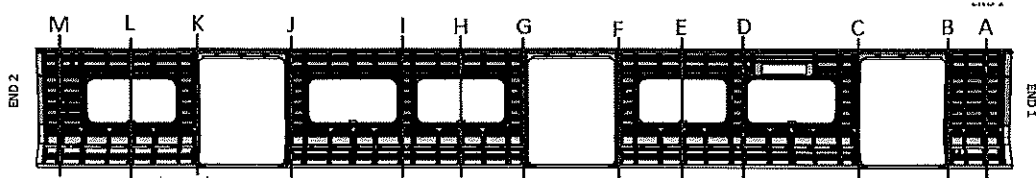
	Record D1 values	Record D2 values	D1-D2 $\leq 5\text{mm}$	2399 to 2409	2399 to 2409 (RHS)	LHS-RHS ≤ 2
A	3269	3269	0	2405	2405	0
B	3268	3269	1	2406	2405	1
C	3269	3269	0	2405	2405	0
D	3266	3266	0	2406	2406	2
E	3265	3266	1	2407	2406	1
F	3268	3268	0	2406	2406	0
G	3267	3268	1	2405	2406	1
H	3265	3264	1	2406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

24/05/24



	DTR30223319/3 Carsholl Assembly TC	Rev. V28	Project: PRASA SI.CB2210.322.V28
		Date- 07/11/2023	
Specifications of Details for CBS measurement			

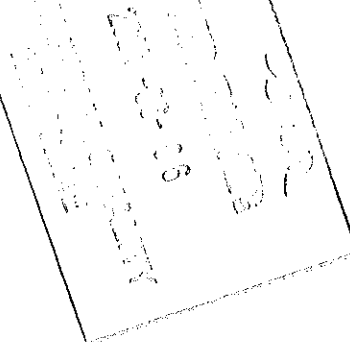
AFTER WELDING




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	3269	3268	1	2405	2405	0
B	3295	3294	1	2406	2405	1
C	3295	3295	0	2404	2404	0
D	3265	3266	1	2406	2405	1
E	3264	3265	1	2405	2405	0
F	3294	3295	1	2406	2404	2
G	3295	3295	0	2405	2406	1
H	3265	3264	1	2405	2405	0
I	3266	3266	0	2407	2406	1
J	3294	3295	1	2405	2404	1
K	3293	3295	2	2405	2405	0
L	3264	3268	4	2405	2406	1
M	3294	3294	0	2407	2407	0

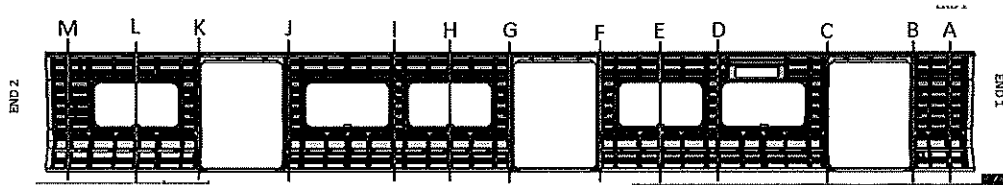
22/05/24



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB2210.322.V28
		Date- 07/11/2023	

CBS measurement

BEFORE WELDING



2270 to 2276

2268 a 2274

A 2276

B 2272

C 2273

D 2276

E 2276

F 2272

G 2270

H 2275

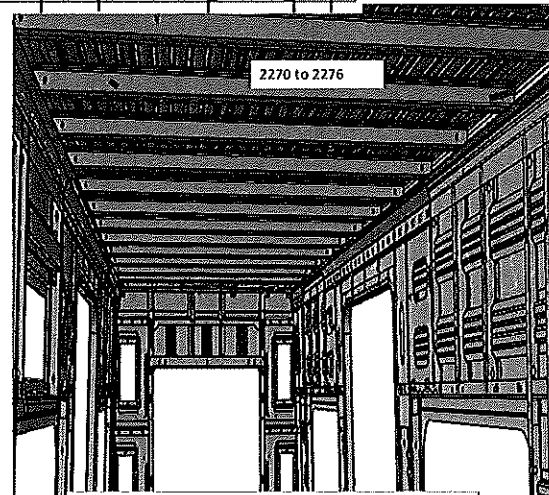
I 2277

J 2270

K 2272

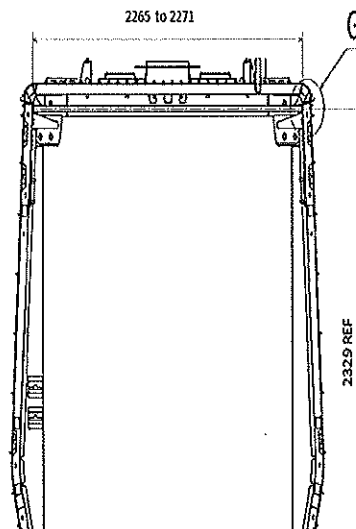
L 2274

M 2271

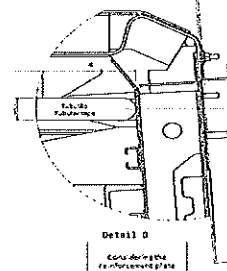


Do not consider reinforcement (Take measurements top area of zee profile

2265 to 2271



2265 to 2271



22/08/24

GIBELQ

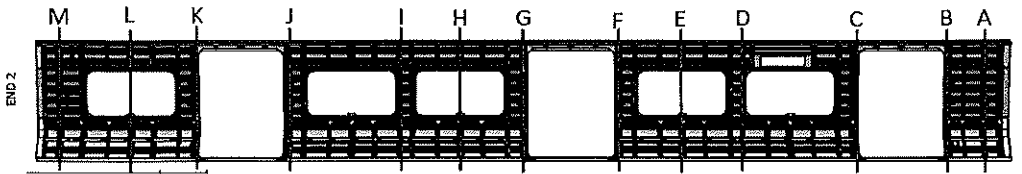
2024-08-06

INDU

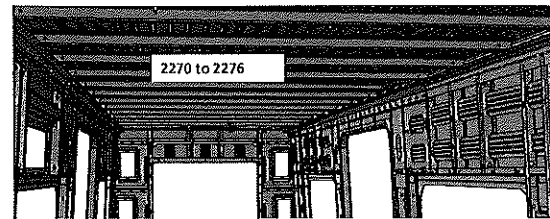
QUALITY

Specifications of Details for CBS measurement

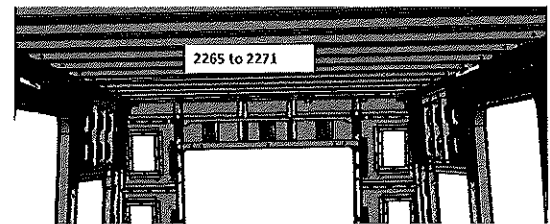
AFTER WELDING



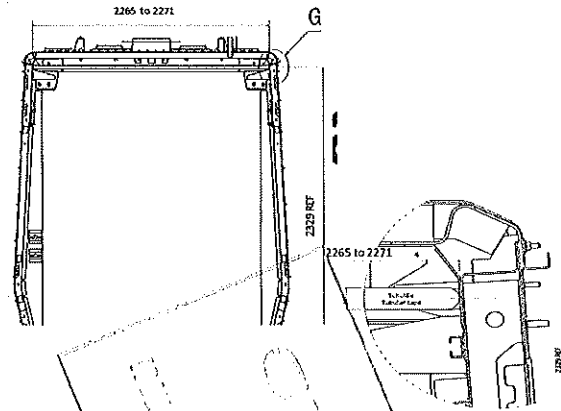
	2265 to 2271	2270 to 2276
A	NA	2273
B	2268	NA
C	2266	NA
D	NA	2276
E	NA	2275
F	2268	NA
G	2266	NA
H	NA	2274
I	NA	2276
J	2270	NA
K	2269	NA
L	NA	2274
M	2268	NA




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



Take measurement close to radius (considering reinforcement)



22/05/2023

	DTR30223319/3 Carshell Assembly TC	Rev. V28 Date- 07/11/2023	Project: PRASA SI.CB2210.322.V28
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Specifications of Details for CBS measurement

Endframe 2

Height Dimension

1945

Central Distance

1381

Diagonal Distance

1380

DIAGONAL DIFFERENCE $D1-D2 \leq 3mm$

D1

2414

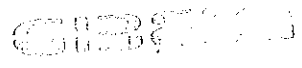
D2

2414

D1-D2

0

22/05/24


2024-03-16
INDUSTRIAL ENGINEERING
MAINTENANCE

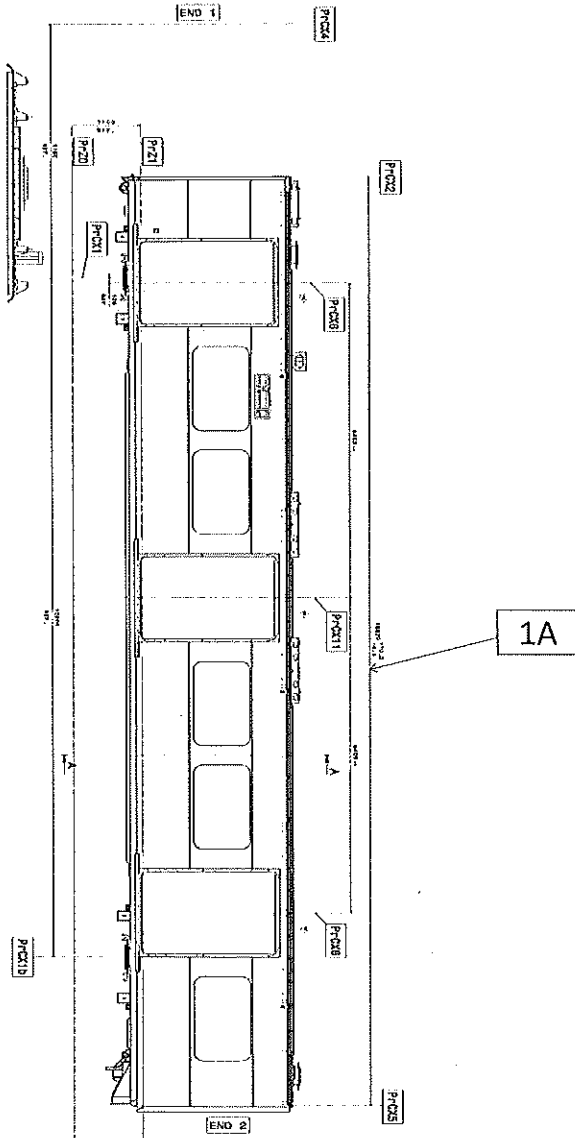


DTR30223319/3 Carshell Assembly TC

Rev.
V28
Date-
07/11/2023

Project: PRASA
SI.CB2210.322.V28

Specifications of Details for CBS measurement

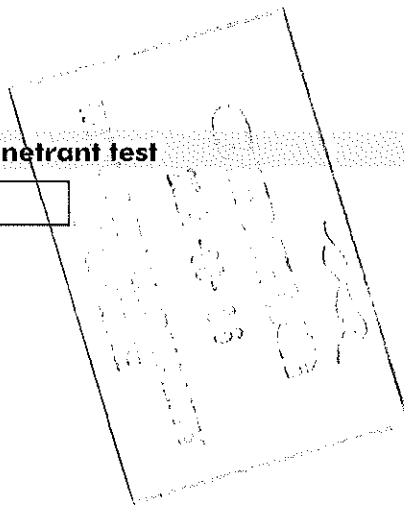



LEFT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	18870 $\begin{matrix} +10.5 \\ -4.5 \end{matrix}$	18872


