

**REPORT NUMBER: GZ11080428-2R1**

Superseded the report No. GZ11080428-2 dated on November 8, 2011

ISSUE DATE: August 31, 2012

**EVALUATION CENTER**

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch  
Block E, No.7-2 Guang Dong Software Science Park, Caipin Road,  
Guangzhou Science City, GETDD, Guangzhou, China

**RENDERED TO**

**ANGEL METAL CO., LTD.**

#1099, WORAM-DONG, DALSEO-GU, DAEGU, SOUTH KOREA

PRODUCT EVALUATED: Steel Hinge and Stainless Steel Hinge

Including below models:

AHG2-4545-steel (A8112); AHG2-S4540-stainless steel (A5112); AHG2-S4545-  
stainless steel (A5112)

EVALUATION PROPERTY: Grade 2

**Engineering Evaluation of Steel Hinge and Stainless Steel Hinge  
All Function for compliance with the applicable requirements of  
the following criteria: ANSI/BHMA A156.1: 2006 American  
National Standard for Butts and Hinges.**

## 1 Introduction

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Intertek Testing Services Shenzhen Ltd. Guangzhou Branch has conducted an engineering evaluation for ANGEL METAL CO., LTD. on Steel Hinge and Stainless Steel Hinge, to evaluate cycle test, hinge pin rise test, vertical and lateral wear test and overload test. The evaluation was conducted to determine if all Functions would maintain compliance with ANSI/BHMA A156.1: 2006 American National Standard for Butts and Hinges.

## 2 Sample and Assembly Description

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Samples were submitted to Intertek directly from the manufacturer: ANGEL METAL CO., LTD., Samples were received at the Evaluation Center on July 13, 2011.

Model No.	Specification	Construction	Material	BHMA Number
AHG2-4540-steel	4.5"×4.0"×3.4MM	2 bearing	steel	A8112
AHG2-4545-steel	4.5"×4.5"×3.4MM	2 bearing	steel	A8112
AHG2-S4540-stainless steel	4.5"×4.0"×3.4MM	2 bearing	stainless steel	A5112
AHG2-S4545-stainless steel	4.5"×4.5"×3.4MM	2 bearing	stainless steel	A5112

Refer ATTACHMENTS for photos and assembly drawings

## 3 Reference Documents

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The model 'AHG2-4540-steel (A8112) was previously tested by Intertek in accordance with standard ANSI/BHMA A156.1-2006, and found to be compliant to Grade 2. Results were found in Intertek Test Report GZ11080428-1R1, dated August 31, 2012.

In order to assess potential performance differences between four models, technical drawings, bill of material and samples of all models were collected.

## 4 Evaluation Method

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Documents and samples of all models listed above were checked, and found to have the same in structure, height, thickness and bearings except for difference in the material and width.

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## 5 Conclusion

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It was determined that three models AHG2-4545-steel, AHG2-S4540-stainless steel and AHG2-S4545-stainless steel were similar, with minor variations, to the previously tested model AHG2-4545-steel. These variations would not significantly affect the performance.

INTERTEK TESTING SERVICES SHENZHEN LTD. GUANGZHOU BRANCH

Reported by: Credy Chen  
Credy Chen  
Engineer  
Intertek

Reviewed by: Blusea Dong  
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Project Engineer  
Intertek

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## ATTACHMENTS

### A. Sample photos



AHG2-4540-steel (A8112)



AHG2-4545-steel (A8112)

