INTEGRITY TESTING LABORATORIES,

CLIENT:

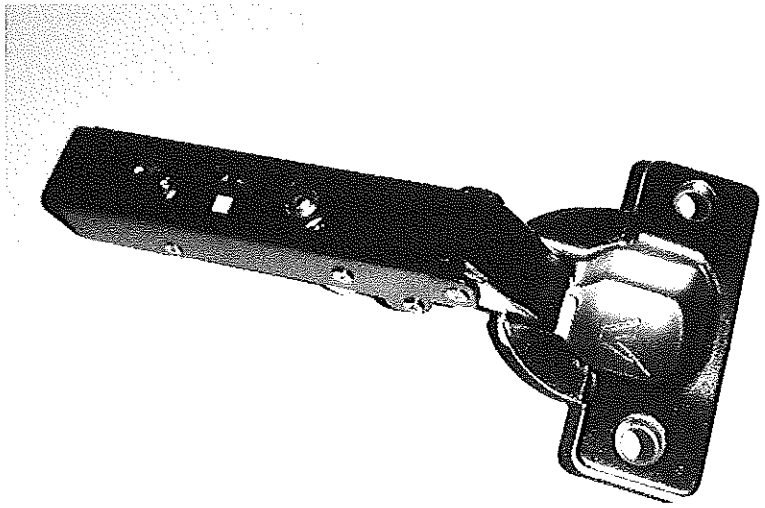
Hardware Resources
4319 Marlena Street
Bossier City, LA 71111
Attention: Travis McElveen

LABORATORY NO: F1209241-1
DATE: October 27, 2012
CLIENT P.O. NO.: Vbl, T. McElveen
STANDARD: ANSI/BHMA A156.9-03
ANSI/KCMA A161.1-01

SAMPLE: 110 DEGREE EUROPEAN SELF CLOSING HINGE, P/N 900.0181.05, TESTED WITH PLATE 600.3553.65

ABSTRACT

This report serves to document the testing of the above sample to all applicable hinge test paragraphs of ANSI/BHMA A156.9-2003, American national standards for cabinet hardware, and ANSI/KCMA A161.1-01, American national standards for kitchen and vanity cabinets. Test procedures include a hinge permanent set test, hinge operating life test, closing force test, self closing test, an over opening test, and a salt spray finish test. In addition, **we were requested to double the number of required operating cycles to 100,000.** The remainder of this report will show how the hinge samples submitted for testing **exceeded all of the requirements needed for conformance to these two standards.**



Self-Closing Hinge, P/N 900.0181.05

OBSERVATIONS AND RESULTS
ANSI/BHMA A156.9-03-GRADE 2

LABORATORY DETERMINATION	LABORATORY OBSERVATION	ANSI/BHMA A156.9-03 GRADE 2 REQUIREMENT	TEST RESULT
Hinge Permanent Set Test BHMA Section 4.1	Vertical Deflection = 0.036"	0.060" maximum vertical deflection after 75 lb. test load.	**PASS**
Hinge Operating Life Cycle Test, BHMA Section 4.2	**Hinge cycled 100,000 complete cycles instead of the required 50,000 cycles** Vertical Deflection = 0.015"	0.030" maximum vertical deflection after 50,000 cycles with 12 lb. test load.	**PASS**
Hinge Self Closing Force Test, BHMA Section 4.4.2	Closing Force = 10 oz.	4 oz. minimum closing force.	**PASS**
Hinge Self Closing Test BHMA Section 4.4.3	Door closed and remained closed from 10°.	Hinges shall close door from 10° after 50,000 cycles.	**PASS**
Hinge Over Opening Test BHMA Section 4.4.4	Door closed and remained closed from 10°.	Hinges shall close door from 10° after 17-lb. test force.	**PASS**
Salt Spray Finish Test BHMA Section 4.16.5	No substrate corrosion or surface staining was observed	12 hours exposure. No base/substrate corrosion exceeding 1/16", or more than one spot per square inch. No surface staining larger than ¼", or more than 5% of surface.	**PASS**

ANSI/KCMA A161.1-01

LABORATORY DETERMINATION	LABORATORY OBSERVATION	ANSI/KCMA A161.1-95 REQUIREMENT	TEST RESULT
Door Racking and Hinge Permanent Set Test Section 6.1	Vertical Deflection = 0.026"	0.065" maximum vertical deflection after 65 lb. test load.	**PASS**
Hinge Operating Life Cycle Test, Section 6.2	**Hinge cycled 100,000 complete cycles instead of the required 25,000 cycles** Vertical Deflection = 0.011"	0.065" maximum vertical deflection after 25,000 cycles.	**PASS**

CONCLUSION

During the execution of the testing program, the model 900.0181.05 hinge performed well with no structural breakage or failure. This sample submitted for testing **exceeded all of the hinge test requirements and conforms** to ANSI/BHMA 156.9-2003 for Grade 2 products, **and conforms** to ANSI/KCMA A161.1-01.

Respectfully submitted,

Edwin A. Leach, Laboratory Manager
INTEGRITY TESTING LABORATORIES