RIGHT SIDE		
	SPECIFICATION SIZE	ACTUAL SIZE
1A	18870 $\begin{matrix} +10.5 \\ -4.5 \end{matrix}$	18871





Dye penetrant test

Dye-penetration test to be performed by quality personnel



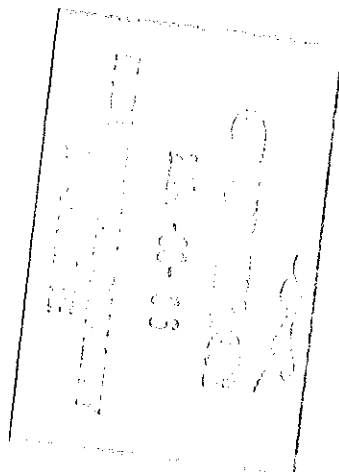
		DTR30223319/3 Carshell Assembly TC		Rev. V28	Project: PRASA		
				Date- 07/11/2023	SI.CB2210.322.V28		
Item	Description of the Issue				OK	Signature/Date (Manufacturing)	Signature/Date (Quality)
II.2 - Check List REX							
Check List Items							
Item	Picture/Drawing	Description	Criteria /Record	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
01	N/A	To complete REX	Refer to REX. New defects must be added on the REX				



2024-03-08
M. C. GILQUZ
STADIUM

		DTR30223319/3 Carshell Assembly TC		Rev. V28	Project: PRASA		
				Date- 07/11/2023	SI.CB2210.322.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!)	22/05/24	hunka Operations			
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	25/05/24	Ntoko 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)	27/05/24	Ntoko 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		

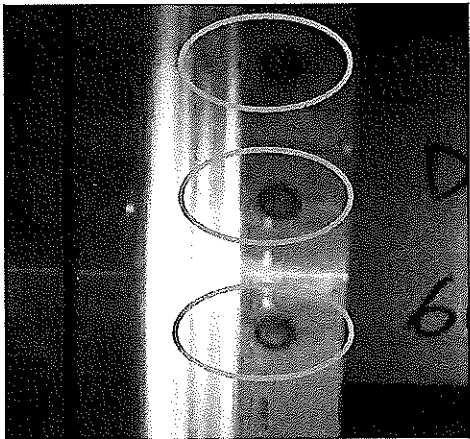
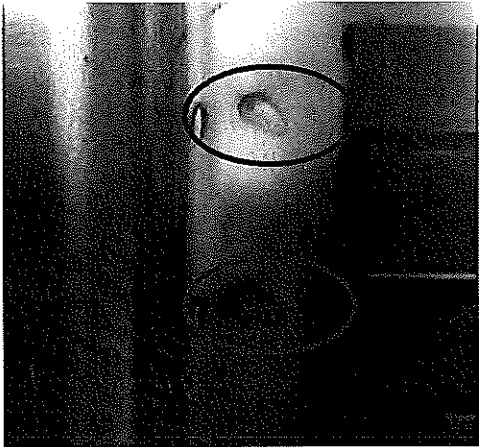
Operations


Quality



	DTR30223319/3 Carshell Assembly TC	Rev. V28	Project: PRASA SI.CB2210.322.V28
		Date- 07/11/2023	

ANNEXURE A: Spot Welding Quality Acceptance Standard

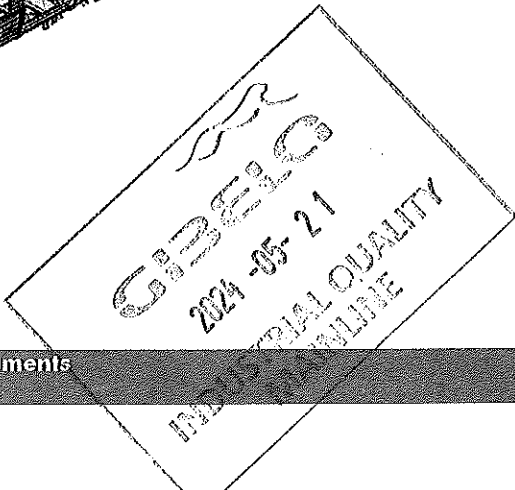
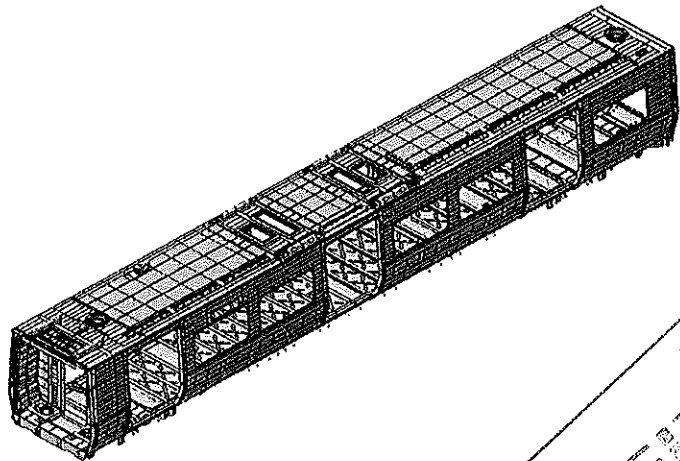


	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date- 28/10/2023	

Carro Car: TC1, TC2	NCR:	Work station: CB2220
------------------------	------	----------------------



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	TC2						
DTR30223319/2							29	28-10-2023	X		N/A	

I.2 - Instruments Control


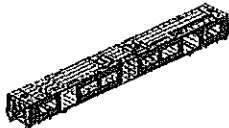

Monitoring and Measuring Instrument Control - Used for Special Process


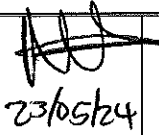

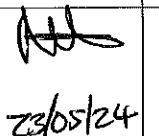

Instruments	Validation	Calibration or Verification Validation Date	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
Tukulan	32823	16/03/2025	X		23-05-24	23/05/24
Measuring tape	51510231	06/04/2025	X		23-05-24	

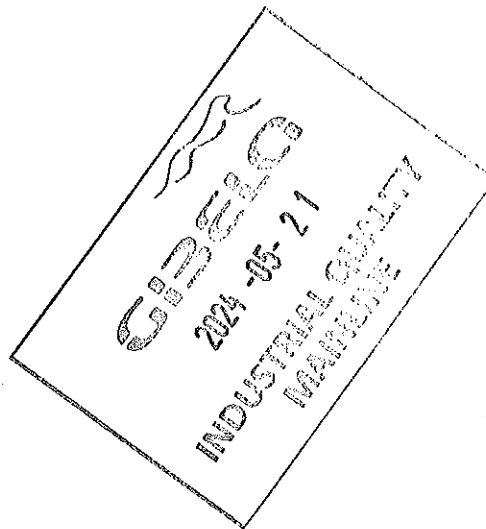
1.3 Consumables

Welding Consumable Control - Used for Special Process

Filler Material	Heat Number	Welding Process	OK		Signature/Date (Manufacturing)	Signature/Date (Quality)
308	373719	MIG	X		23-05-24	23/05/24

		DTR30223319/2 Carshell Assembly TC		Rev. 29 Date- 28/10/2023	Project: PRASA SI.CB2220.323.V29										
II - Control Activities of Production															
II.1 - Items to check															
Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	Not 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	✓		23-05-24									
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	✓		23-05-24									
03	REFER TO ANNEXURE A	Spot Welding inspected and approved according procedure	IND-SAL-WMS-016 e DTD0000210675	✓		23-05-24									
04	REFER TO ANNEXURE B	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 REFER TO GIB - TYPDEF - ARC - 0000	✓		23-05-24									
05		Cleaning of all Stainless Steel Surface	According TO GIB-WEL - PROC-0002	✓		23-05-24									
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.	✓		23-05-24									
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	✓		23-05-24									
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 (I))</td> <td>Min-Max</td> </tr> <tr> <td>10°C - 35°C</td> <td></td> </tr> <tr> <td>Relative humidity Min - Max (I)</td> <td>Min-Max</td> </tr> <tr> <td>25% - 60%</td> <td></td> </tr> </table>	Temperature (Min - Max (I))	Min-Max	10°C - 35°C		Relative humidity Min - Max (I)	Min-Max	25% - 60%		<p>Sealant Batch No: 03497</p> <p>Exp Date: 04/06/24</p> <p>Actuals</p> <p>Temperature: 15</p> <p>Humidity: 47</p>	✓		23/05/24	
Temperature (Min - Max (I))	Min-Max														
10°C - 35°C															
Relative humidity Min - Max (I)	Min-Max														
25% - 60%															

		DTR30223319/2 Carshell Assembly TC		Rev. 29	Project: PRASA			
				Date- 28/10/2023	SI.CB2220.323.V29			
09	NA	Verification of sealant application in certain regions in the drawing.	AAD0001241033	✓			 23/05/24	 23/05/24
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	✓			 23/05/24	 23/05/24

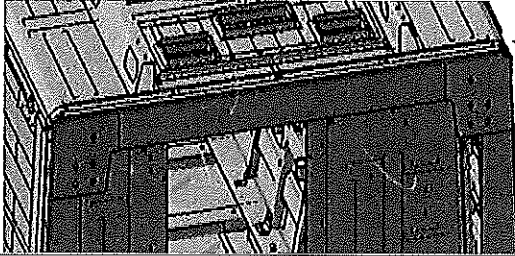




DTR30223319/2 Carshell Assembly TC

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29
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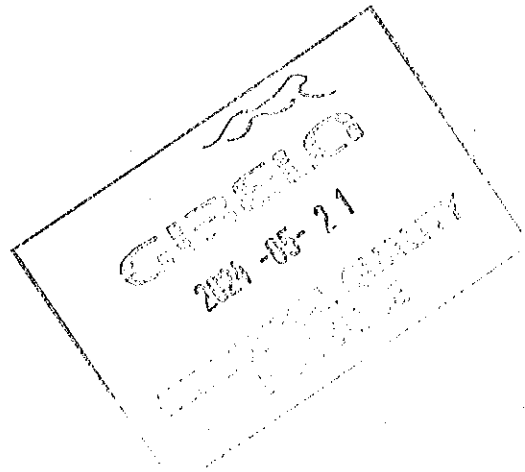
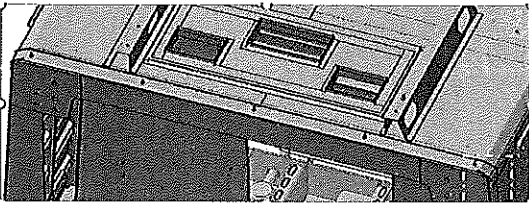
END 1
SEALANT


