

TEST REPORT

EN 12209

Building hardware –Locks and latches – Mechanically operated locks, latches and locking plates – Requirements and test methods

Report Reference No.: GZ08070265-1R4

Supersede Report No. GZ08070265-1R3 dated January 21, 2010

Tested by (name and signature): Happy Chen

Happy Chen

Approved by (name and signature)...: Clark Liu

Clark Liu

Date of issue: January 25, 2010

Contents: Total test report 10 pages including:

Report text: 9 pages

Appendix A for product photo and product drawing: 1 page

Testing Laboratory name: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Address: Block E, No.7-2 Guang Dong Software Science Park, Caipin Road,
Guangzhou Science City, GETDD, Guangzhou, China

Testing location: Same as above

Applicant's name: BESTKO PRECISION LIMITED

Address: UNIT 303, BLOCK A, PO LUNG CENTRE, 11 WANG CHIU ROAD,
KOWLOON BAY, HONG KONG

Test specification

Standard: EN 12209:2003/Amd 16436:2006

Non-standard test method: None

Test Report Form No.: TTRF EN 12209:2003 B

TTRF Originator: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Master TTRF: Dated 2008-01

Test item description: EUROPEAN STANDARD MORTISE LOCK

Trade Mark: BESTKO

Model and/or type reference: BK5572

Manufacturer: BESTKO PRECISION HARDWARE (SHENZHEN) COMPANY
LIMITED

Rating(s):

3	M	7	1	0	F	3	B	0	2	—
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The fourth digit "Suitability for use on fire/smoke doors" was not evaluated in this report.

Copy of marking plate



Model No.: BK5572

Classification:

3	M	7	1	0	F	3	B	0	2	—
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Standard: EN 12209: 2003

Summary of testing

The clause 5.5--suitability for use on fire/smoke doors were not evaluated in this report.

The submitted samples **COMPLIED** with all other applicable clauses of EN12209:2003 for the classification.

TTRF EN 12209: 2003 B

Originator: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Test item particulars
Classification of installation and use.....: Intend use in the public.
Test case verdicts
Test case does not apply to the test object.....: N/A
Test item does meet the requirement: P (Pass)
Test item does not meet the requirement: F (Fail)
Testing
Date of receipt of test item: July 7, 2008 and October 13, 2008
Date(s) of performance of test: July 7, 2008 to August 23, 2008 and October 13, 2008 to October 20, 2008
General remarks
<p>This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.</p> <p>"(See remark #)" refers to a remark appended to the report. "(See Appendix #)" refers to an appendix appended to the report. Throughout this report a comma (point) is used as the decimal separator.</p> <p>When determining the test result, measurement uncertainty has been considered.</p>
General product information:
<p>Detail "Ratings" information listed as following:</p> <p>First digit (Category of use): Grade 3 – for use by the public where there is little incentive to exercise care and where there is a high change of misuse, e.g. door in public buildings.</p> <p>Second digit (Durability): Grade M – 200 000 test cycles; 25 N load on latch bolt.</p> <p>Third digit (Door mass and closing force): Grade 7 – up to 100kg door mass 15N maximum closing force.</p> <p>Fourth digit (Suitability for use on fire/smoke doors): Grade 1 – Suitable for use on fire/smoke resisting door assemblies (Not evaluated in this report).</p> <p>Fifth digit (Safety): Grade 0 – no safety requirement.</p> <p>Sixth digit (Corrosion resistance and temperature): Grade F – high corrosion resistance, temperature requirement: from -20 °C to +80 °C</p> <p>Seventh digit (Security and drill resistance): Grade 3 – Medium security and no drill resistance.</p> <p>Eighth digit (Field of door application): Grade B – Mortice Hinged forend unsupported door.</p> <p>Ninth digit (Type of key operation and locking): Grade 0 – Not applicable.</p> <p>Tenth digit (Type of spindle operation): Grade 2 – Lock or latch for unsprung lever handle operation.</p> <p>Eleventh digit (Key identification requirement): – Not include cylinder and keys)</p>
Amendment:
<p>1. The original Report No. GZ08070265-1 dated on November 28, 2008 was modified on July 21, 2009 to revise classification of "Suitability for use on fire/smoke doors" and update Testing Laboratory's address.</p> <p>2. The Report No. GZ08070265-1R1 dated on July 21, 2009 was modified on July 23, 2009 to renew marking plate. 3. The Report No. GZ08070265-1R2 dated on July 23, 2009 was modified on January 21, 2010 to delete the CE label. 4. The Report No. GZ08070265-1R3 dated on January 21, 2010 was modified on January 25, 2010 to revise the Summary of testing.</p>

