



Test Report

Number: SZHH01003152

Applicant: TIANJIN RABE R&PS CO.,LTD
LIXIN INDUSTRIAL PARK VILLAGE 2
DUAL-TOWN DUAL-PORT BEICHEN DISTRICT
TIANJIN CHINA

Date: Oct 30, 2015

Attn: CHRISTINE ZHANG

Sample Description:

Four (4) sets of submitted sample said to be :
Item Name : **Cantilever Brakeshoes.**
Model No. : **RB-C111B.**
Date Sample Received : Oct 22, 2015.

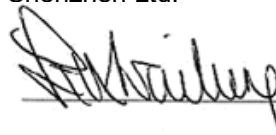

Tests conducted:

As requested by the applicant, refer to attached page(s) for details.

Conclusion:

<u>Tested sample</u>	<u>Standard</u>	<u>Result</u>
Submitted samples	Braking Performance - As per clause 4.6.8 of EN ISO 4210-2:2014	Pass

Authorized by:
For Intertek Testing Services
Shenzhen Ltd.

Ben N.L. Lin
General Manager



Page 1 of 6

Intertek Testing Services Shenzhen Ltd.- Hardlines

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Tests Conducted

1 Braking Performance

As per the client's requirements, with reference to EN ISO 4210-2:2014 clause 4.6.8: braking performance, the submitted brake system was assembled to a 26" bicycle and correctly adjusted, then subjected to the following tests.

Number of sample tested: One (1) set.

Maximum permissible total mass by the manufacturer: 100kgs.

Bicycle type: City bicycle.

Summary result:

Clause	Test item	Requirement	Result																																																				
4.6.8	Braking performance	<p>4.6.8.1.2 Machine Test</p> <p>when tested in accordance with ISO4210-4:2014 4.6.5 the bicycle shall fulfil the requirements shown in following table</p> <table><tr><th>Bicycle type</th><th>Condition</th><th>Brake in use</th><th>Minimum braking performance value, δ_p</th></tr><tr><td></td><td></td><td></td><td>N</td></tr><tr><td rowspan="4">City and trekking bicycles</td><td rowspan="2">Dry</td><td>Front only</td><td>340</td></tr><tr><td>Rear only</td><td>220</td></tr><tr><td rowspan="2">Wet</td><td>Front only</td><td>220</td></tr><tr><td>Rear only</td><td>140</td></tr><tr><td rowspan="4">Young adult bicycles</td><td rowspan="2">Dry</td><td>Front only</td><td>204</td></tr><tr><td>Rear only</td><td>132</td></tr><tr><td rowspan="2">Wet</td><td>Front only</td><td>132</td></tr><tr><td>Rear only</td><td>84</td></tr><tr><td rowspan="4">Mountain bicycles</td><td rowspan="2">Dry</td><td>Front only</td><td>425</td></tr><tr><td>Rear only</td><td>280</td></tr><tr><td rowspan="2">Wet</td><td>Front only</td><td>220</td></tr><tr><td>Rear only</td><td>140</td></tr><tr><td rowspan="4">Racing bicycles</td><td rowspan="2">Dry</td><td>Front only</td><td>425</td></tr><tr><td>Rear only</td><td>260</td></tr><tr><td rowspan="2">Wet</td><td>Front only</td><td>220</td></tr><tr><td>Rear only</td><td>140</td></tr></table>	Bicycle type	Condition	Brake in use	Minimum braking performance value, δ_p				N	City and trekking bicycles	Dry	Front only	340	Rear only	220	Wet	Front only	220	Rear only	140	Young adult bicycles	Dry	Front only	204	Rear only	132	Wet	Front only	132	Rear only	84	Mountain bicycles	Dry	Front only	425	Rear only	280	Wet	Front only	220	Rear only	140	Racing bicycles	Dry	Front only	425	Rear only	260	Wet	Front only	220	Rear only	140	P (See test data #1)
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		<p>4.6.8.2 smooth, safe-stop characteristics - for the machine test</p> <p>The bicycle shall show smooth, safe-stop characteristics with regard to intended use of the bicycle and the ability if the expected user of the bicycle.</p> <p>A) For the track test <Omit></p> <p>B) For the machine test, smooth, safe-stop characteristics are defined by compliance with the linearity requirements specified in ISO4210-4:2014 4.6.5.3 and the simple track test described in ISO4210-4:2014 4.6.5.7 Item h).</p>	P (See test data #2)																																																				