OPERATOR
(Name & sign):

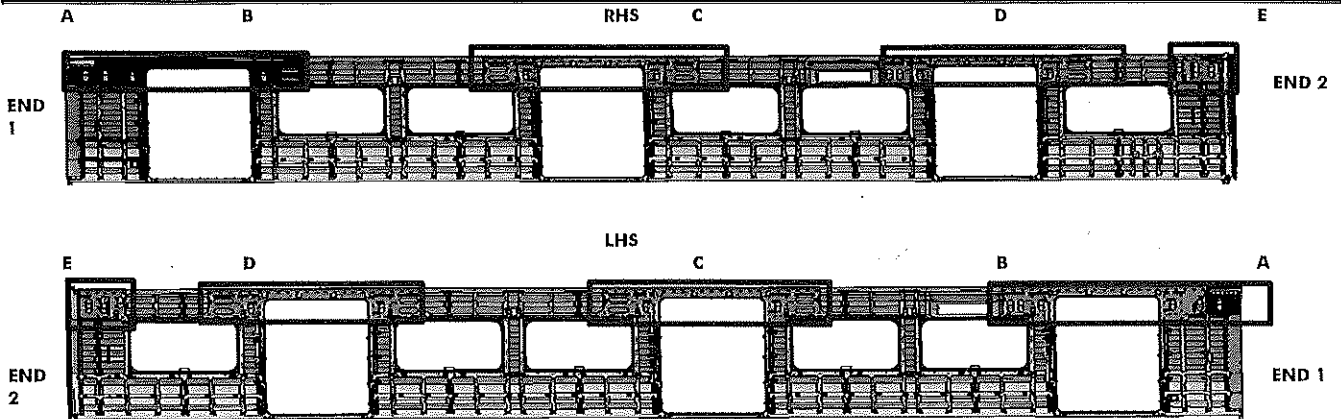
Mthahozisi

OPERATOR
(Name & sign):





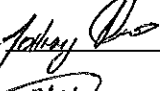
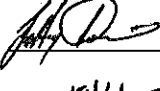




Mthahozisi

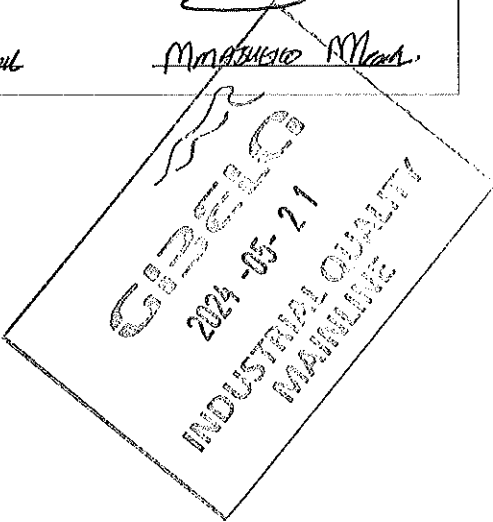



	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date-	
		28/10/2023	

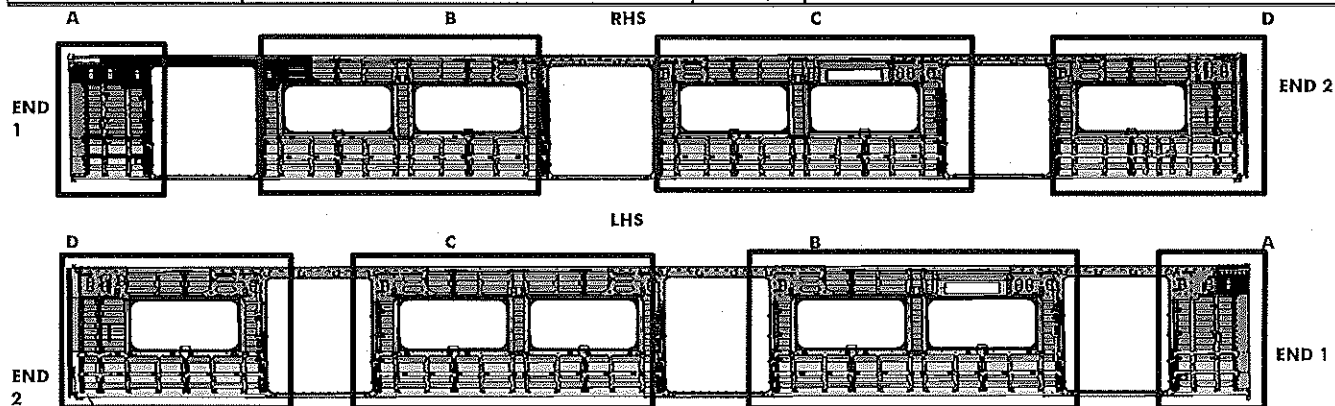


REINFORCEMENT WELDING

AREA	LHS	RHS
A	Operator (Name&sign): <u>LINDO </u>	<u>LINDO </u>
B	Operator (Name&sign): <u>LINDO </u>	<u>LINDO </u>
C	Operator (Name&sign): <u></u>	<u></u>
D	Operator (Name&sign): <u></u>	<u></u>
E	Operator (Name&sign): <u>MMATSUENO </u>	<u>MMATSUENO </u>



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



BRACKETING

C-RAILS:

Operator:

INSTALLATION
Jethu Mthoko

Operator:

DOOR MECHANISMS:

Operator:

hemi *SWB*

Operator:

TAPPING PADS

Operator:

[Signature]

Operator:

INSTALLATION & VERIFICATION

SEAT & LUGGAGE BRACKETS:

Operator:

Piscilla *[Signature]*

Operator:

SEAT BRACKETS VERIFICATION:

Operator:

Piscilla *[Signature]*

Operator:

WELDING

AREA

LHS

RHS

A *END1*
(Seat brackets)

: Operator (Name&sign):

LINDO *[Signature]*

(C-rails, Luggage and earth bushes) :

Operator (Name&sign):

LINDO *[Signature]*

B (Seat brackets)

: Operator (Name&sign):

[Signature]

(C-rails, Luggage and earth bushes) :

Operator (Name&sign):

[Signature]

C (Seat brackets)

: Operator (Name&sign):

[Signature]

(C-rails, Luggage and earth bushes) :

Operator (Name&sign):

[Signature]

D (Seat brackets)

Operator (Name&sign):

MMAASHUO *[Signature]*

(C-rails, Luggage and earth bushes) :

Operator (Name&sign):

[Signature]

LINDO *[Signature]*

LINDO *[Signature]*

[Signature]

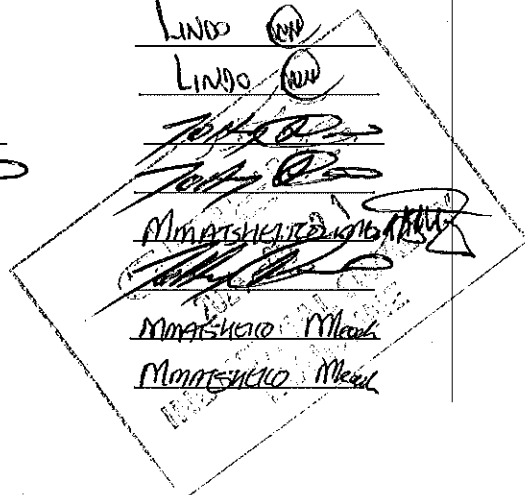
[Signature]


MMAASHUO *[Signature]*

[Signature]

MMAASHUO *[Signature]*

MMAASHUO *[Signature]*

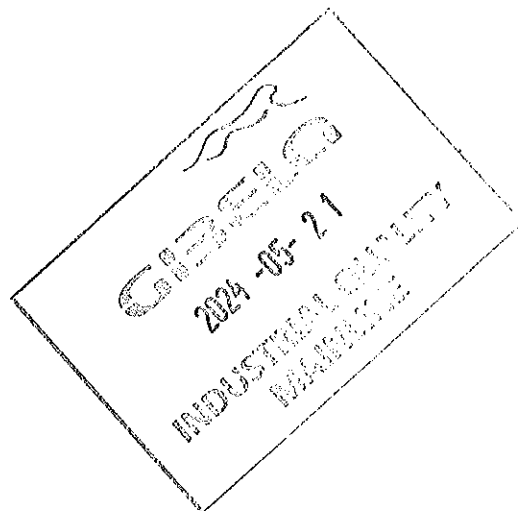


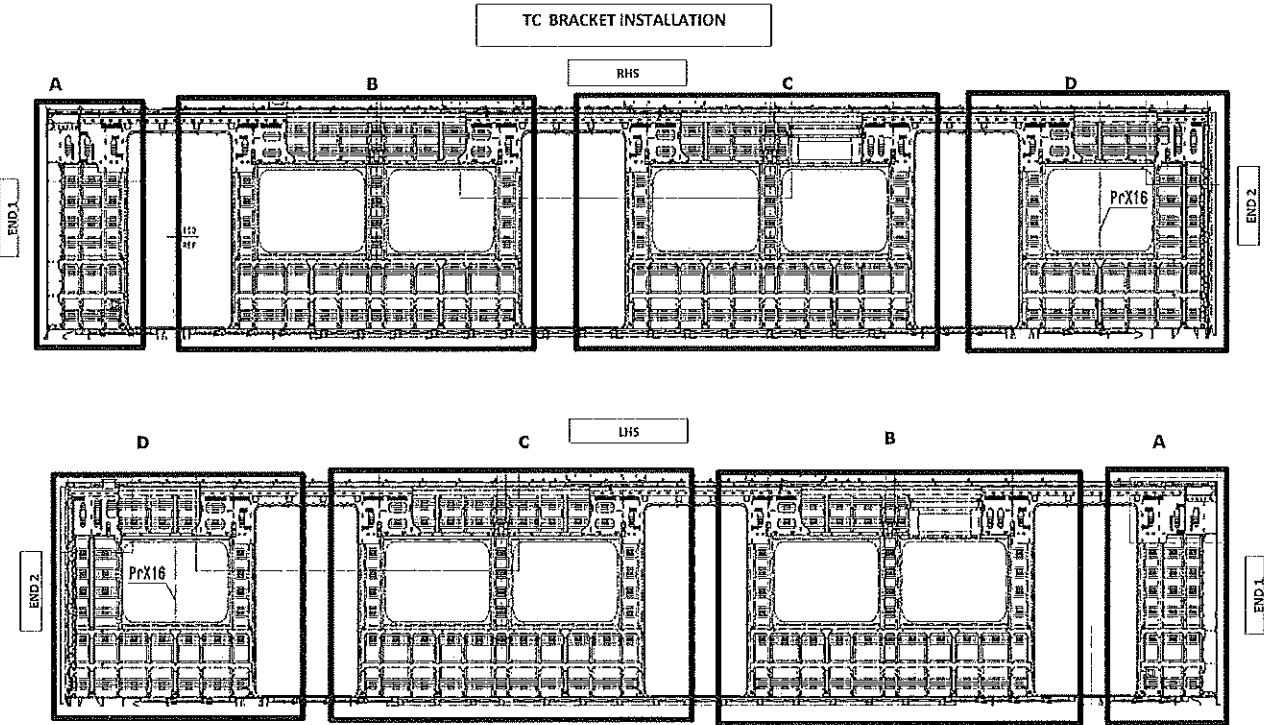
	DTR30223319/2 Carshell Assembly TC	Rev. 29	Project: PRASA SI.CB2220.323.V29
		Date-	
		28/10/2023	

