

Test Report No.: **01 220 CHN/T-1904977**

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Test Report

Client: GUANGZHOU ZHONGPENG AUTO PARTS CO., LIMITED

Client address: D215, XINHUA AUTO PARTS PLAZA, 44 YONGFU ROAD,
GUANGZHOU, GUANGDONG, CHINA

Contact information: Tel.: +86-20-28186388
Mail: service@bonoss.com

Sample No.: SHM20191104977

Sample receiving date: Nov.14, 2019

Testing period: Nov.14, 2019~Nov.27, 2019

For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.



Nov.27, 2019

Yixiang Shen
Metal Materials Lab
Technical Manager

Date

Name



Test Report No.: **01 220 CHN/T-1904977**

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1. Sample information (provided by customer):

Sample name: BONOSS WHEEL BOLTS

Sample description: Three pieces of bolts

Sample obtaining method: Sending by customer Sampling by TÜV staffs
 Other ()

Other information: Product specification: M14×1.5, Property class 12.9;
Material and Mark: SCM440.

Sample photo(s):



1#



2#



3#



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2. Test result:

2.1 Tensile test:

Test method: ISO 898-1:2013+Cor.1:2013

Test item	Result Tensile strength (N/mm ²)
Result-1#	1273 The fracture occurred in the free threaded length.

2.2 Proof load test:

Test method: ISO 898-1:2013+Cor.1:2013

Sample	Proof load (kN)	Result (μ m)
2#	121.0	0

2.3 Tensile test under wedge loading:

Test method: ISO 898-1:2013+Cor.1:2013

Sample	Wedge angle α	Ultimate tensile load (kN)
3#	4°	156.585 The fracture occurred in the free threaded length.

--- END ---



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Tel.: +86 21 6108 1188 Fax: +86 21 6108 1099 Mail: service-gc@tuv.com Web: www.tuv.com

Test Report No.: **01 220 CHN/T-1904978**

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1. Sample information (provided by customer):

Sample name: BONOSS WHEEL BOLTS

Sample description: Two pieces of bolts

Sample obtaining method: Sending by customer Sampling by TÜV staffs
 Other ()

Other information: Product specification: M14×1.5, Property class 12.9;
Material and Mark: SCM440.

Sample photo(s):



1#

2#

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2. Test result:

2.1 Decarburization test-hardness method:

Test method: ISO 898-1:2013+Cor.1:2013

Sample	Hardness scale	HV(1)	HV(2)	Requirement	Conclusion
1#	HV0.3	404	405	HV(2)≥ HV(1)-30	No decarburization

2.2 Retempering test:

Test method: ISO 898-1:2013+Cor.1:2013

Sample	Hardness scale	Before retempering			After retempering			Reduction of hardness after retempering
2#	HV10	398	405	396	387	386	390	12

2.3 Hardness test:

Test method: ISO 6507-1:2018

Sample	Hardness scale	Test position	Result		
1#	HV10	1d back from the end of the thread, half-radius area	395	402	400

--- END ---



Test Report No.: **01 220 CHN/T-1905439**

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Test Report

Client: GUANGZHOU ZHONGPENG AUTO PARTS CO., LIMITED

Client address: D215, XINHUA AUTO PARTS PLAZA, 44 YONGFU ROAD,
GUANGZHOU, GUANGDONG, CHINA

Contact information: Tel.: +86-20-28186388
Mail: service@bonoss.com

Sample No.: SHM20191205439

Sample receiving date: Dec.6, 2019

Testing period: Dec.6, 2019~Dec.12, 2019

For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.



Dec.12, 2019

Yixiang Shen
Metal Materials Lab
Technical Manager

Date

Name



Test Report No.: **01 220 CHN/T-1905439**

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1. Sample information (provided by customer):

Sample name: BONOSS WHEEL BOLT

Sample description: A piece of bolt

Sample obtaining method: Sending by customer Sampling by TÜV staffs
 Other ()

Other information: Product specification: M14×1.25;
Material and Mark: SCM440.

Sample photo(s):



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2. Test result:

Chemical composition analysis:

Test method: OES

Element	C	Si	Mn	P	S	Cr	Ni	Mo	Cu
Result,%	0.41	0.19	0.74	0.013	0.005	1.01	0.021	0.20	0.037

--- END ---



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Tel.: +86 21 6108 1188 Fax: +86 21 6108 1099 Mail: service-gc@tuv.com Web: www.tuv.com

Test Report No.: **01 220 CHN/T-1905440**

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Test Report

Client: GUANGZHOU ZHONGPENG AUTO PARTS CO., LIMITED

Client address: D215, XINHUA AUTO PARTS PLAZA, 44 YONGFU ROAD,
GUANGZHOU, GUANGDONG, CHINA

Contact information: Tel.: +86-20-28186388
Mail: service@bonoss.com

Sample No.: SHM20191205440

Sample receiving date: Dec.6, 2019

Testing period: Dec.6, 2019~Dec.12, 2019

For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.



Dec.12, 2019

Yixiang Shen
Metal Materials Lab
Technical Manager

Date

Name



Test Report No.: **01 220 CHN/T-1905440**

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1. Sample information (provided by customer):

Sample name: BONOSS WHEEL BOLT

Sample description: A piece of bolt

Sample obtaining method: Sending by customer Sampling by TÜV staffs
 Other ()

Other information: Product specification: M14×1.5;
Material and Mark: SCM440.

Sample photo(s):



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2. Test result:

Chemical composition analysis:

Test method: OES

Element	C	Si	Mn	P	S	Cr	Ni	Mo	Cu
Result,%	0.42	0.22	0.69	0.018	0.005	0.96	0.026	0.16	0.033

--- END ---



Test Report No.: **01 220 CHN/T-1905443**

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Test Report

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GUANGZHOU, GUANGDONG, CHINA

Contact information: Tel.: +86-20-28186388
Mail: service@bonoss.com

Sample No.: SHM20191205443

Sample receiving date: Dec.6, 2019

Testing period: Dec.6, 2019~Dec.16, 2019

For and on behalf of
TÜV Rheinland (Shanghai) Co., Ltd.



Yixiang Shen
Metal Materials Lab
Technical Manager

Dec.30, 2019

Date

Name



Test Report No.: **01 220 CHN/T-1905443**

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1. Sample information (provided by customer):

Sample name: BONOSS WHEEL BOLTS

Sample description: A piece of metal bolt

Sample obtaining method: Sending by customer Sampling by TÜV staffs
 Other ()

Other information: Material and Mark: SCM440.

Sample photo(s):



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2. Test result:

Neutral salt spray test:

Test method: ISO 9227:2017

Concentration of solution collected: (50±5) g/L NaCl

Chamber temperature: (35±2)°C

Volume of salt solution collected: (1.0~2.0)mL /(80cm²·h)

pH of collected solution at 25°C : 6.5~7.2

Exposure period (h)	The area of defect, A(%)	Appearance rating(R _A)	Description of appearance
192	/	/	Red rust occurred on the test surface.
240	50 < A	0	Red rust occurred on the test surface.

Note: Appearance rating is specified in ISO 10289:1999 as follows:

Area of defects, A (%)	Appearance rating(R _A)
0(No defects)	10
0 < A ≤ 0.1	9
0.1 < A ≤ 0.25	8
0.25 < A ≤ 0.5	7
0.5 < A ≤ 1.0	6
1.0 < A ≤ 2.5	5
2.5 < A ≤ 5.0	4
5.0 < A ≤ 10	3
10 < A ≤ 25	2
25 < A ≤ 50	1
50 < A	0



Test photos:



Before test



After test(192h)



After test(240h)

--- END ---