

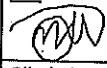


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TRAIN SET 223 REF: 009200001671_20 PAS54 WEIGHT BALANCE EN
 PC10 WEIGHING REPORT

T12	Front bogie (Front)		Rear bogie (Front)		Compendious Imbalance (%)		Tolerance (%)	Criteria	Compendious Imbalance < 3%	Criteria
	Balance across front and rear bogies	Weight Measured (Front)	Weight Predicted (Front)	Weight Measured (Front)	Weight Predicted (Front)	Weight Difference (%)				
	18.49	18.49	15.61	15.61	8.45%		1.0%	PASS		PASS
		Weight Measured vs Predicted	34.10	34.42	0.94%		1.0%	PASS		PASS
	Criteria Compendious Imbalance < 3%									
	Criteria Miniball Status									
M3	Front bogie (Front)		Rear bogie (Front)		Compendious Imbalance (%) <td rowspan="2">Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td></td>		Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td>	Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td>	Compendious Imbalance < 3% <td rowspan="2">Criteria </td>	Criteria
	Balance across front and rear bogies	Weight Measured vs Predicted	Weight Measured (Front)	Weight Predicted (Front)	Weight Measured (Front)	Weight Predicted (Front)				
	17.98	17.98	17.90	17.90	0.06%		1.0%	PASS		PASS
		Weight Measured vs Predicted	35.78	35.90	0.33%		1.0%	PASS		PASS
	Criteria Compendious Imbalance < 3%									
	Criteria Miniball Status									
M2	Front bogie (Front)		Rear bogie (Front)		Compendious Imbalance (%) <td rowspan="2">Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td></td>		Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td>	Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td>	Compendious Imbalance < 3% <td rowspan="2">Criteria </td>	Criteria
	Balance across front and rear bogies	Weight Measured vs Predicted	Weight Measured (Front)	Weight Predicted (Front)	Weight Measured (Front)	Weight Predicted (Front)				
	18.63	18.63	17.89	17.89	2.03%		1.0%	PASS		PASS
		Weight Measured vs Predicted	36.52	37.26	1.97%		1.0%	PASS		PASS
	Criteria Compendious Imbalance < 3%									
	Criteria Miniball Status									
M1	Front bogie (Front)		Rear bogie (Front)		Compendious Imbalance (%) <td rowspan="2">Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td></td>		Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td>	Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td>	Compendious Imbalance < 3% <td rowspan="2">Criteria </td>	Criteria
	Balance across front and rear bogies	Weight Measured vs Predicted	Weight Measured (Front)	Weight Predicted (Front)	Weight Measured (Front)	Weight Predicted (Front)				
	19.59	19.59	17.96	17.96	1.72%		1.0%	PASS		PASS
		Weight Measured vs Predicted	36.55	36.67	0.35%		1.0%	PASS		PASS
	Criteria Compendious Imbalance < 3%									
	Criteria Miniball Status									
M4	Front bogie (Front)		Rear bogie (Front)		Compendious Imbalance (%) <td rowspan="2">Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td></td>		Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td>	Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td>	Compendious Imbalance < 3% <td rowspan="2">Criteria </td>	Criteria
	Balance across front and rear bogies	Weight Measured vs Predicted	Weight Measured (Front)	Weight Predicted (Front)	Weight Measured (Front)	Weight Predicted (Front)				
	17.89	17.89	17.88	17.88	0.03%		1.0%	PASS		PASS
		Weight Measured vs Predicted	35.77	35.95	0.50%		1.0%	PASS		PASS
	Criteria Compendious Imbalance < 3%									
	Criteria Miniball Status									
T11	Front bogie (Front)		Rear bogie (Front)		Compendious Imbalance (%) <td rowspan="2">Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td></td>		Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td>	Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td>	Compendious Imbalance < 3% <td rowspan="2">Criteria </td>	Criteria
	Balance across front and rear bogies	Weight Measured vs Predicted	Weight Measured (Front)	Weight Predicted (Front)	Weight Measured (Front)	Weight Predicted (Front)				
	18.58	18.58	15.57	15.57	8.11%		1.0%	PASS		PASS
		Weight Measured vs Predicted	34.15	34.42	0.80%		1.0%	PASS		PASS
	Criteria Compendious Imbalance < 3%									
	Criteria Miniball Status									
TOTAL TRAIN	Predicted Weight		Actual Weight		Criteria Compendious Imbalance < 3% <td rowspan="2">Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td></td>		Tolerance (%) <td rowspan="2">Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td></td>	Criteria <td rowspan="2">Compendious Imbalance < 3% <td rowspan="2">Criteria </td></td>	Compendious Imbalance < 3% <td rowspan="2">Criteria </td>	Criteria
	212.87	215.97	215.97	215.97	1.5%					

