







# TEST REPORT

No. : QM130700709  
Date : Jul. 22,2013  
Page: 1 of 2

SHANDONG DAHE GRINDING BALL COMPANY LIMITED  
MINGSHUI ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE, JINAN CITY,  
SHANDONG PROVINCE, CHINA

The following sample(s) was/ were submitted and identified on behalf of the client as:

Sample Name : FORGED GRINDING BALL  
Sample Number : QM130700709  
SGS Ref. No. : SM130705368  
Manufacturer : SHANDONG DAHE GRINDING BALL COMPANY LIMITED  
Product specification : DIA.40MM  
Material and Mark : 60Mn  
Test Required : Chemical composition analysis, Hardness test  
Date of Receipt : Jul. 15,2013  
Test Period : Jul. 15,2013 to Jul. 22,2013

Test result(s) : For further details, please refer to the following page(s)  
\*\*\*\*\*To be continued\*\*\*\*\*

Signed for SGS-CSTC Standards Technical Services Co., Ltd Qingdao Branch

Gmi Li  
Authorized signatory

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# TEST REPORT

No. : QM130700709  
Date : Jul. 22,2013  
Page: 2 of 2

1. Test item: Chemical composition analysis  
Test method: GB/T 4336-2002

Element	C	Si	Mn	P	S	Cr
Result ,%	0.60	0.23	0.79	0.016	0.005	0.04

2. Test item: Hardness test  
Test method: GB/T 230.1-2009

Test item	Sample	Test Location	Result		
HRC	1	Surface	64.5	65.0	64.0
	2		64.0	64.5	65.0



Sample photo  
\*\*\*\*\*End of report\*\*\*\*\*

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# TEST REPORT

No. : TM1309130  
Date : Sep.13, 2013  
Page: 1 of 2

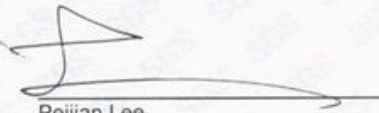
Shandong Dahe Grinding Ball Company Limited  
Mingshui Economic and Technological Development Zone, Jinan City,  
Shandong Province, China

The following sample(s) was/ were submitted and identified on behalf of the client as:

Sample Name : FORGED GRINDING BALL  
Spec : Dia.60mm  
Material : B2  
Manufacturer : Shandong Dahe Grinding Ball Company Limited  
Date of Receipt : Sep.03, 2013  
Test Period : Sep.03, 2013 to Sep.13, 2013  
Test result(s) : For further details, please refer to the following page(s)

\*\*\*\*\* To be continued\*\*\*\*\*

Signed for and on behalf of  
SGS-CSTC Standards  
Technical Services (Tianjin) Co., Ltd.

  
Peijian Lee  
Materials Lab  
Authorized Signatory

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# TEST REPORT

No. : TM1309130  
Date : Sep.13, 2013  
Page: 2 of 2

1. Test item: Chemical composition analysis  
Test method: OES

Spec.	Element, %					
	C	Si	Mn	P	S	Cr
Dia.60mm	0.76	0.21	0.80	0.011	0.004	0.56

2. Test Item: Rockwell Hardness  
Test Standard: GB/T230.1-2009  
Scale: HRC

Location	Result			Average
Near surface	63.8	64.2	64.3	64.1
3/4R	62.8	63.1	63.0	63.0
1/2R	62.5	62.8	63.5	62.9
1/4R	62.5	61.7	62.8	62.3
Core	61.0	60.5	61.5	61.0

\*\*\*\*\* End of report\*\*\*\*\*

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# TEST REPORT

No. : QM130600698  
Date : Jun. 21,2013  
Page: 1 of 2

SHANDONG DAHE GRINDING BALL COMPANY LIMITED  
MINGSHUI ECONOMIC AND TECHNOLOGICAL DEVELOPMENT ZONE, JINAN CITY,  
SHANDONG PROVINCE, CHINA

The following sample(s) was/ were submitted and identified on behalf of the client as:

Sample Name : HIGH CHROME CASTING BALL  
Sample Number : QM130600698-1#, 2#  
SGS Ref. No. : SM130603195  
Manufacturer : SHANDONG DAHE GRINDING BALL COMPANY LIMITED  
Product specification : 1#: DIA.50MM, 2#: DIA.80MM  
Material and Mark : Cr10-14%  
Test Required : Hardness test, Chemical composition analysis  
Date of Receipt : Jun. 12,2013  
Test Period : Jun. 12,2013 to Jun. 21,2013

Test result(s) : For further details, please refer to the following page(s)  
The testing report/certificate only refers to the sample(s) tested.

\*\*\*\*\*To be continued\*\*\*\*\*

Signed for SGS-CSTC Standards Technical  
Services Co., Ltd Qingdao Branch

Gmi Li  
Authorized signatory

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# TEST REPORT

No. : QM130600698  
Date : Jun. 21,2013  
Page: 2 of 2

1. Test item: Hardness test  
Test method: GB/T 230.1-2009

Test item	Sample	Test Location	Result		
HRC	1#	Surface	64.0	63.5	63.0
	2#		62.0	61.5	61.0

2. Test item: Chemical composition analysis  
Test method: GB/T 11170-2008

Element	C	Si	Mn	P	S	Cr
Result, %						
1#	2.21	0.73	0.84	0.030	0.025	10.35
2#	2.30	0.76	0.83	0.032	0.028	10.78

Note: The test was carried out by a SGS laboratory.

Sample photos:



Sample 1#



Sample 2#

\*\*\*\*\*End of report\*\*\*\*\*

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