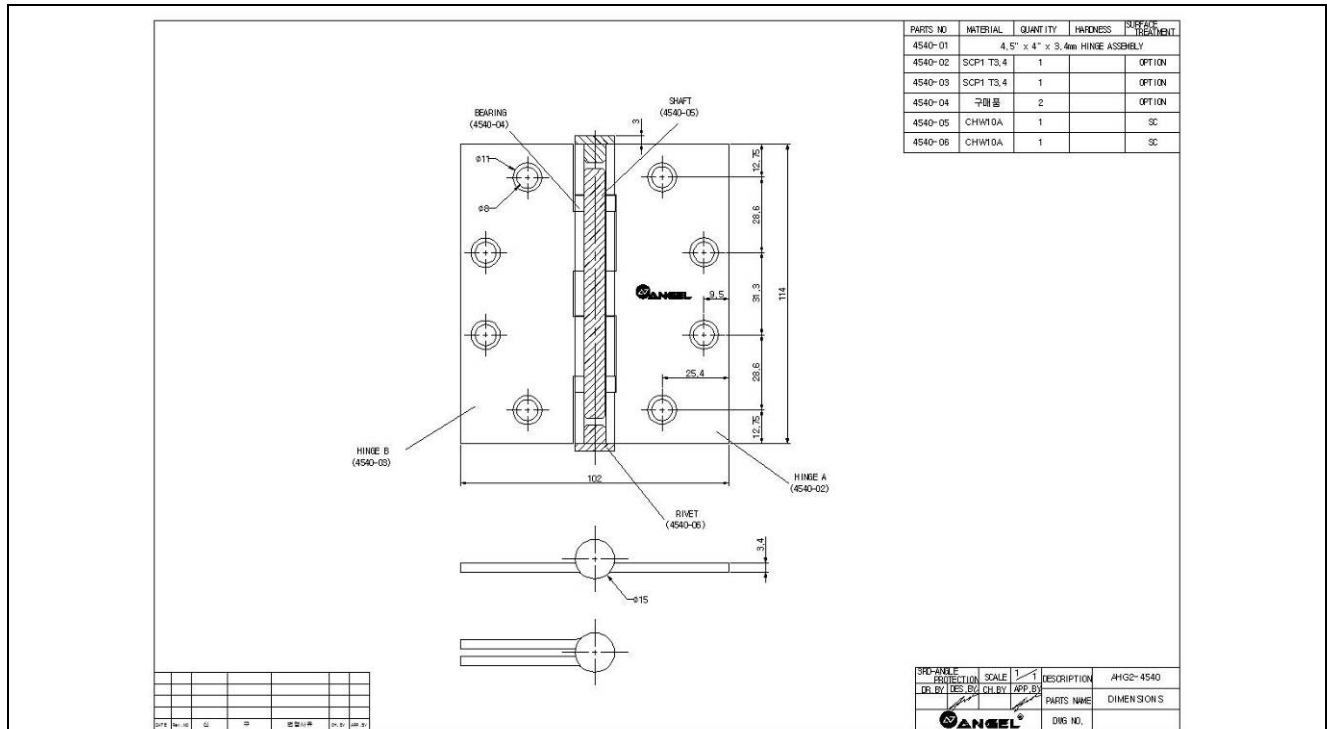


AHG2-S4540-stainless steel (A5112)

