

TEST REPORT

EN 1906
Building hardware –

Lever handles and knob furniture – Requirements and test methods

Report reference No. : GZ08070265-3R2
 Supersede Report No. GZ08070265-3R1 dated July 21, 2009

Tested by (name and signature) : Happy Chen *Happy Chen*

Approved by (name and signature).. : John Qiao *John Qiao*

Date of issue : July 23, 2009

Contents : Total test report 9 pages including:
 Report text: 7 pages
 Appendix A for product photo(s) and drawing(s): 2 page(s)

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 1906: 2002

Non-standard test method : N.A.

Test Report Form No. : TTRF EN 1906: 2002 B

TTRF Originator : Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Master TTRF : Dated 2008-01

Test item description : LEVER ON PLATE

Trademark : BESTKO

Model and/or type reference : 2458N

Manufacturer : BESTKO PRECISION HARDWARE (SHENZHEN) COMPANY
 LIMITED

Rating :

4	7	—	1	0	3	0	A
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Copy of marking plate

								
Model No.:	2458N							
EN 1906	4	7	—	1	0	3	0	A
Manufacturer date:								

Summary of testing

The submitted samples **COMPLIED** with all applicable clauses of EN 1906 for the classification.

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 object does meet the requirement : P (Pass)
- test object does not meet the requirement : F (Fail)
Testing
Date of receipt of test item : July 7, 2008
Date (s) of performance of tests : July 7, 2008 to September 10, 2008
General remarks
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General product information:
Detail "Ratings" information listed as following:
First digit (Category of use): Grade 4 - High frequency of use on doors, which are subject to frequent violent usage.
Second digit (Durability): Grade 7 - high frequency of use: 200 000 test cycles.
Third digit (Door mass): No classification.
Fourth digit (Fire resistance): Grade 1 - Suitable for use on fire/smoke door assemblies (Not evaluated in this report).
Fifth digit (Safety): Grade 0 - normal use
Sixth digit (Corrosion resistance): Grade 3 - high resistance.
Seventh digit (Security): Grade 0 - furniture not approved for use on burglary resistance doors.
Eighth digit (Type of operation): type A - spring-assisted furniture.
Amendment:
1. The original Report No. GZ08070265-3 dated on September 16, 2008 was modified on July 21, 2009 to revise classification of "Fire resistance" and update Testing Laboratory's address.
2. The Report No. GZ08070265-3R1 dated on July 21, 2009 was modified on July 23, 2009 to renew marking plate.

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Clause	Requirement - Test	Result - Remark	Verdict
4	CLASSIFICATION		
4.1	Coding system		—
4.1.2	Category of use:	4	—
4.1.3	Durability	7	—
4.1.4	Door mass No classification	—	—
4.1.5	Fire resistance	1(Not evaluated in this report)	—
4.1.6	Safety	0	—
4.1.7	Corrosion resistance	3	—
4.1.8	Security	0	—
4.1.9	Type of operation	A	—
5	REQUIREMENTS		
5.1	General		—
5.2	Check of spindle and fastening elements The spindle and fastening elements shall be supplied or specified by the manufacturer with every set of lock or latch furniture. The manufacturer shall state clearly the door thickness or range of the door thicknesses for which the furniture is suitable and in the case of spring assisted and spring loaded furniture, the angle of rotation permitted by the design.	Spindle and fastening elements were supplied by manufacturer. Range of door thicknesses: 35 mm to 55 mm.	P
5.3	Rotational torque strength Lock or latch furniture shall show no failure of any component and the lever handles or knobs shall still operate after the test. Lever handles or knobs shall not deform permanently more than 5 mm as measured at 50 mm ± 2mm from the axis of rotation by the dial gauge.	Rotational torque 60 Nm. Permanent deformation: 3,2mm	P

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Clause	Requirement – Test	Result - Remark	Verdict
5.4	Axial strength of lock furniture or latch furniture and fixing There shall be no fail of any component and lever handles or knobs shall still operate after the test. After test the permanent deformation for lever handles or knobs measured at the reference point 75 mm ± 2mm from the axis of rotation shall not increase by more than 2 mm.	Axial load: 1000 N. Permanent deformation: 1,7mm	P
5.5	Free play and safety		—
5.5.1	Requirement of free play The maximum total movement shall not exceed 6 mm.	Maximum movement: 1,0 mm	P
5.5.2	Safety requirement When the lock or latch furniture is fitted to the test block there shall be no sharp edges that can cause injury.	No sharp edges that can cause injury	P
5.6	Free angular movement or misalignment The free angular movement or misalignment shall not exceed 5 mm.	Maximum movement: 1,0 mm	P
5.7	Torque of return mechanism		—
5.7.1	General	See item 5.7.2 and 5.7.4	—
5.7.2	Unsprung and spring-assisted lever handles The torque required to return the unsprung or spring-assisted lever handle back to its intended "at-rest" position shall not greater than 1,5 Nm. For spring-assisted lever handles only, the torque require to rotate the lever handle to a minimum angle of 40° from its intended "at-rest" position shall not exceed 2,4 Nm.	The lever could return to "at-rest" position by internal spring. Operating angle: 46° Torque to return the lever: 0 Nm Torque to rotate the lever: 2,4 Nm	P
5.7.3	Unsprung knobs	Spring-assisted lever handles	N/A

