



2024-06-18

Ms. Betty Chen

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Project	4790913935
Subject:	Letter report for ANSI/BHMA Test Service, ANSI/BHMA A156.17, Grade 1 for Spring Hinge Series K51M-450, material Stainless Steel.

Dear Ms. Betty Chen,

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

This Report summarizes the data developed on the samples you provided which were subjected to the customized test method and part of the requirement of ANSI/BHMA A156.17, Grade 1, Standard for SELF CLOSING HINGES & PIVOTS, issued date September 23, 2019. Testing was conducted at your factory in Yunlin, Taiwan from February 20, 2024 to May 8, 2024.

The purpose of this project is to conduct the cycle tests, operational tests and dimensional check on the product samples submitted as they relate to the requirements of the Grade 1, 4.5 in. Flange height, Single acting hinges in accordance with ANSI Standard ANSI/BHMA A156.17, Standard for SELF CLOSING HINGES & PIVOTS, issued date September 23, 2019. All test items and methods were designed per the client's request.

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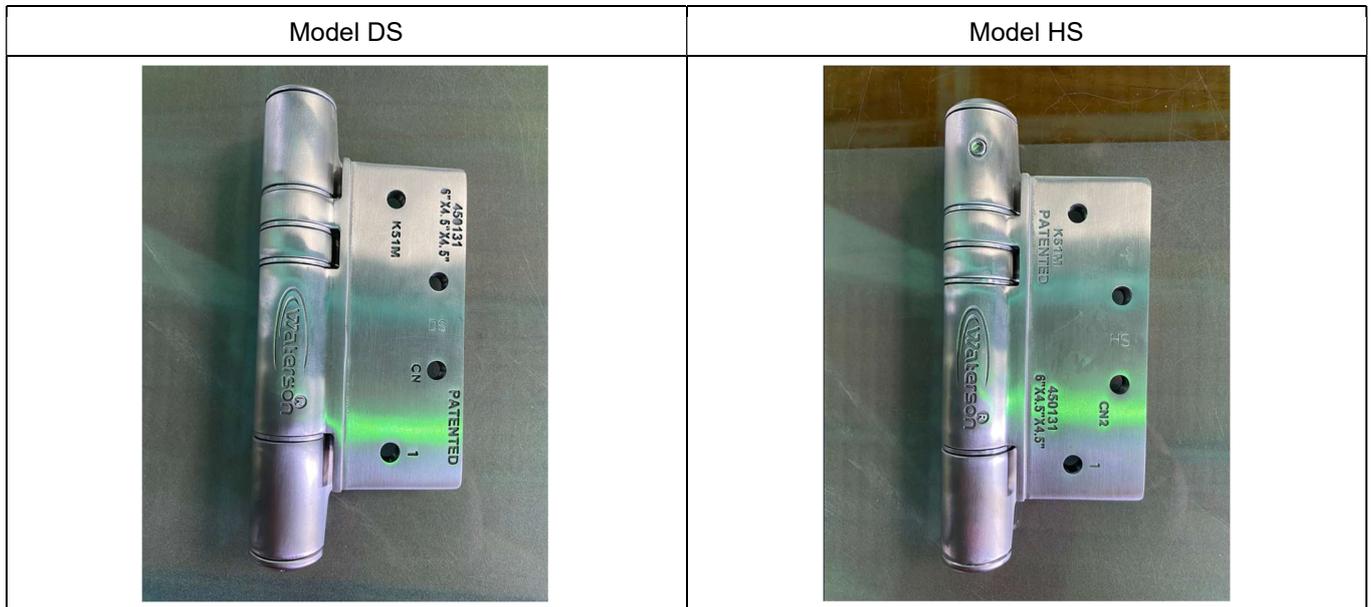
## TEST RECORD