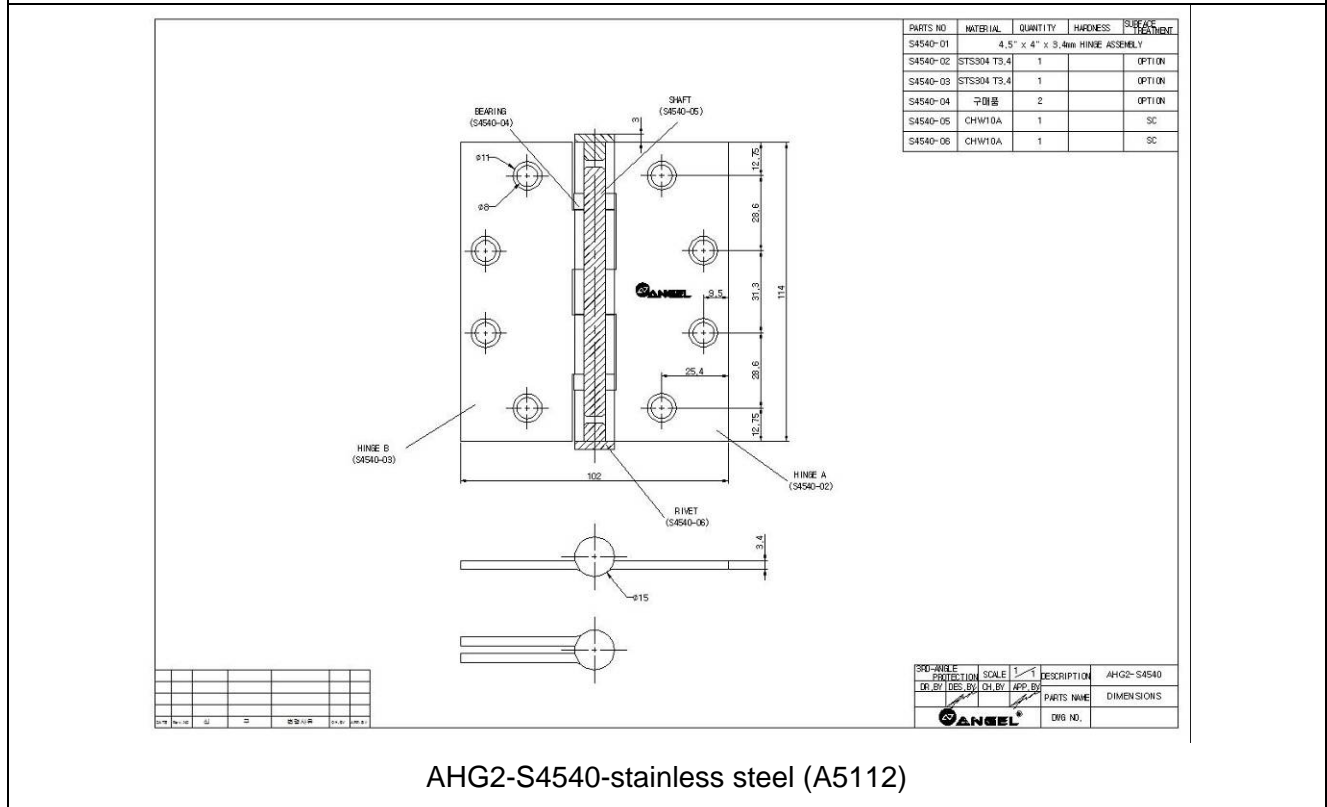


AHG2-S4545-stainless steel (A5112)

