



Test Report

Report Number: 170213009GZU-001

Applicant Name : MORSE INDUSTRIES, INC.
Applicant Address : 25811 74th Avnue South Kent, WA98032
Attn : Raymond Lam

Report Date : 2017-03-20

Sample Description: Glass door hinge, model: C50-0011, C50-0012, C50-0021 and C50-0023, rated door weight: 45 kg, four models have the same material and similar construction, difference are listed as below table:

Model	Difference
C50-0011	Long baseplate
C50-0012	Short baseplate
C50-0021	Long baseplate, recessed on leaf
C50-0023	Long baseplate, recessed on leaf, bevelling

Model C50-0012 was subjected durability test, and Model C50-0011, C50-0021 and C50-0023 were evaluated based on the test data of Model C50-0012. Refer to Appendix A product photos for detailed appearance.

This report pertains only to the sample models listed in the Product Description section of this report. The evaluated production model was submitted via the client's own courier on February 13, 2017. These samples were evaluated between February 13, 2017 and March 14, 2017 and were received in good condition at the Intertek Guangzhou laboratory located at No. 9 Nan Xiang San Road, GETDD, Guangzhou, China.

Conclusion:

The submitted samples were tested according to durability test (60 000 cycles) refer to EN 1935:2002/AC:2003 clause 7.5, and the test result refer to Page 2 for details.

Should you have any query on this report, you may contact at Rachel.y.liang@intertek.com

Approved by:

Prepared by:

Credy Chen
Supervisor

Yubin Deng
Engineer

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TTRF-PERF03-EN Version Date: Feb 03, 2017

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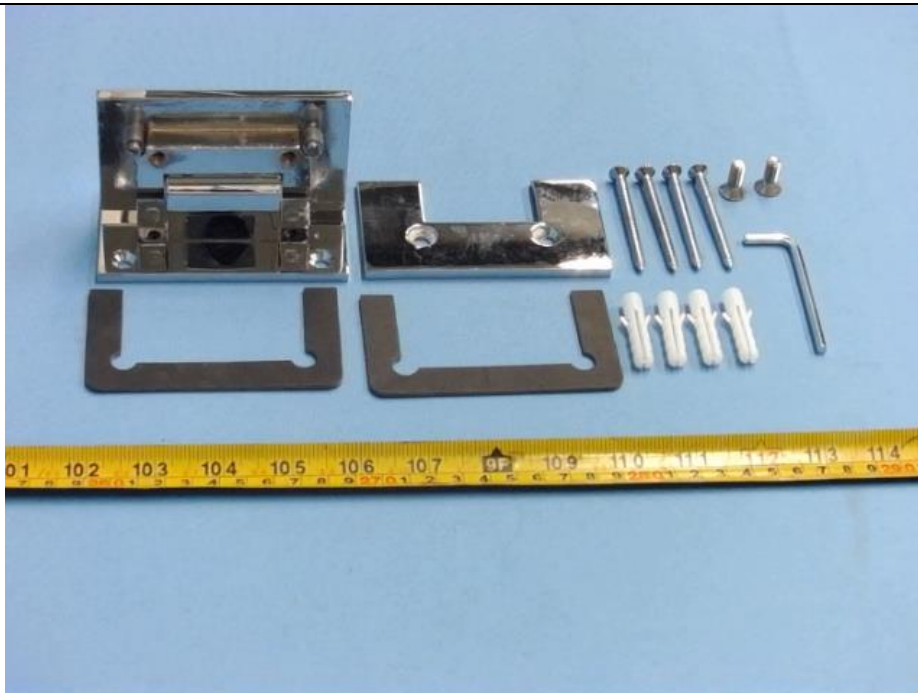
Test Items, Method and Results:

When determining the test result, measurement uncertainty has been considered.

If related to subcontract, the remark for the test items conducted by a subcontractor.*

No.	Test item	Test parameter	Test result	Verdict
1	Durability Test	<p>Mount the hinge on the test apparatus specified in 6.1 using the appropriate method specified in 6.3.</p> <p>Ensure that the hinge has not previously been subjected to any other tests.</p> <p>Rotate the hinged element through the lesser of $92,5^\circ \pm 2,5^\circ$ or the full angular movement permitted by the hinge for 20 cycles without shock.</p> <p>Measure and record the torque required to initiate movement of the hinged element at opening angles of $0^\circ \pm 5^\circ$, $30^\circ \pm 5^\circ$, $60^\circ \pm 5^\circ$ and $90^\circ \pm 5^\circ$.</p> <p>Measure and record the initial horizontal and vertical gaps between the hinged element and the datum surfaces.</p> <p>Measure and record the torque on the fixing screws at the beginning and end of the test.</p> <p>Operate the hinged element through the lesser of $92,5^\circ \pm 2,5^\circ$ or the full angular movement permitted by the hinge for the appropriate number of cycles specified in Table 1.</p> <p>Ensure that each cycle commences with the hinge fully closed and the speed of operation is (600 ± 30) cycles per hour.</p>	<p>Door mass:45 kg Door width:900 mm Hinge distance: 1540 mm.</p> <p>Before the durability test, initial friction torque measurements: 0 degree: 4,8 Nm 30 degree: 8,2 Nm 60 degree: 5,4 Nm 90 degree: 3,6 Nm</p> <p>After 60 000 cycles, all the parts remain operational and not require any adjustment. Final friction torque measurements: 0 degree: 4,3 Nm 30 degree: 7,8 Nm 60 degree: 5,1 Nm 90 degree: 3,2 Nm. Lateral wear of the hinge: 0,24 mm Vertical wear of the hinge: 0,26 mm.</p> <p>Note: Intertek was not involved in sampling.</p>	-
2	Self-closing functionality test	Self-closing function within 25 degree of opening.	<p>Before the durability test: operable.</p> <p>After 60 000 cycles: operable.</p>	-