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Clause	Requirement – Test	Result - Remark	Verdict
5.7.4	Spring-loaded lever handles or knobs The torque required to rotate the lever handles or knobs through a maximum of 60° or through the angle of rotation permitted by the design shall not be more than 2,4 Nm. After removal of the torque, the lever handle or knob shall return to its recorded "at-rest" position within ± 1°	Spring-assisted lever handles	N/A
5.8	Durability of mechanism There shall be no failure of any component and the lever handle or knob shall still operate after test.	200 000 cycles Limit deviations "at-rest" after test: less than 1°	P
5.9	Repeat test of axial strength of lock or latch furniture and methods of fixing The lock or latch furniture shall meet the requirement of 5.4.	Axial load: 1000 N. Permanent deformation: 2,0mm	P
5.10	Repeat test of free play measurement The lock or latch furniture shall meet the requirement of 5.5.	Maximum movement: 1,4 mm	P
5.11	Repeat test of measurement of free angular movement or misalignment The lock or latch furniture shall meet the requirement of 5.6.	Maximum movement: 1,3 mm	P
5.12	Repeat test or torque of return mechanism The lock or latch furniture shall meet the requirement of 5.7.	Torque to return the lever: 0 Nm Torque to rotate the lever: 2.3 Nm	P
5.13	Axial strength for safety furniture (optional)	Not required for normal use lock	N/A
5.14	Corrosion resistance Corrosion resistance shall comply with requirements of EN 1670:1998.	High corrosion resistance No corrosion was found on the significant surface after 96 hours of 5% neutral salt spray exposure	P
8	MARKING		—

EN 1906			
Clause	Requirement – Test	Result - Remark	Verdict
	The product and/or its literature, packaging etc., where indicated, shall be marked with the following —The manufacturer's name or trademark, or other means of positive identification —Product model identification —Classification —The number of this European Standard —The year and week of manufacture	Complied with this requirements See 'Marking on the package'	P
Annex A	Requirements for security lock furniture for use on burglary resistant doors	Furniture not approved for use on burglary resistant doors	N/A
Annex C	Requirements for lock and latch furniture for use on fire/smoke door assemblies	Not evaluated in this report	—

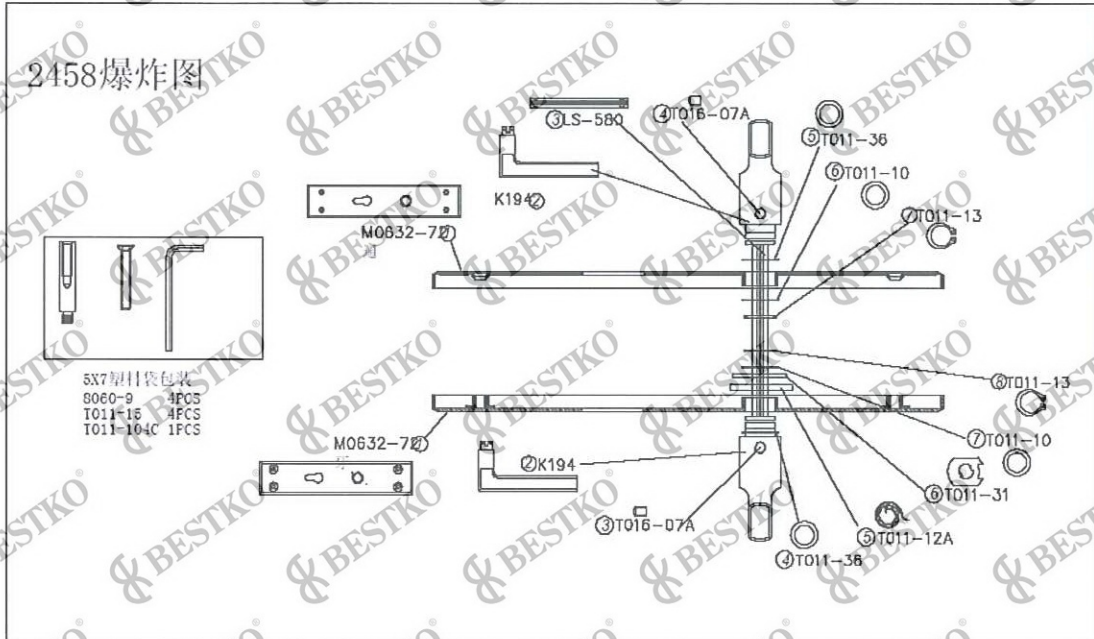
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Appendix A

Product Photos



Product Drawing



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