ENDS

END 1 TAPPING PADS WELDING: Operator (Name&sign): WPA

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





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	✓	

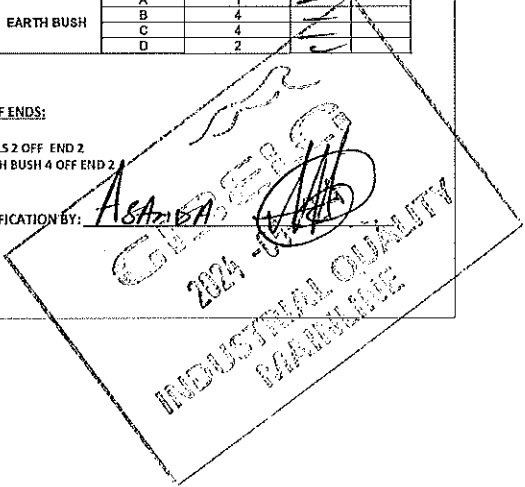
ROOF ENDS:
CRAILS 2 OFF END 2
EARTH BUSH 4 OFF END 2

VERIFICATION BY: *ASA/DA* *[Signature]*

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:
CRAILS 2 OFF END 2
EARTH BUSH 4 OFF END 2

VERIFICATION BY: *ASA/DA* *[Signature]*





DTR30223319/2 Carshell Assembly TC

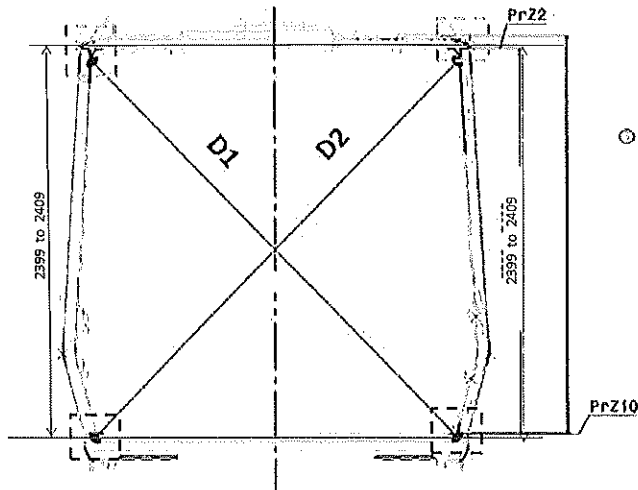
Rev.
29

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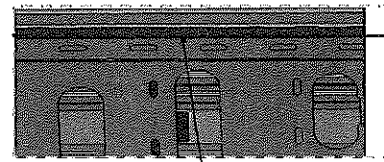
28/10/2023



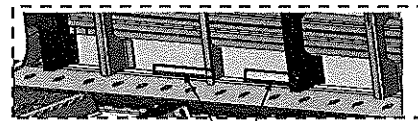
Take measurement close to radius



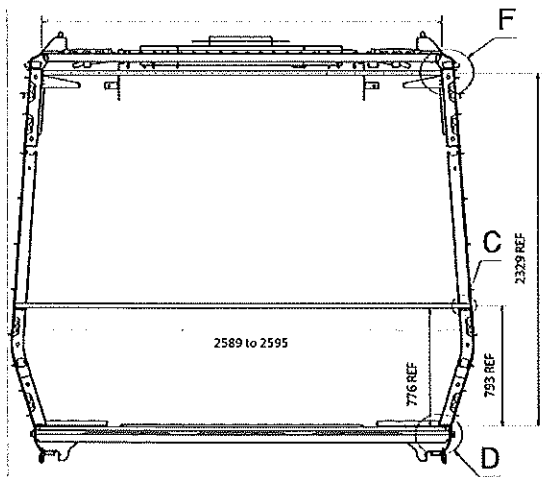
Measurement positions on roof rail and sidewall omega corner.



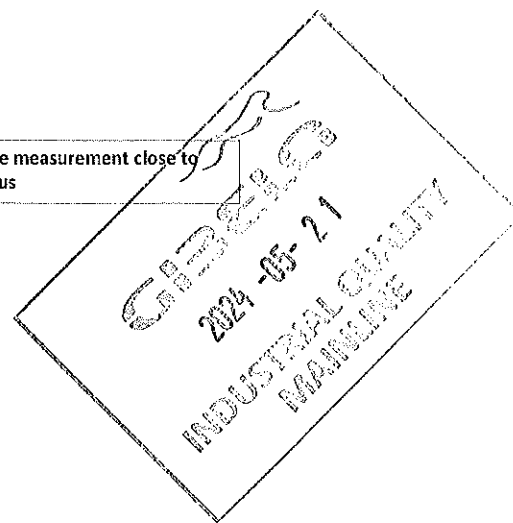
Reinforcement area measurement positions on roof reinforcement area.



Measurement positions on sidewall and side sill corner.



Take measurement close to radius

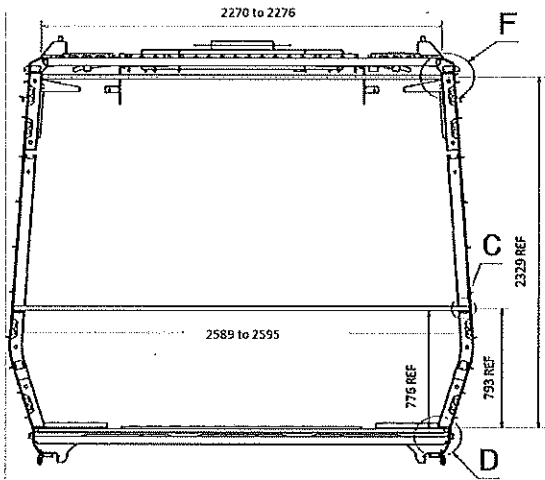




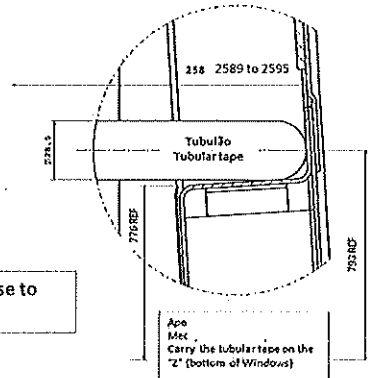
DTR30223319/2 Carshell Assembly TC

Rev.
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28/10/2023

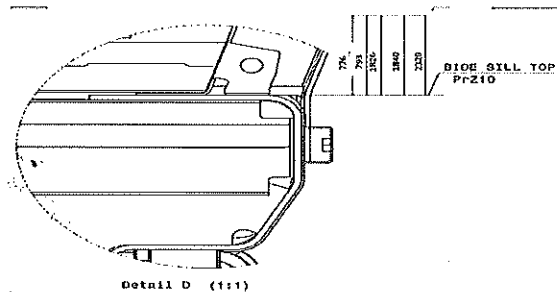
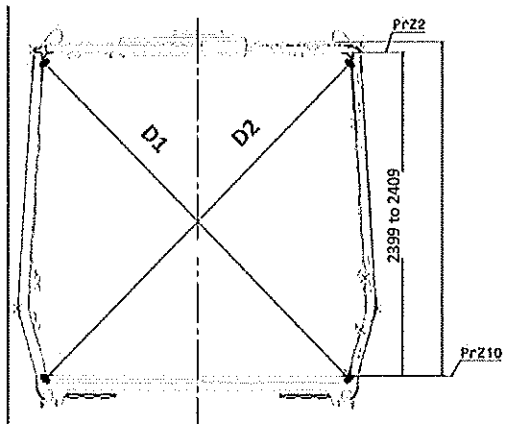
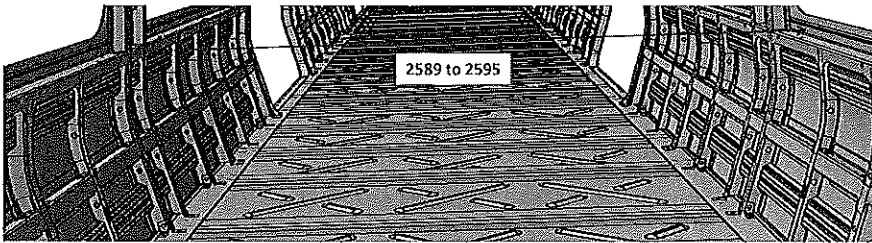
Project: PRASA
SI.CB2220.323.V29



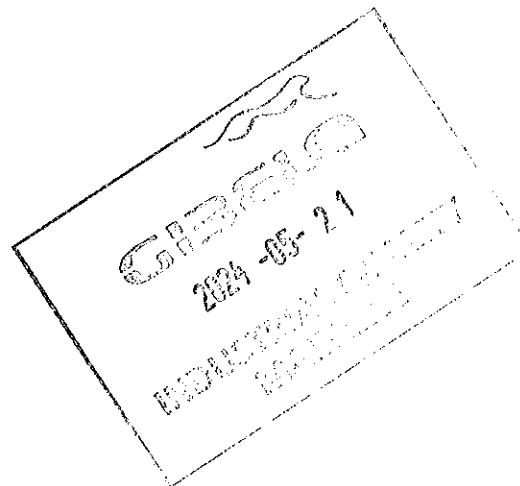
Take measurement close to
radius



Detail C



Detail D (1:1)