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Clause	Test item	Requirement	Result
		<p>4.6.8.3 Ratio between wet and dry braking performance - for the machine test.</p> <p>For city and trekking, young adult, and mountain bicycle ,In order to ensure safety for both wet and dry braking, the ratio of braking performance wet:dry shall be greater than 4:10. The methods for calculating this ratio are given in ISO4210-4:2014 4.6.5.3.11 item c) for the track test and in ISO4210-4:2014 4.6.5.7 item g) for the machine test.</p>	<p>P (See test data #3)</p>

Abbreviation : P = Pass

Test data

#1 Braking force

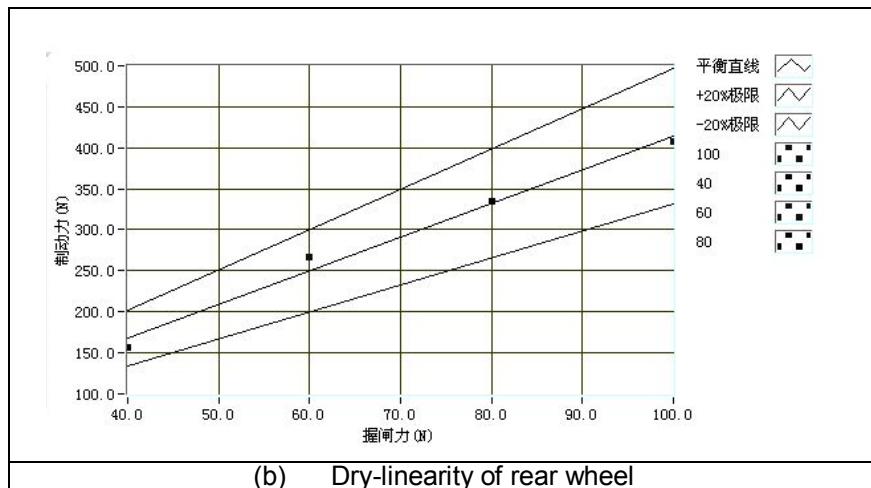
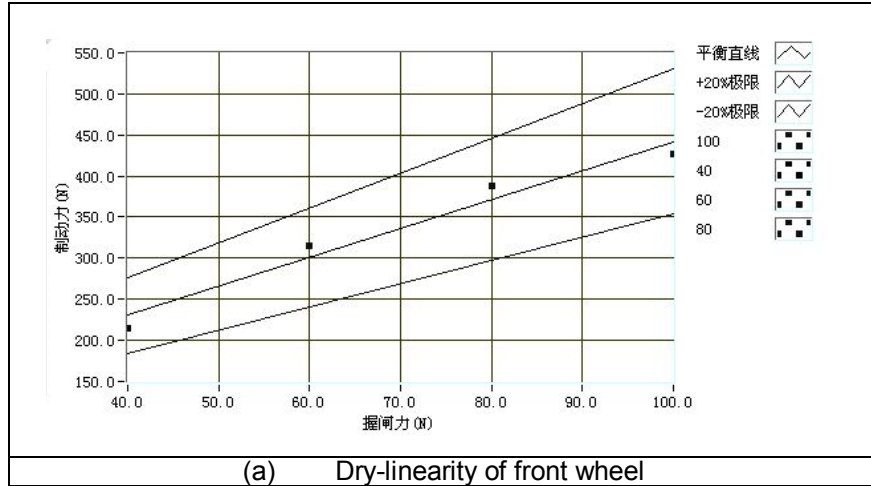
Condition	Brake in use	Requirement (N)	Braking force (N)
Dry	Front only	340	426.2
	Rear only	220	407.6
Wet	Front only	220	249.2
	Rear only	140	274.7