Appendix A
Sample Photo



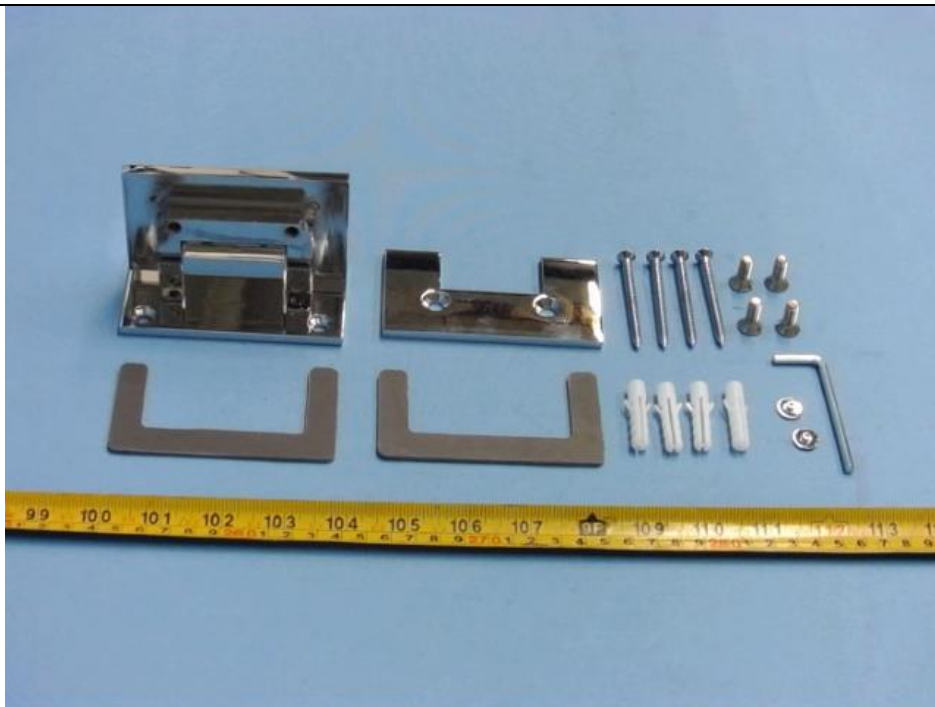
Glass door hinge, model: C50-0011

Sample Photo



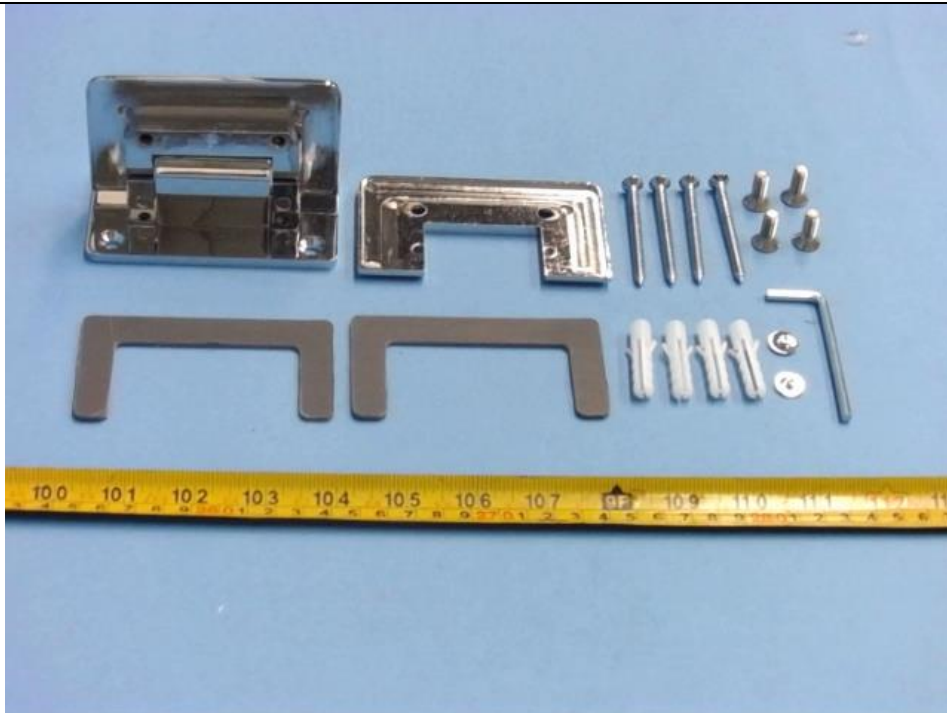
Glass door hinge, model: C50-0012

Sample Photo



Glass door hinge, model: C50-0021

Sample Photo



Glass door hinge, model: C50-0023



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Revision Summary

DD/MM/YYYY	Testing Engineer/ Reviewer	Page #	Project No	Reason for revision
20/03/2017	Yubin Deng / Credy Chen	-	170213009GZU-001	First issue

The End of The Report