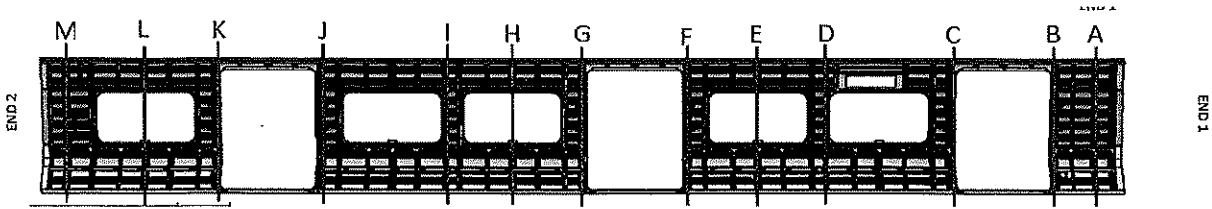
DTR30223319/2 Carshell Assembly TC

Rev.
29


Project: PRASA


Date-
28/10/2023

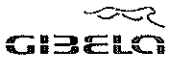
SI.CB2220.323.V29

BEFORE WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3291	3292	1	—
B	3291	3291	0	—
C	3295	3290	5	—
D	3263	3261	2	—
E	3263	3263	0	—
F	3295	3296	1	—
G	3295	3294	1	—
H	3266	3263	3	—
I	3267	3266	1	—
J	3300	3297	3	—
K	3295	3294	1	—
L	3290	3266	4	—
M	3296	3294	2	—


23-05-24


2024-05-21
INDUSTRIAL QUALITY
MAINLINE



DTR30223319/2 Carshell Assembly TC

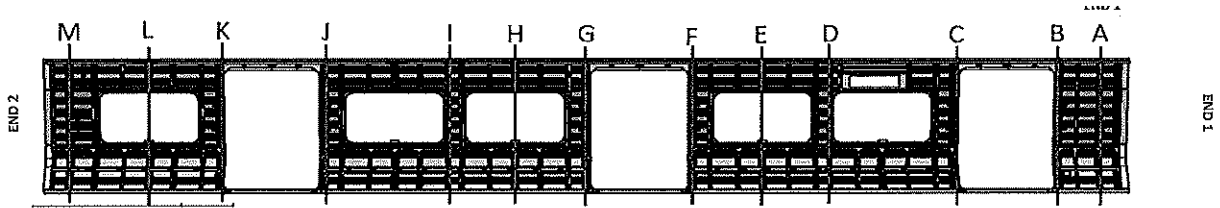
Rev.
29

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Date-

28/10/2023

SI.CB2220.323.V29

AFTER WELDING

	Record D1 values	Record D2 values	D1-D2 ≤ 5mm	2589 to 2595
A	3290	3298	8	2595
B	3295	3291	4	2589
C	3298	3291	7	2591
D	3262	3268	6	2591
E	3267	3262	5	2589
F	3293	3298	5	2592
G	3297	3293	4	2591
H	3262	3264	2	2593
I	3266	3270	4	2591
J	3297	3297	0	2593
K	3297	3295	2	2589
L	3269	3265	4	2592
M	3294	3299	5	2595

23-05-24

2024-05-21
INDUSTRIAL QUALITY
NEARLINE



DTR30223319/2 Carshell Assembly TC

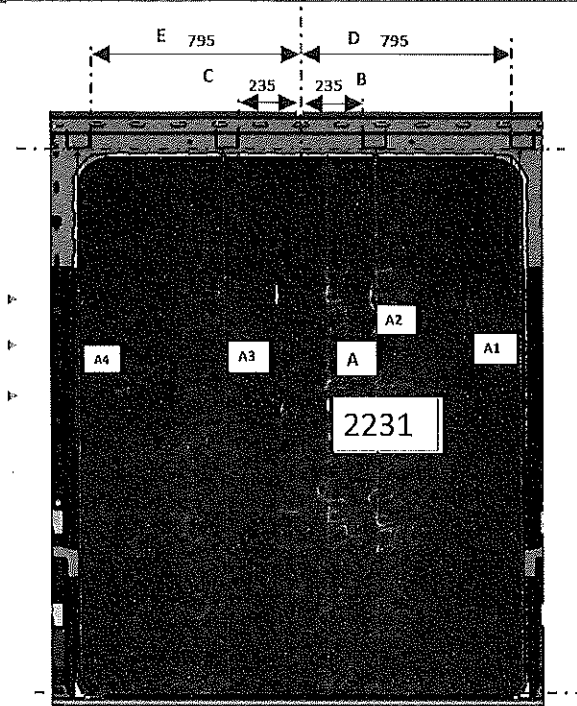
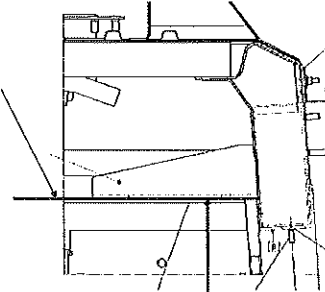
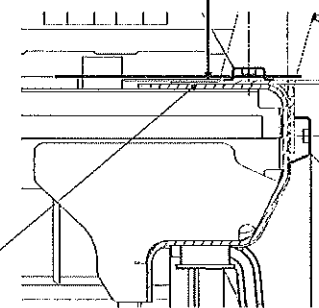
Rev.
29

Project: PRASA

Date-
28/10/2023

SI.CB2220.323.V29

Specifications of Details for CBS measurement

Brackets Carbodysshell
U Type SupportsBrackets Carbodysshell
Channel Assy

DOOR 1 - LHS

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

DOOR 2 - LHS

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

DOOR 3 - LHS

	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

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

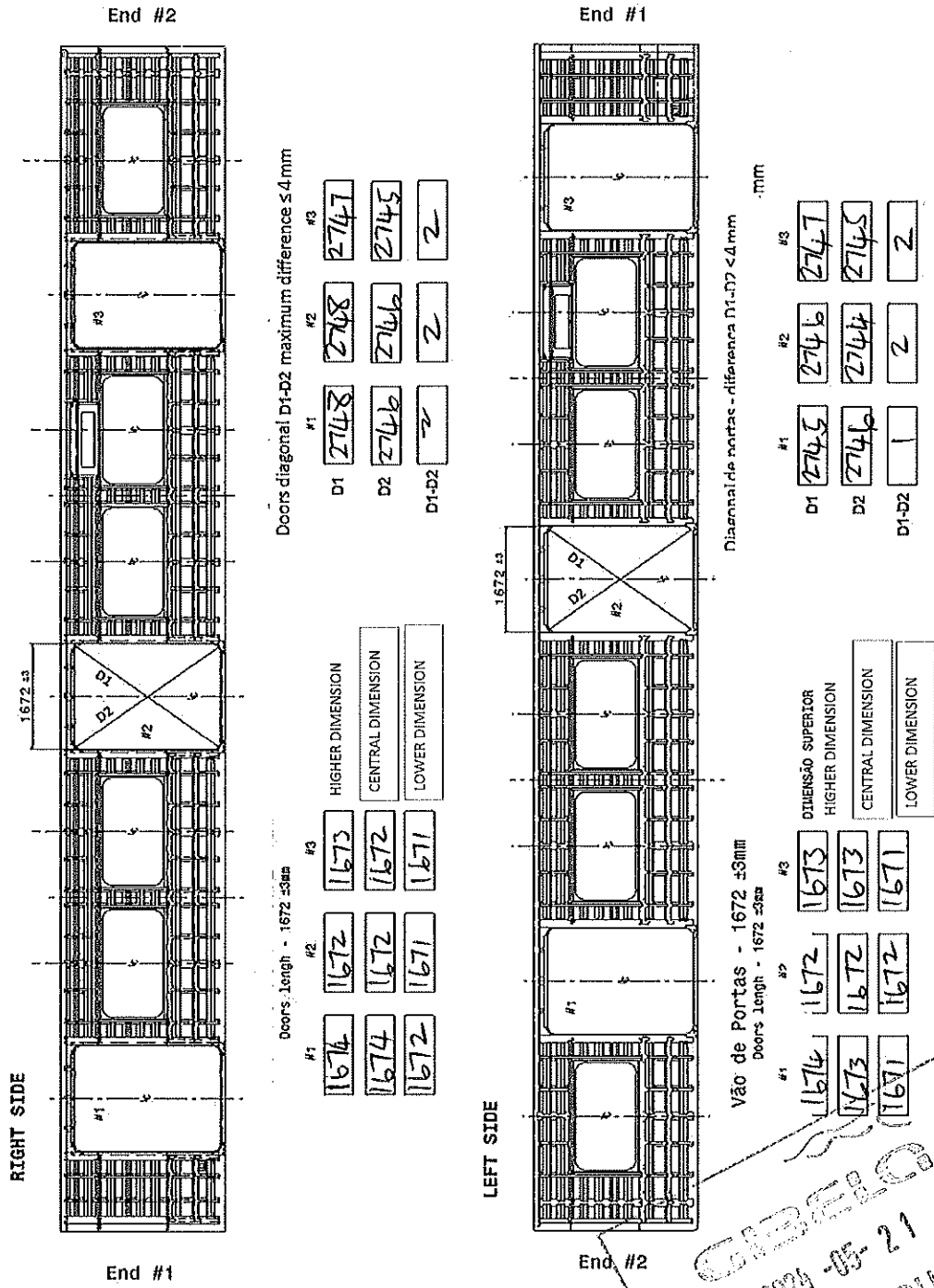
DOOR 2 - RHS


	VALUE	ACTUAL
A1	2230 to 2232	2232
A2	2230 to 2232	2231
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	794

DOOR 3 - RHS

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

23-05-24



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

Specifications of Details for CBS measurement

Dye penetrant test

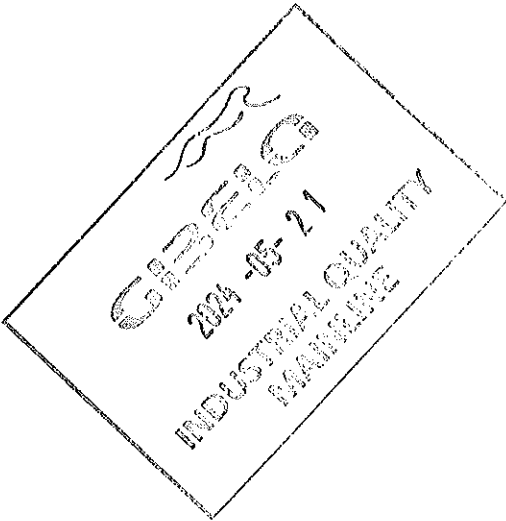
Dye penetration test to be performed by quality personnel

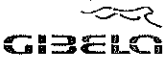

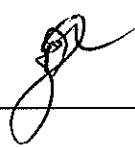


Item	Description of the Issue	OK	Signature/Date (Manufacturing)	Signature/Date (Quality)