### SAMPLES:

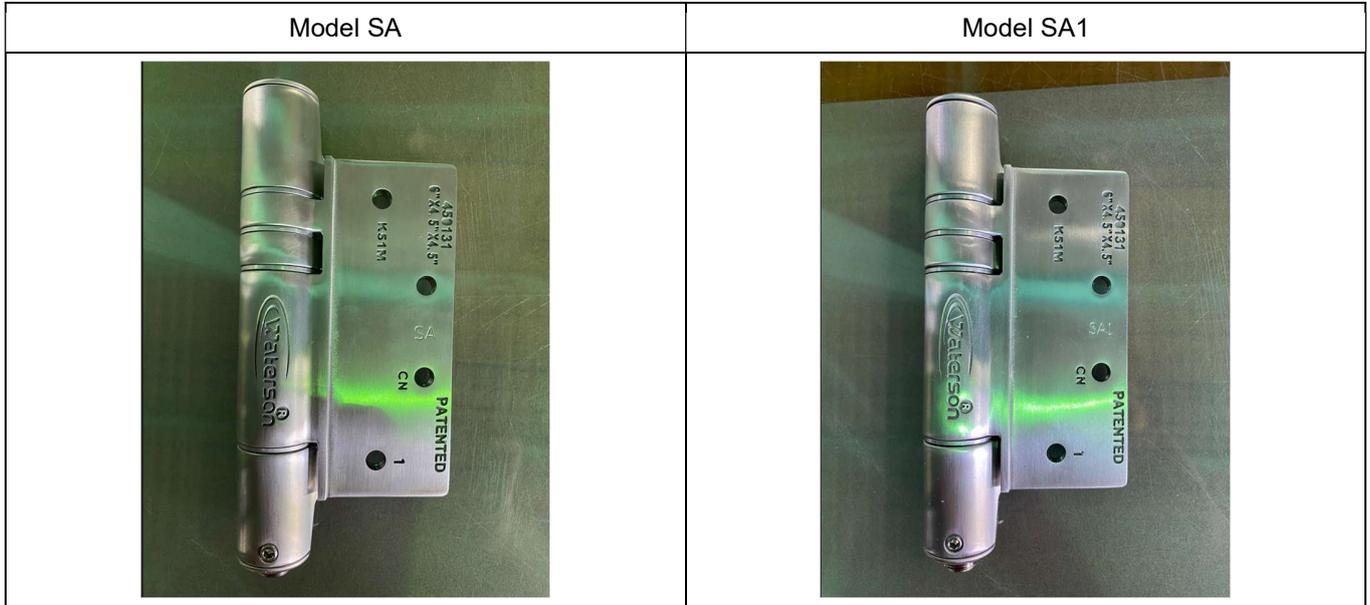
The Models DS, HS, SA and SA1 of Series K51M-450 (4.5 in flange height) Spring Hinges evaluated are described in Table 1. UL did not involve in sampling, witnessing the production of the test samples, nor were we provided with information relative to the formulation or identification of component materials used in the manufacture of the test samples.

