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DATE: September 20, 2004

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ANSI/BHMA A156.9, GRADE 1 TESTING

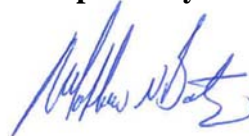
Prepared for:
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The test results contained in this report pertain only to the samples submitted for testing and not necessarily to all similar products.

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ANSI/BHMA TESTING

INTRODUCTION:

This report presents the results of hinge testing. Two pair of hinges were submitted by Mr. Bob Reesor of Rockford Process Control on August 23, 2004, with testing completed on September 17, 2004.

The scope of this work was to evaluate two different pairs of hinges in accordance with American National Standards Institute/Builders Hardware Manufacturers Association (ANSI/BHMA) A156.9, for Grade 1 hinges.

TEST RESULTS:

The tested hinges, RPC No. 376 and RPC No 456, **MET** the testing requirements of ANSI/BHMA A156.9 for grade 1 hinges.

ANSI/BHMA A156.9		Hinge #376		Hinge #456		Criteria		Test Result
Section	Description	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	
4.2	Hinge Permanent Set Test	0.023 inches	0.028 inches	0.018 inches	0.020 inches	0.030 inches	0.030 inches	Pass
4.3	Hinge Operation Life Test	0.008 inches	0.004 inches	0.004 inches	0.002 inches	0.030 inches	0.020 inches	Pass

SPECIMEN DESCRIPTIONS:

Two sets of hinges were submitted for testing. The hinges were identified as RPC No. 376 and RPC No 456. The nominal dimensions were 3-1/4" x 2-3/4" x 3/32".



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TEST PROCEDURE:

Testing was conducted in accordance with ANSI/BHMA A156.9-1994.

Hinge Permanent Set Test-Grade 1, section 4.2

Each hinge set were mounted to a 14-1/2" wide x 29-1/2" high x 3/4" thick door and spaced by 24" on center. The door was loaded to 40-lbs and then mounted to the test wall. The door was opened 5-degrees and measured for initial vertical and horizontal positions. A load of 160-lbf was suspended on the door at 14" from the hinge edge (as described in figure 1 in the standard). The door was operated to a 90-degree open position, and then closed to a 5-degree position. The load was removed and the final vertical and horizontal positions were measured. The permanent set was defined as the difference between the initial and final measurement.

Hinge Operating Life Test, section 4.3

Two new hinges were mounted to a 14-1/2" wide x 29-1/2" high x 3/4" thick door and spaced by 24" on center. The door was loaded to 40-lbs and mounted to the test wall. The door was opened 5-degrees and measured for initial vertical and horizontal positions. The door was opened and closed at 10 cycles per minute for a duration of 100,000 cycles. The door was then opened 5-degrees and measured for final vertical and horizontal positions. The permanent set was defined as the difference between the initial and final measurement.

REMARKS:

The test unit will be retained for 15 days from the date of this report and then discarded unless we receive written notification requesting otherwise.

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