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				



	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!	23-05-2024	A. SAMP	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)	23/05/24	N. KOW	
	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



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 ?
DT00000223319	AAD0001210563	DT00000223319 Carshell Assembly TC	CB2230	TC1	M1	M2	M3	M4	TC2	PRA.CB2230.DT00000223319.V20	YES
				X					X		

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 Mathagu	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 Mkhombhli	20/02/2022
			CHECKER	Andani Muthelo	20/03/2022
			COMPILER	Andani Muthelo	20/02/2022
26	14/06/2022	Update minimum temperature requirement for sealant application	APPROVER	Collins Mkhombhli	14/06/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
27	27/07/2022	Threshold measurements addition	APPROVER	Collins Mkhombhli	26/07/2022
			CHECKER	Andani Muthelo	
			COMPILER	Andani Muthelo	
28	19/10/2022	Addition of traceability for sealant application	APPROVER	Collins Mkhombhli	19/10/2022
			CHECKER	Ntokoza Zwane	
			COMPILER	Amogelang Moflampe	
29	14/04/2023	Added sealant batch number & welding consumables traceability	APPROVER	Vanessa Ntuli	14/04/2023
			CHECKER	Ntokoza Zwane	
			COMPILER	Amogelang Moflampe	
30	06/11/2023	Added threshold traceability for boiler makers and welders	APPROVER	Tyson Ngobeni	06/11/2023
			CHECKER	Andani Muthelo	
			COMPILER	Ntokoza Zwane	

TRAINSET	CAR	OPERATOR NAME & ALPS NUMBER	DATE	SELF INSPECTION NUMBER	PAGES
209	TC2	24/05/2024 482774	24.05.24	SI.CB2230.324.V29	12



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06/11/2023

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Carro
Car:

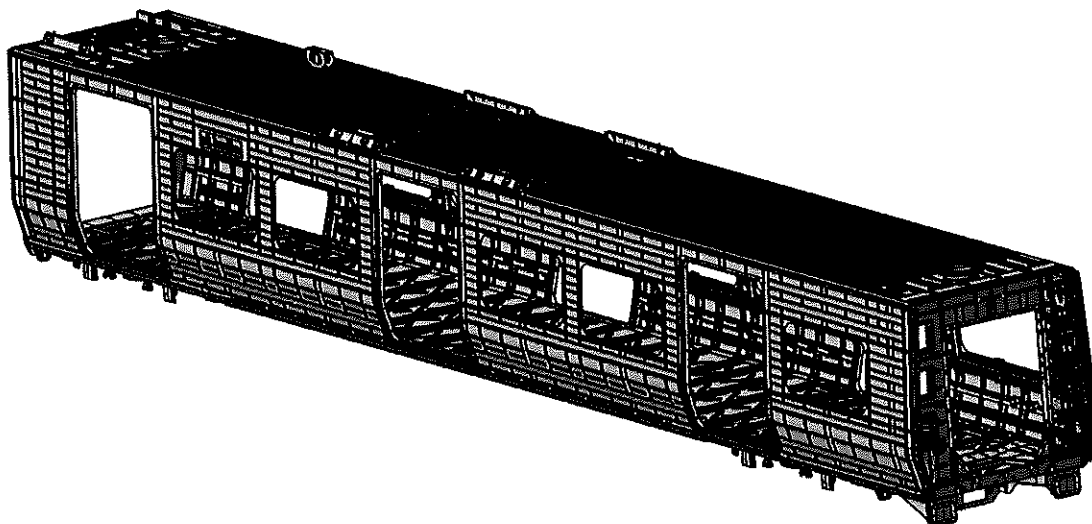
NCR:

Work station:

CB2230



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	V30		OK		N/A	24/05/24	24/05/24

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)
MEASURING TAPE	G180794	25/04/25	OK		24/05/24	24/05/24
COMBINATION SQUARE	G180092	27/01/24	OK		24/05/24	24/05/24
TUBULAR	22713	26/06/25	OK		24/05/24	24/05/24

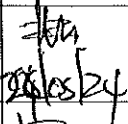
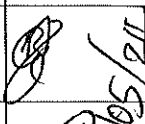
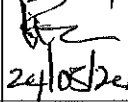
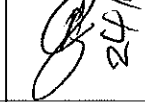
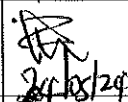

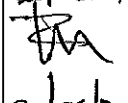

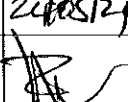
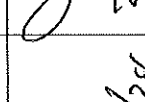




1.3 Consumables

Welding Consumable Control - Used for Special Process

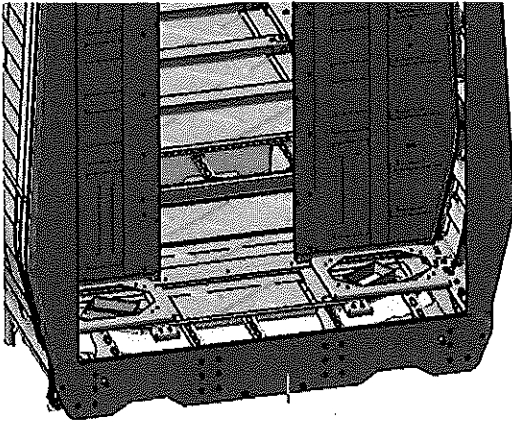
Filler Material	Heat Number	Welding Process	OK	NOK	Signature/Date (Manufacturing)	Signature/Date (Quality)
AUTROD 308 LSi	E221880	MIG	OK		24/05/24	24/05/24
ER 308 L	1.4316	TIG	OK		24/05/24	24/05/24

II - Control Activities of Production


II.1 - Items to check

Item	Picture/Drawing	Description	Acceptance criteria / Record	OK	NOK	Notwork	Signature/Date (Operations)	Signature/Date (Quality)
01	N/A	Assembly according to Instruction Engineering n° DT00000223319	DT00000223319	OK			 24/05/24	 24/05/24
02	N/A	Carshell free of significant flaws which compromise the appearance or functionality.	DTD0000210675	OK			 24/05/24	 24/05/24
03	REFER TO ANNEXURE A	Arc Welding inspected and approved according procedure.	IND-SAL-WMS-016 DTD0000210675	OK			 24/05/24	 24/05/24
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.	OK			 24/05/24	 24/05/24
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	OK			 24/05/24	 24/05/24
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) Min-Max 25% - 80%	Sealant Batch No: <u>1SR 70-03</u> Exp Date: <u>10/06/24</u> Actuals Temperature: <u>23°C</u> Humidity: <u>51%</u>	OK			 24/05/24	 24/05/24
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	OK			 24/05/24	 24/05/24

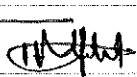
VIEW A


END 1
SEALANT

OPERATOR
(Name & sign):

Simie 

OPERATOR
(Name & sign):

Ishenolo 

END 2 SEALANT
(VIEW C)

OPERATOR
(Name & sign):

Leroy 

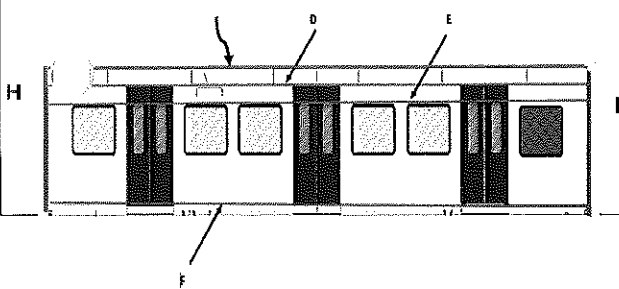
OPERATOR
(Name & sign):

Leroy 

OPERATOR
(Name & sign):

Leroy 

G



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

Operator(Name & sign):

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

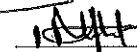
RHS
D,E,F,G,H,I

Operator (Name & sign):

Ishenolo

Ishenolo

Operator (Name & sign):






Operator (Name & sign):

Simie

Simie

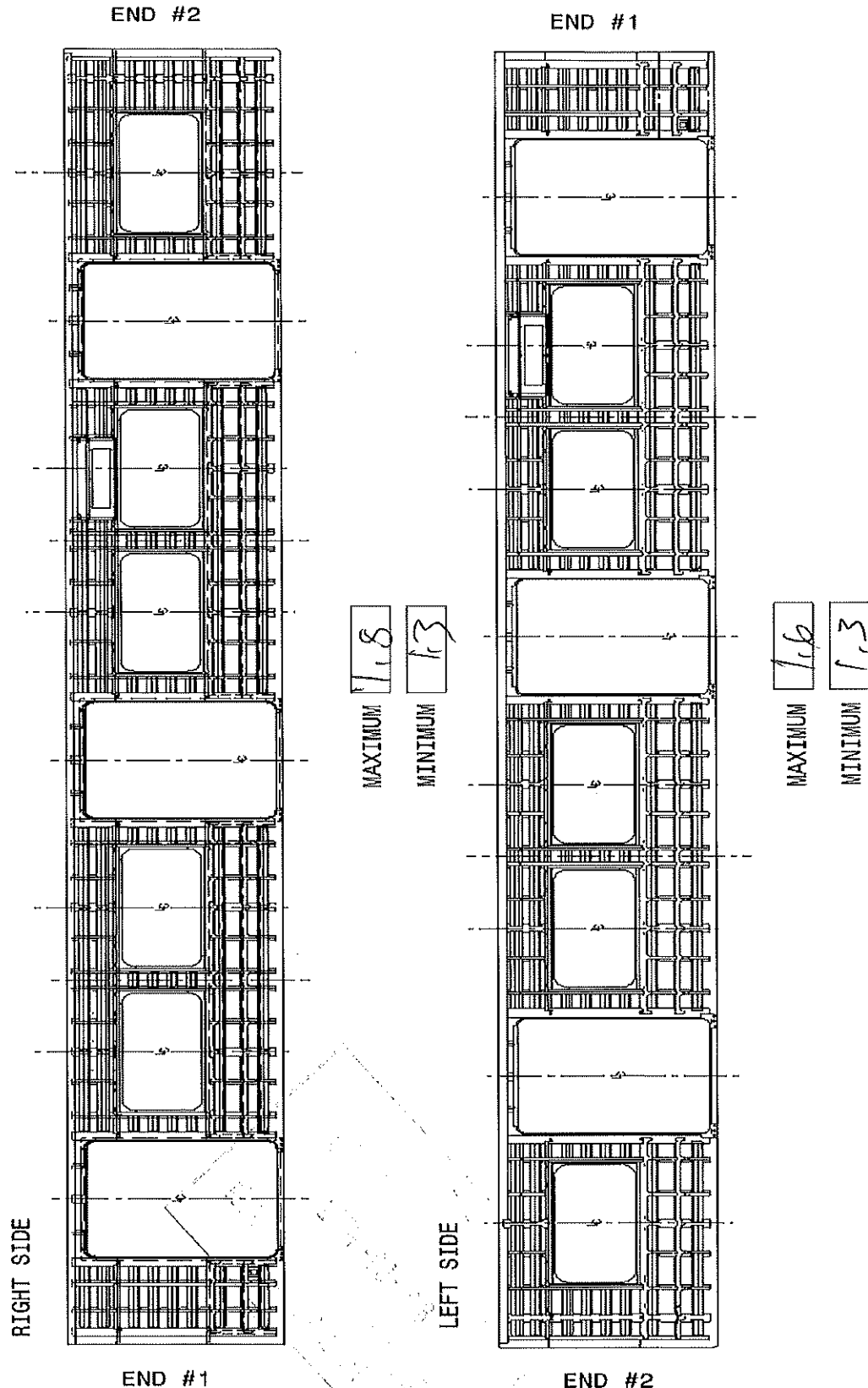
Operator (Name & sign):