EN 12209			
Clause	Requirement – Test	Result - Remark	Verdict
4	CLASSIFICATION		
4.2	Classification for mechanically operated locks, latches and locking plates		—
4.2.1	Category of use	3	—
4.2.2	Durability	M	—
4.2.3	Door mass and closing force	7	—
4.2.4	Suitability for use on fire/smoke doors	1 (Not evaluated in this report)	—
4.2.5	Safety	0	—
4.2.6	Corrosion resistance and temperature	F	—
4.2.7	Security and drill resistance	3	—
4.2.8	Field of door application	B	—
4.2.9	Type of key operation and locking	0	—
4.2.10	Type of spindle operation	2	—
4.2.11	Key identification requirement	—	—
5	REQUIREMENT		
5.1	General		—
5.1.1	Dangerous substances	Not specified.	N/A
5.1.2	Return force of latch bolt The return force of the latch bolt shall not be less than 2,5 N	3,0 N	P
5.2	Category of use		—
5.2.1	Resistance to side load on latch bolt The lock or latch shall resist a side load of 3 kN.	3 000 N	P
5.2.2	Torque to operate deadbolt		—
5.2.2.1	Torque on the key to operate the deadbolt shall not exceed 1,5Nm	0,5 Nm	P
5.2.2.2	Torque on the handle to operate the deadbolt shall not exceed 3Nm	Not applicable for the handle operated the latch bolt only	N/A
5.2.3	Strength of normal latch action and stops The latch components and travel limit stops shall resist a torque of 60 Nm	60 Nm Torque to withdraw the latch did not exceed 3 Nm after subjecting this test	P

EN 12209			
Clause	Requirement – Test	Result - Remark	Verdict
5.2.4	Torque resistance of rim lock with lockable handle/knob The locked handle or knob (where applicable) shall resist a torque (Nm) = 0,4 (kN) x maximum radius in mm of the handle / knob after which the lock or latch shall function normally.	Not applicable for mortise lock.	N/A
5.3	Durability		—
5.3.1	Durability of latch action The latch action shall complete 200 000 cycles at the load of 15 N. The latch action shall function correctly after this test fulfilling the requirements 5.4.2 and 5.11.1.	200 000 cycles After test, closing force less than 15 N; torque to withdraw the latch bolt did not exceed 3 Nm	P
5.3.2	Durability of deadbolt mechanism The deadbolt mechanism shall complete 50 000 cycles. The deadbolt mechanism shall function correctly after this test fulfilling the requirements 5.2.2	50 000 cycles After test, torque on the key and handle did not exceed 1,5 Nm.	P
5.3.3	Durability of locking snib mechanism	No snib mechanism	N/A
5.4	Door mass and closing force		—
5.4.1	Door mass	Up to 100 Kg	—
5.4.2	Closing force A closing force of 15 N shall be sufficient to enable the latch bolt to correctly engage the locking plate every time.	Closing fore: 10 N	P
5.5	Suitability for use on fire/smoke doors Grade 1 products shall conform to the requirements of Annex A	Not evaluated in this report	—
5.6	Safety Not applicable	No safety requirement	N/A
5.7	Corrosion resistance and temperature		—