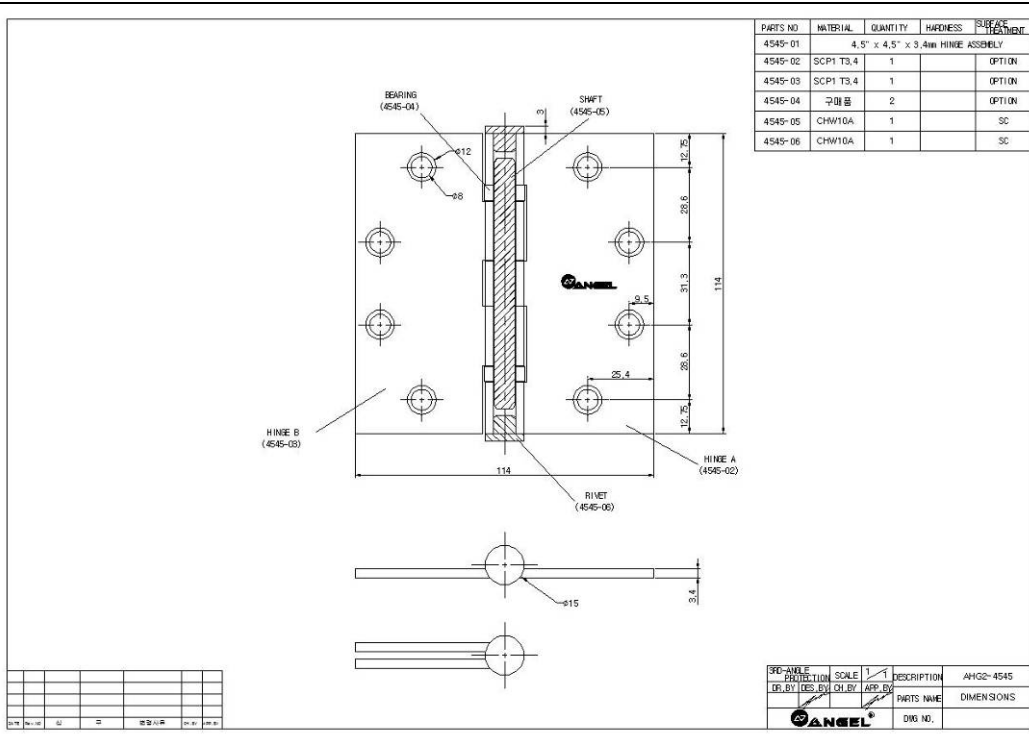
## B. Drawings



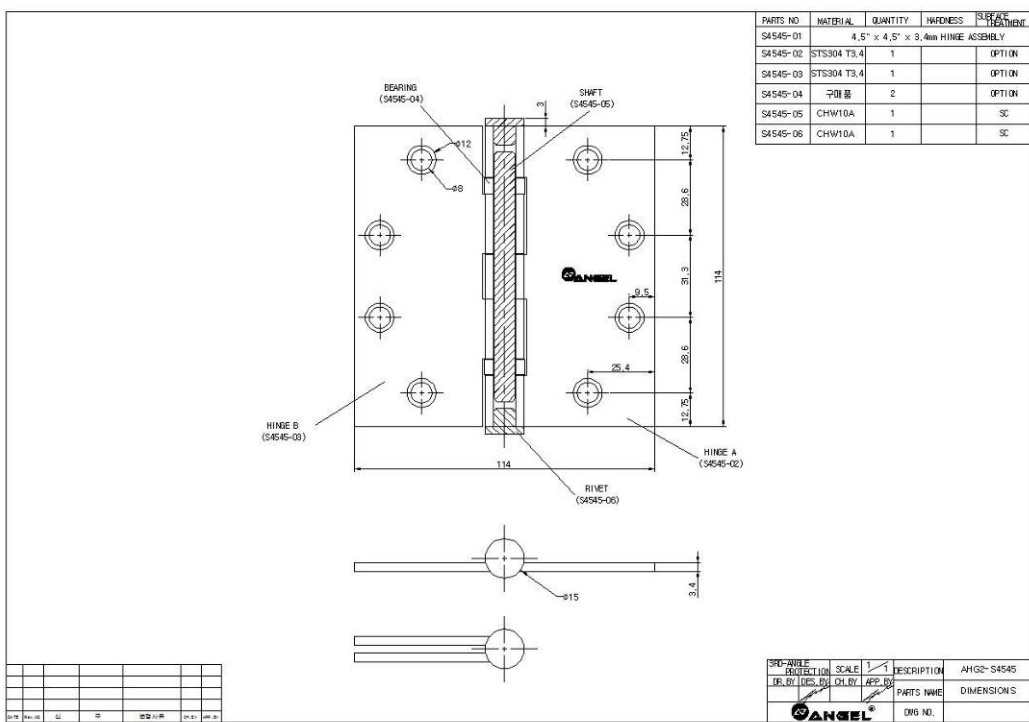
AHG2-4540-steel (A8112)



AHG2-S4540-stainless steel (A5112)



AHG2-4545-steel (A8112)



AHG2-S4545-stainless steel (A5112)

## REVISION SUMMARY

DATE	SECTION		SUMMARY	INTERTEK INITIALS	
				ENGINEER	REVIEWER
November 8, 2011	/	/	Initial release	Blusea Dong	Happy Chen
August 31, 2012	/	/	Added BHMA Numbers.	Credy Chen	Blusea Dong