Operator (Name & sign):

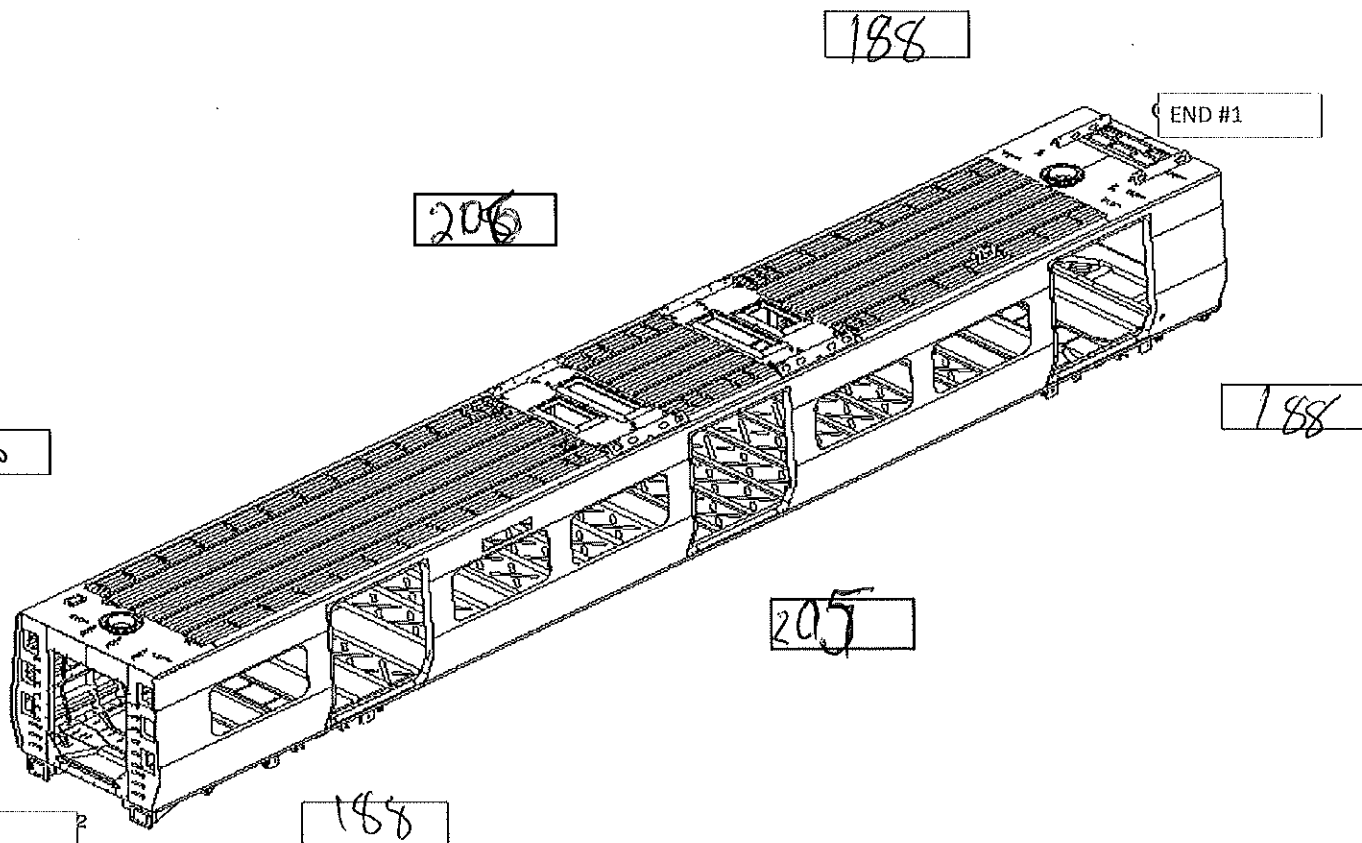
Specifications of Details for CBS measurement CB2230

Flatness side left and right maximum of 2mm in the valley to peak measured in 900mm.
Record 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