Authorised Weight	212.87	Criteria Compendious Imbalance < 3%	Criteria Miniball Status	PASS
End of cycle	End of cycle EPU manager		Date	03/05/24

Company Gibela	Name of the requester Joshua Nemanashe	Function PME	Date 7 May 2024	Visa 	Request N° PRASA-DERSU-1096
			Plant Country Gibela South Africa		
Project PRASA PROJECT			Customer PRASA		
Product name Reference TS161 to TS210 TC1,M4,M1,M2,M3,TC2			Drawing number and Revision DT00000207673		
Temporary <input checked="" type="checkbox"/> Until : TS161 to TS210	Quantity : 80 Train sets	Serial Numbers / Batch: TS211 to TS290			Permanent <input type="checkbox"/>

Requirement:

According to GIB0000001672 prasa weight balance EN .
 TC1/TC2:The weighing report specification requires the weight difference (weight measured vs predicted weight) tolerance to be 1.62%.
 M1/M2:The weighing report specification requires the weight difference (weight measured vs predicted weight) tolerance to be 1.37%.
 M3/M4:The weighing report specification requires the weight difference (weight measured vs predicted weight) tolerance to be 1.36%.

Non-conformity description:

The average weights measured from TS120 up to 162 has shown a deviation from the acceptance criteria. However, after discussions with BARRABES-PRADAL Daniel an additional 0.5% deviation from the acceptance criteria will not have an impact. Should we had this to the acceptance tolerance then all the cars will pass.
"these trains are equivalent in terms of mass (we have seen a gap around 0,5)"

See below min and max weight measured for TS120-162 and the average tolerances (We expect the same deviation for the next 80 train sets):



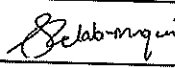
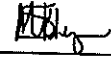
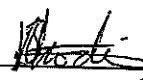
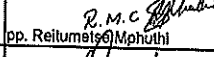

	Min	Max
TC2	33.9	34.6
M3	35.4	35.9
M2	36	37.1
M1	36.6	37
M4	35.3	36.6
TC1	33.9	34.4

Anteriority:

Impact on:

- Environment.....
- Safety (people).....
- Contract clauses.....
- Economic.....
- Development..
- Product Safety.....
- Reliability.....
- Performances.....
- Delivery.....
- Cost.....
- Documentation.....
- Resources.....
- Others.....

	Weight Measured vs Predicted	Weight Measured (t)	Weight Predicted (t)	Weight Difference (%)	Tolerance (%)
TC2		34.12	34.46	0.93%	1.62%
M3		35.67	35.90	0.63%	1.36%
M2		36.53	37.05	1.42%	1.37%
M1		36.68	36.67	0.50%	1.36%
M4		35.68	35.55	0.75%	1.36%
TC1		34.09	34.42	0.96%	1.62%

<p>Cause of the non-conformity / reasons for request: Weight balance document was revised from J to K by engineering and the following was removed from the weight calculations: -Main Reservoir Tank Removal -Brake Reservoir Resizing -CPU bloc is combined with the screen - Closure of Air Extractor Opening</p>						
<p>Attached documents: REF: GIB0000001672_KO PRASA WEIGHT BALANCE EN report</p> <p></p> <p>RE TS Weight is falling .msg</p>						
<p>Containment action: Each train is evaluated by engineering and based on risk it will be approved or declined. A new version of GIB0000001672 will be created to align the sub system actual weight with the theoretical weight which will reduce the error percentage.</p>				<p>Use or assignment limitations of the non-conforming product:</p>		
<p>Corrective & Preventive action: Engineering to revise car weights per baseline.</p>						
Function	Entity	Name	Date	Visa	Observations / Conditions	Decision
Process Manufacturing Engineering	GIB	Junior MAGADA	14/05/2024			<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Train System Engineering	GIB	Mpho LELALA-MNGUNI				<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Industrial Quality	GIB	Lucy MAKOFANE	14/05/2024			<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Project Engineering Manager	GIB	Tshepo NKODI	15/05/2024			<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Project Quality Safety Manager	GIB	Solani MALIBONGWE	16/05/2024	 pp. Reilumetsi Mphuthi		<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK
Project Manager	GIB	Devendran GOVENDER	17/05/2024		Engineering to update the test procedure with new targets	<input checked="" type="checkbox"/> OK <input type="checkbox"/> NOK