Table 1 - Sample Description

Spring Hinge Model	Flang Height (in.)
DS	4.5
HS	4.5
SA	4.5
SA1	4.5



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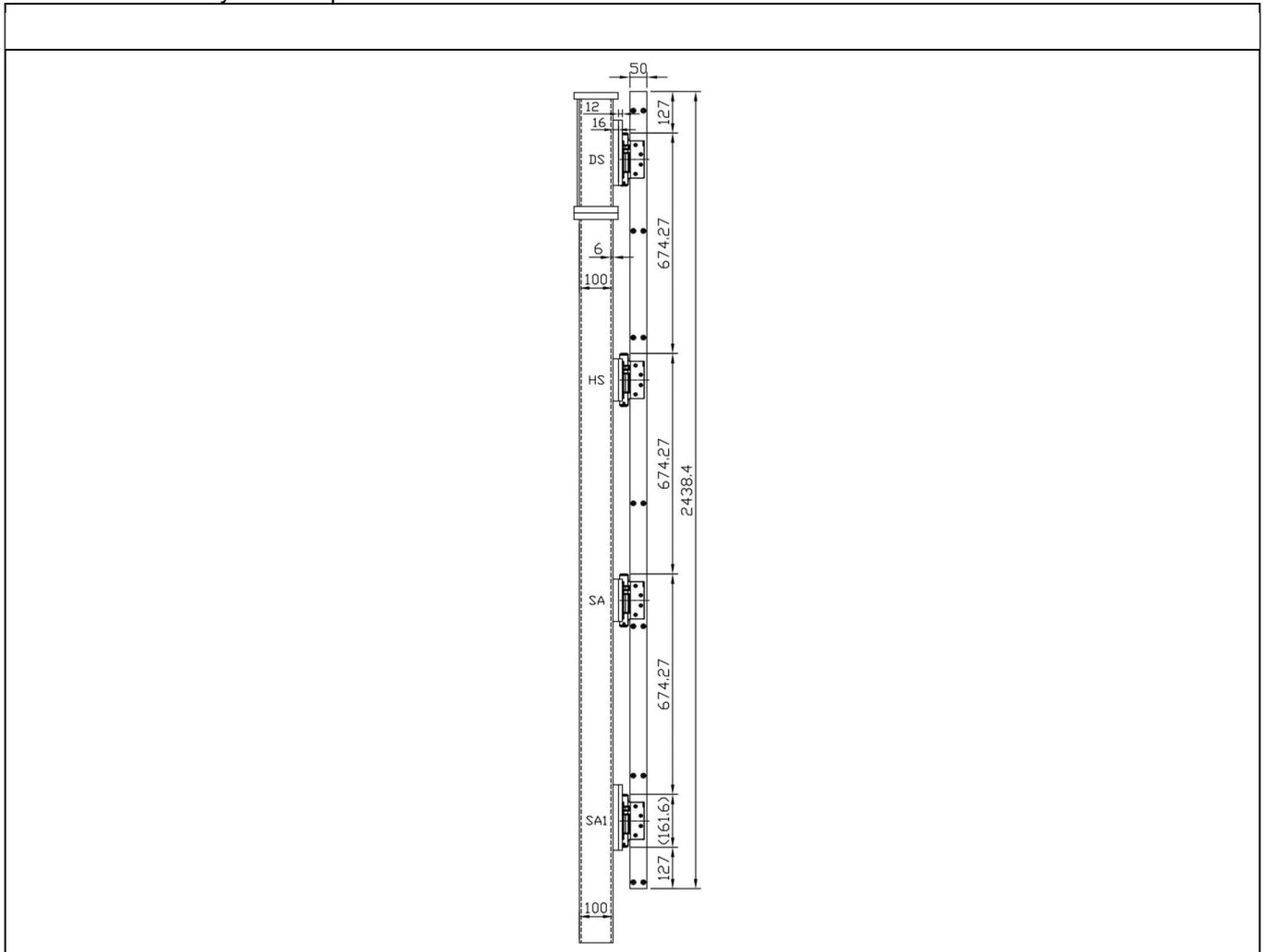
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**METHOD:**

The tests were conducted in accordance with part of the test procedure described in Standard ANSI/BHMA A156.17, Standard for SELF CLOSING HINGES & PIVOTS, issued date September 23, 2019 of Grade 1, 4.5 in. Flange height, Single acting hinges except that the test door size and weight deviated from the standard requirements. One sample for each Model was installed on a swinging type single door assembly with a door size of 4 ft wide by 8 ft high and door weight 264.6 lb (120 kg), 4 hinge samples in total from top to bottom identified as DS, HS, SA and SA1, per client's instructions. The installation details are as described in Table II.

Table II – Test facility and sample installation detail.



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### RESULTS

Clause	Description	Grade	Test Result
5.5	Vertical and Lateral Wear	1	Compliant
6.1	Closing Force Test	1	Compliant
6.2	Cycle Test-1,000,000 cycles for Grade 1	1	Compliant
6.3	Latch Test for Single Acting Doors	1	Compliant
6.4	Static Load Test	1	Compliant

Should you have any questions or comments concerning the above, please feel free to contact the undersigned.

Sincerely,	Reviewed by:
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Staff Engineer	Staff Engineer
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