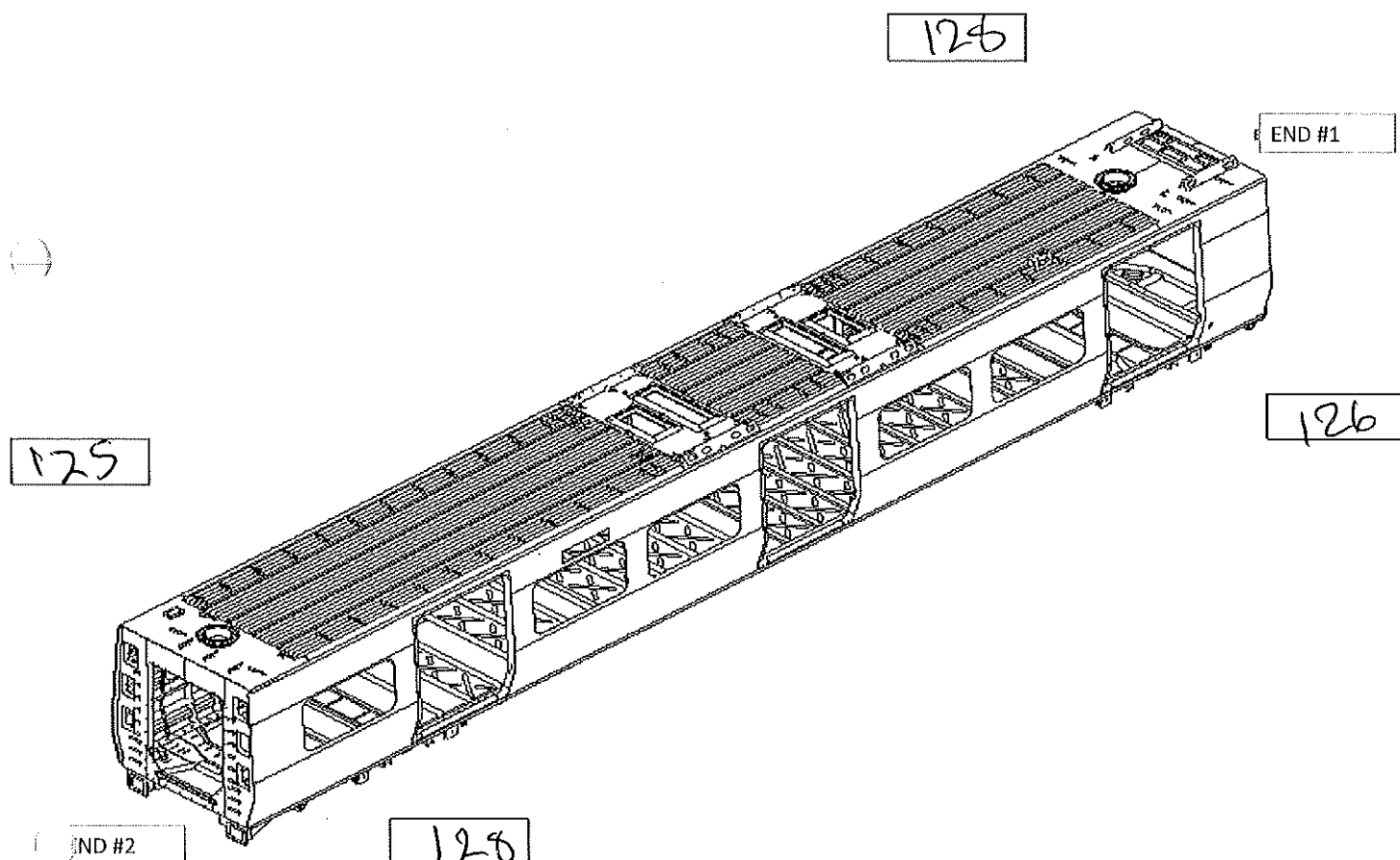
17

LEFT

18

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

3

LONGITUDINAL

3

MEASURED TWIST VALUES END 2

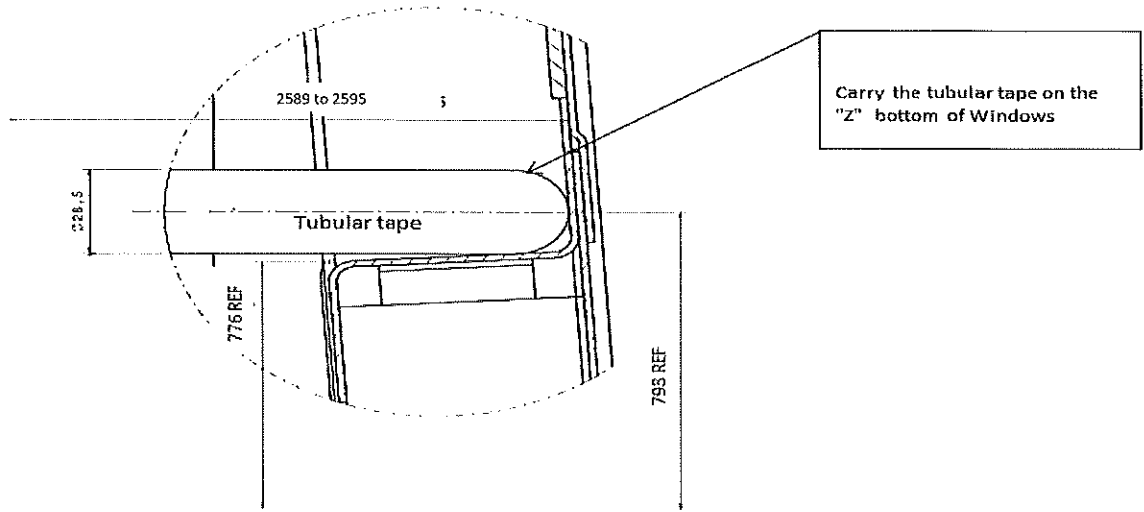
LATERAL

2

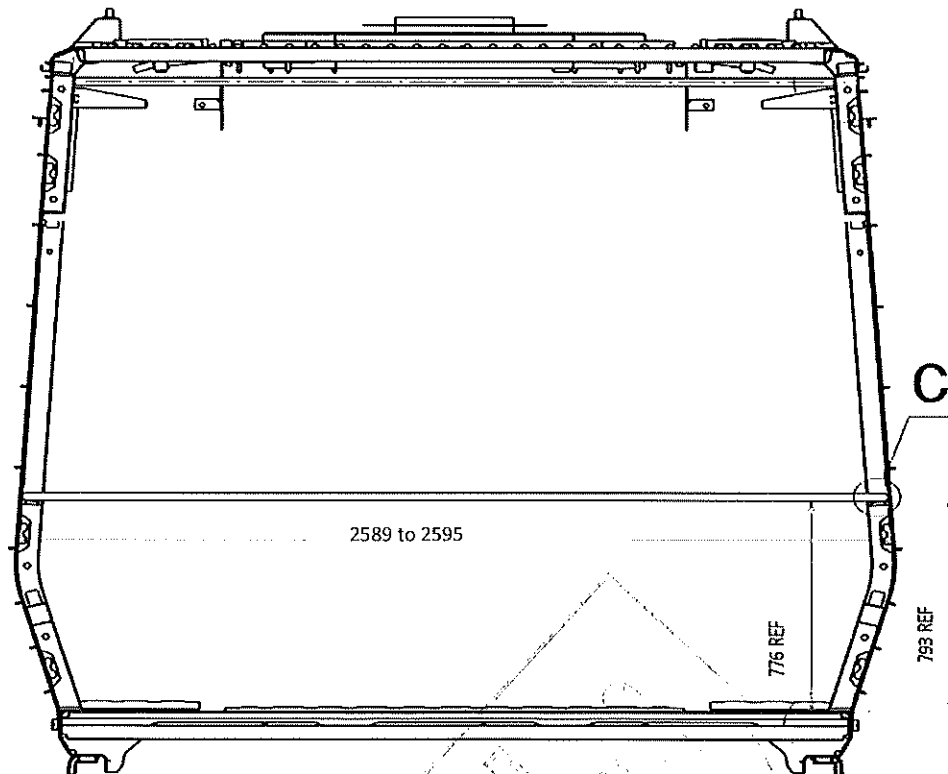
LONGITUDINAL

2

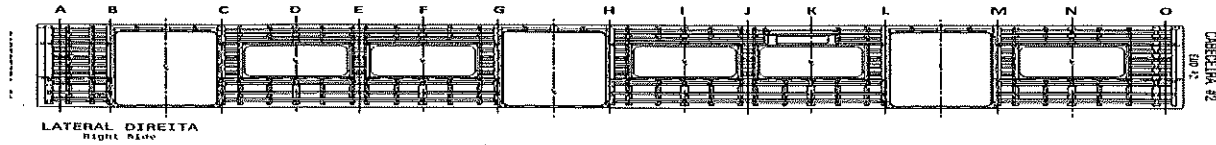
Details for measuring on the CB1230 stage, after completion of activities



Detail C

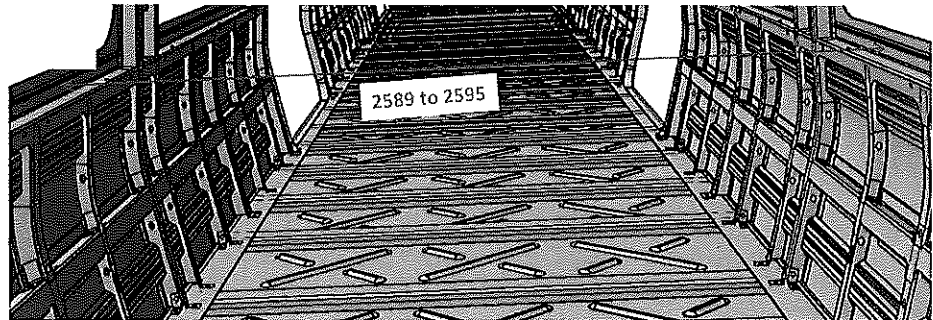


Specifications of Details for CBS measurement



2589 to 2595mm

A	2596
B	2590
C	2590
D	2592
E	2591
F	2589
G	2590
H	2589
I	2591
J	2591
K	2589
L	2593
M	2589
N	2592
O	2599



Threshold verification

Nominal value :38

Door 1

Door 2

Door 3

L	R	L	R	L	R
38	38	38	38	38	38

L	R	L	R	L	R
38	38	38	38	38	38

BOILER MAKER:

ZANELE

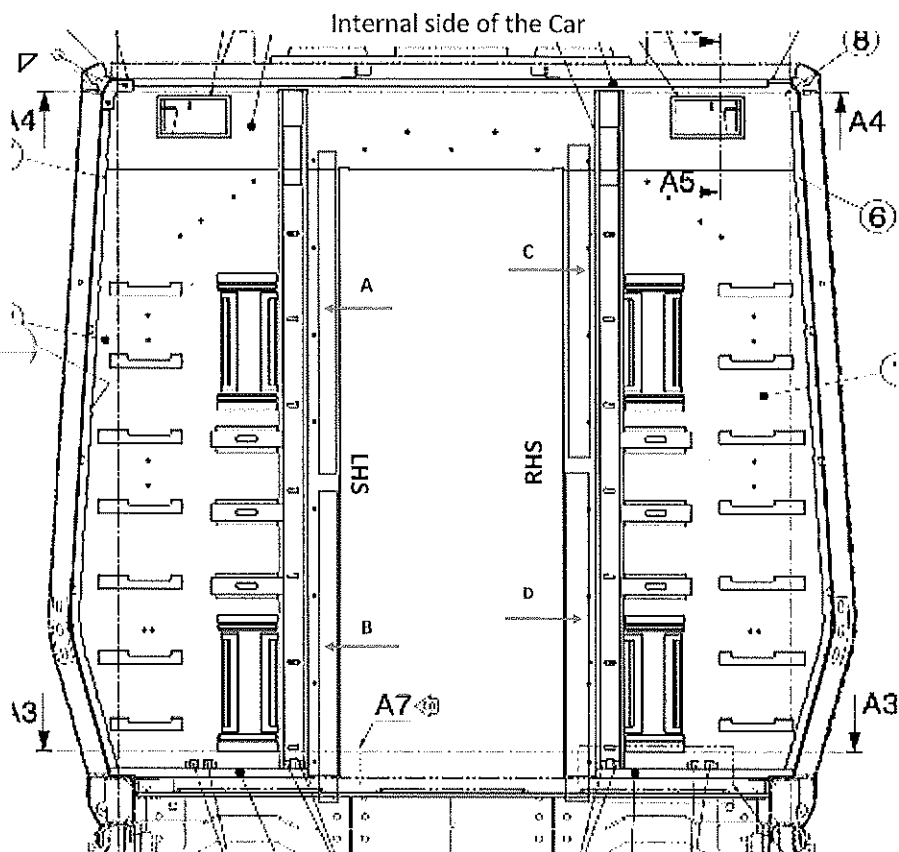
WELDER:

ZANELE

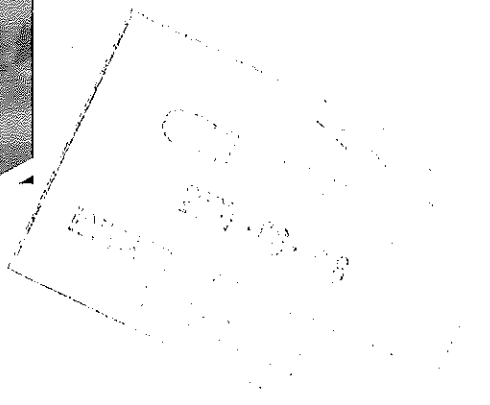
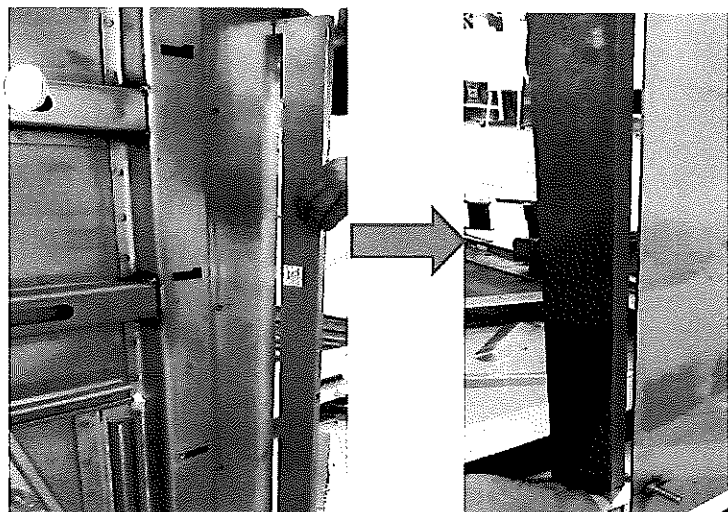
Specifications of Details for CBS measurement

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	11.2	12	0.8
B	10.8	11.9	1
C	11	12	1
D	10.8	11.3	0.5





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Dye penetrant test

Dye-penetration test to be performed by quality personnel

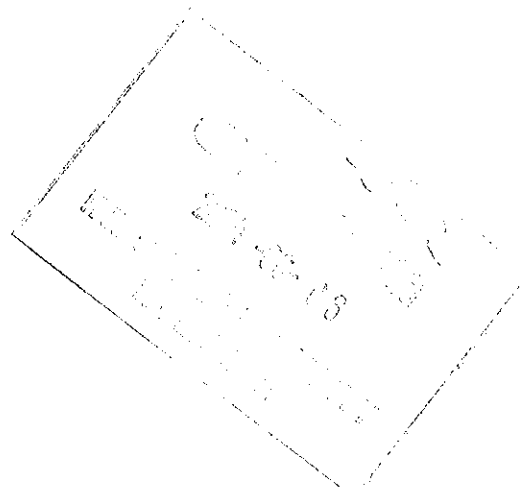


Item	Description of the Issue	OK	Signature/Date (Operations)	Signature/Date (Quality)

11.2 - Check List REX

Check List Items

Item	Picture/Drawing	Description	Criteria /Record	OK	NGK	Rework	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					





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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	GO	If activities are not complete, the missing activities must not impact the next stage!		24/05/24	Am Zanele	
		Every auto inspection performed conforms to specification or in case of discrepancy the same is approved by the competent party.)		24/05/24	Ntoloero	
	NO GO	There are activities pendings that impact/stop the activites 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