EN 12209			
Clause	Requirement – Test	Result - Remark	Verdict
5.7.1	Corrosion resistance The torque on key or follower to operate the deadbolt or latch bolt shall not exceed figures for 5.2.2 and 5.11.1 by more than 20% after appropriate environmental exposure. Grade F: 5% neutral salt spray exposure 96 hours.	High corrosion resistance After 96 hours 5% neutral salt spray exposure: Torque on key: 0,6 N Torque on follower: 3,0 N	P
5.7.2	Operation at extremes of temperature The torque on key to operate the deadbolt shall not exceed 2 Nm, neither shall the torque on the follower (where applicable) exceed requirements in 5.11.1, as appropriate, by more than 20%.	Temperature range: from –20°C to +80°C. Torque on key: 1,5 Nm Torque on follower: 3,0 N	P
5.8	Security		—
5.8.1	Torque resistance of knob		—
5.8.1.1	Torque resistance of knob or lever handle on bored lock and latch sets	Not applicable for mortise lock	N/A
5.8.1.2	Torque resistance of knob or lever handle on rim night latch	Not applicable for mortise lock	N/A
5.8.2	Requirements for side load		—
5.8.2.1	Resistance to side load on deadbolt The deadbolt shall resist a side load of 5 kN	5 kN	P
5.8.2.2	Resistance to drilling and side load on deadbolt	No defined drill resistance for security grade 3	N/A
5.8.3	Deadbolt projection The deadbolt when fully thrown in the locking direction and detained, shall have a minimum projection measured from the forend of 14 mm	21 mm	P
5.8.4	Requirements for end load on deadbolt		—
5.8.4.1	Resistance to end load The product shall resist an end load of 4 kN. At no time during or after the test shall the bolt projection be less than 11 mm	Load: 2000 N Projection: 19 mm	P
5.8.4.2	Resistance to endload with drilling	No defined drill resistance	N/A
5.8.5	Resistance to pulling of hook/claw bolt	No hook/claw bolt	N/A

TTRF EN 12209: 2003 B

Originator: Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

EN 12209			
Clause	Requirement – Test	Result - Remark	Verdict
5.8.6	Resistance to disengaging of hook/claw bolt	No hook/claw bolt	N/A
5.8.7	Resistance to forcing of locating device in sliding door lock	Applicable for sliding door lock only	N/A
5.8.8	Resistance to pulling off of knob on bored lock and latch set	No knob	N/A
5.8.9	Security requirements of the component locking plate		—
5.8.9.1	Resistance to end load on box protected locking plate	No protecting box	N/A
5.8.9.2	Resistance to side load on locking plate The locking plate shall resist a side load of 5 kN	Plate thickness: 1,5 mm Load: 5 kN	P
5.8.9.3	Resistance to pulling on locking plate	Applicable for lock with hook bolt only	N/A
5.8.9.4	Resistance to lifting force on locking plate	Applicable for sliding door lock only	N/A
5.9	Field of door application		—
5.9.1	General		—
5.9.2	Protection against removal from door	Not applicable for Grade B	N/A
5.10	Type of key operation and locking		—
5.10.1	Strength of key	Not include keys	N/A
5.10.2	Type of Key operation and locking		—
5.10.2.1	Manual locking	Not this type	N/A
5.10.2.2	Manual locking with intermediate locking positions It shall not be possible to remove the key from the lock before the bolt is properly deadlocked.	Deadlocking at intermediate and full throwing positions	P
5.10.2.3	Automatic locking deadbolt	No automatic function	N/A
5.10.2.4	Automatic locking latch bolt	No automatic function	N/A
5.10.3	Torque to withdraw the latch bolt with key The torque on the key shall not exceed 1,5 Nm	Torque to withdraw bolt by a suitable cylinder: 0,5 Nm	P
5.11	Type of spindle operation		—
5.11.1	Torque to withdraw the latch bolt The torque on the follower for operation the latch shall no exceed 3 Nm	The torque on the follower: 2,9 Nm	P

EN 12209			
Clause	Requirement – Test	Result - Remark	Verdict
5.11.2	Strength of bolt actions The deadbolt components shall resist a torque of 30 Nm and the latch bolt components shall resist a torque of 20 Nm for all grades. The lock or latch shall operate correctly after this test fulfilling the requirements of 5.11.1.	The follower could not operate deadbolt. Latchbolt: 20Nm The torque on follower did not exceed 3 Nm The lock operated correctly after this test.	P
5.11.3	Minimum follower restoring torque The restoring torque on the follower shall be at least 0,6 Nm	0,6 Nm	P
5.12	Key identification requirement		—
5.12.1	Detaining elements	Not include keys	N/A
5.12.2	Effective differs	Not include keys	N/A
5.12.3	Differing step heights on key	Not include keys	N/A
5.12.4	Non-interpassing of keys with just one interval differ	Not include keys	N/A
5.12.5	Coding protection	Not include keys	N/A
6	Test methods		—
7	MARKING		—
	The following information shall be quoted in the labeling, packaging or literature. a) manufacturer's name or trademark or other means of positive identification; b) clear product identification c) classification according to clause 4 of this European Standard; d) number and date of this European Standard.	Complied with this requirements See 'Marking on the package'	P