#2 Linearity

F _{op} /F _{op intend} (N)		40	60	80	100	120	140	160	180
Dry	F _{br} average -front brake	215.5	315.4	388.8	426.2	--	--	--	--
	F _{br} average -rear brake	156.4	266.4	334.3	407.6	--	--	--	--
Wet	F _{br} average -front brake	168.4	220.7	249.2	--	--	--	--	--
	F _{br} average -rear brake	136.5	196.4	274.7	--	--	--	--	--

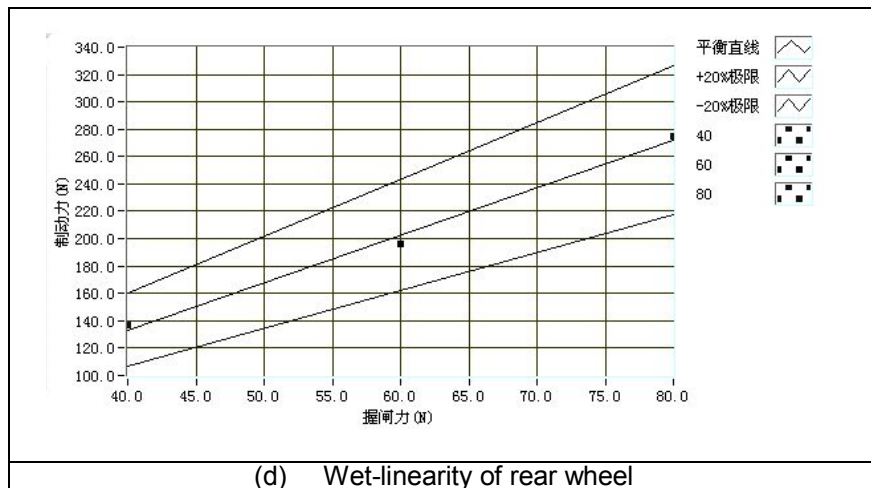
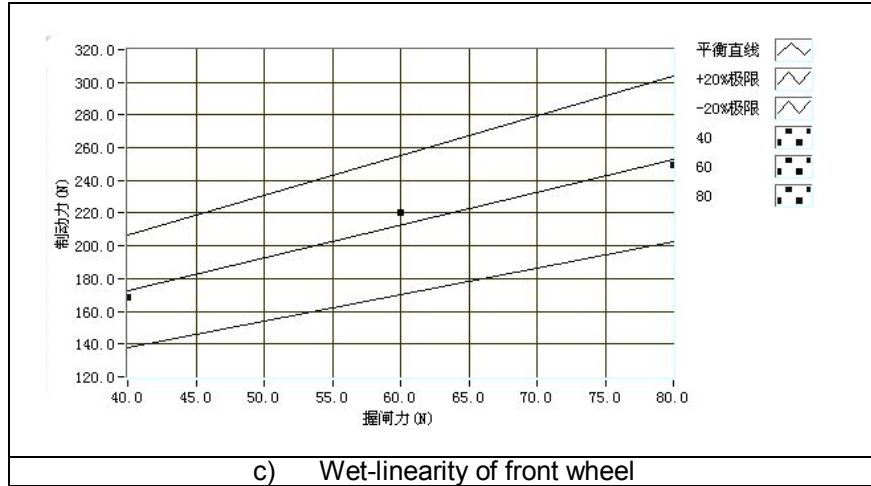


Tests Conducted





Tests Conducted





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Tests Conducted

#3 Ratio between wet and dry braking

$F_{op}/F_{op\ intend}$ (N)		40	60	80	100	120	140	160	180
Front wheel	$F^a_{Br\ average}$ (N)	215.5	315.4	388.8	426.2	--	--	--	--
	$F^w_{Br\ average}$ (N)	168.4	220.7	249.2	--	--	--	--	--
	$F^w_{Br\ average} : f^a_{Br\ average}$	0.78	0.70	0.64	--	--	--	--	--
Rear wheel	$F^a_{Br\ average}$ (N)	156.4	266.4	334.3	407.6	--	--	--	--
	$F^w_{Br\ average}$ (N)	136.5	196.4	274.7	--	--	--	--	--
	$F^w : f^a$	NA	0.74	0.82	--	--	--	--	--

Photo for reference



Setup photo

End of report

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Page 6 of 6

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