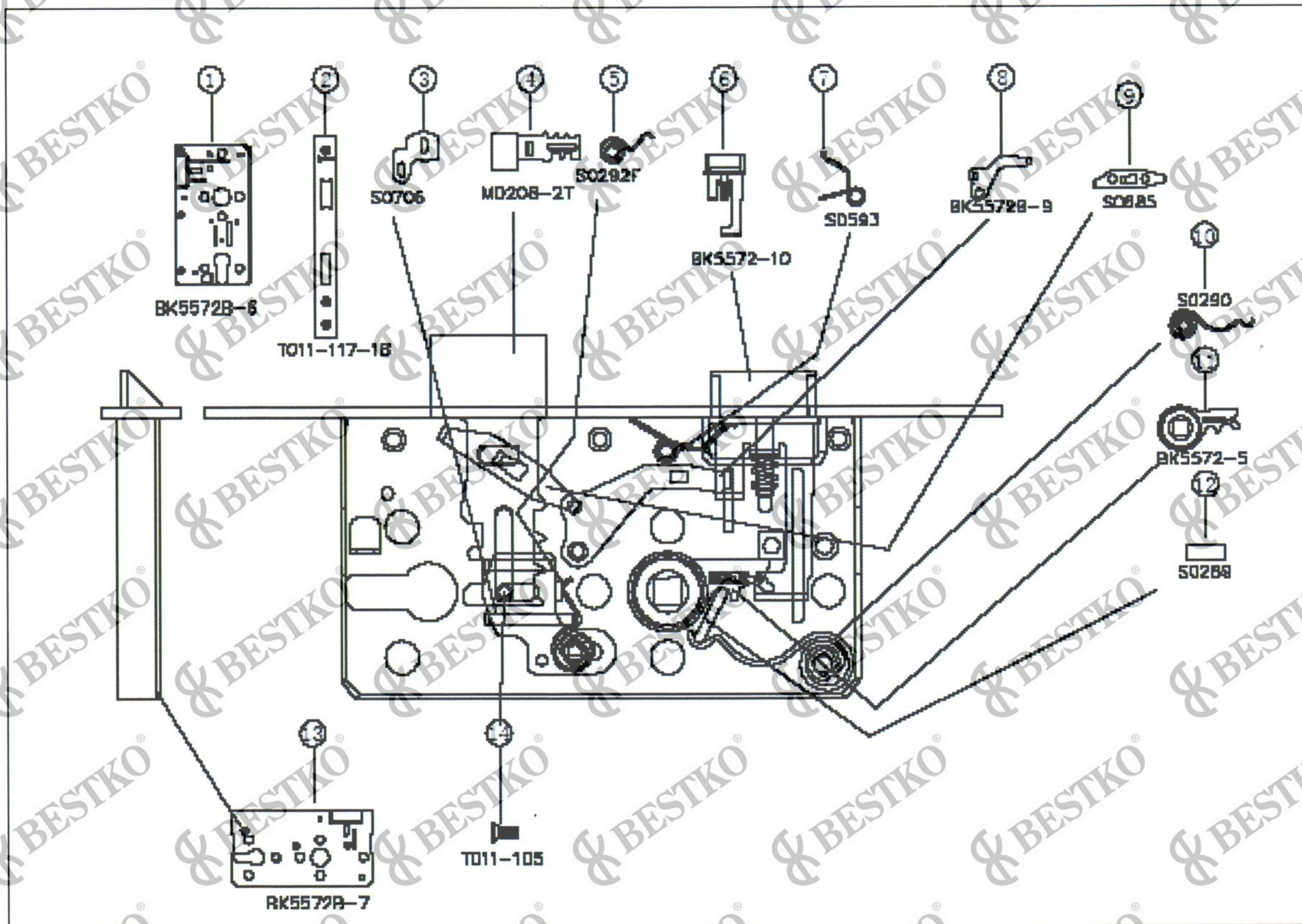
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Appendix A

Product Photo



Product Drawing



*****End of Report*****