KENENG INDUSTRY CO., LTD

TEST REPORT

SCOPE OF WORKs

<Performance Test – 180° Concealed Hinge Tilt&Turn Series – KN219FX KN219FM>

REPORT NUMBER

230221059GZU-001

ISSUE DATE **[REVISED DATE]**

2023-04-06 /

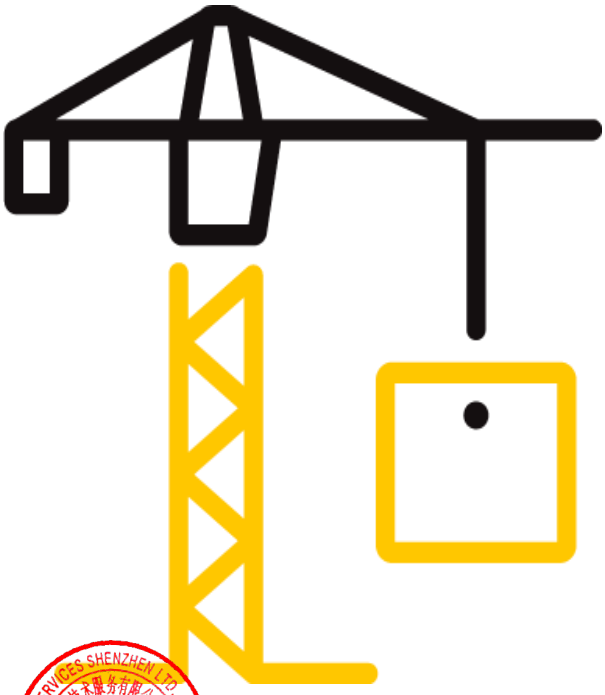
PAGES

11

DOCUMENT CONTROL NUMBER

TTRF_EN 13126-8_b

Effective date: 2023-04-03



Intertek Testing Services Shenzhen Ltd. Guangzhou Branch

Test Report

Report Number: 230221059GZU-001

Report Date: 2023-04-06

Statement

1.This report is invalid without authorized person's signature.

2.This report is invalid where any unauthorized modification indicated.

3.Don’t copy this report in partial (except full copy) without any official approval in written by our company.

4.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(s) tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

5.All the tests results give the statement of conformity refer to the decision rule of “Procedure 2 Accuracy Method” as stated in the IEC Guide 115:2007.

Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Room 4103 & 4203, No. 63, Punan Road, Huangpu District, Guangzhou, China.
Tel: +8620-82139688, Fax: 020-32157538
Website: www.intertek.com

Test Report

Report Number: 230221059GZU-001
Report Date: 2023-04-06

Applicant:	**KENENG INDUSTRY CO., LTD**
Applicant Address:	**Xincheng Industrial Region Leliu Town, Foshan City, Guangdong, China**
Attn:	**KN@GSG.COM.CN**

Sample information	
Product:	180° Concealed Hinge Tilt&Turn Series
Trade Mark:	KNG
Model and/or type reference:	KN219FX KN219FM
Manufacturer:	KENENG INDUSTRY CO., LTD
Manufacturer Address:	Xincheng Industrial Region Leliu Town, Foshan City, Guangdong, China
Sample ID:	S230221059GZU.001 ~ 003
Date of receipt of test item:	2023-02-20
Situation of receipt samples:	Received in good condition
Date (s) of performance of tests:	2023-02-21 ~ 2023-04-06

Testing information	
Standard:	EN 13126-8:2017
Rating(s):	H3 / 100 / 4 / 1300 x 1200
Testing Laboratory name:	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Address:	Room 4103 & 4203, No. 63, Punan Road, Huangpu District, Guangzhou, China.
Possible Test Case Verdicts	
Test Case does not apply to the Test object:	N/A
Test object does meet the requirement:	P (Pass)
Test item does not meet the requirement :	F (Fail)

Conclusion:
Complied with all applicable clauses of EN 13126-8:2017 for the ratings. See following pages for full test data.

Approved by:	**Prepared by:**
Nelson Zhu	Ziqing Chen
Name: Nelson Zhu	Name: Ziqing Chen
Title: Reviewer	Title: Project Engineer

Test Report

Report Number: 230221059GZU-001

Report Date: 2023-04-06

General product information:

The samples define as 180° Concealed Hinge Tilt&Turn Series, model KN219FX KN219FM.

Detail "Ratings" information listed as following:

First box(Durability):	Grade H3	—	20 000 cycles
Second box(Mass):	Grade 100	—	100 kg
Third box(Corrosion resistance):	Grade 4	—	very high corrosion resistance
Fourth box(Test sizes):	Grade 1300 x 1200	—	SRW= 1300 mm SRH= 1200 mm

Test Report

Report Number: 230221059GZU-001
Report Date: 2023-04-06

EN 13126-8 Building hardware - Hardware for windows and door height windows Part 8: Requirements and test methods for Tilt and Turn, Tilt-First and Turn-Only hardware			
Clause	Requirement - Test	Result - Remark	Verdict
4	**Classification**		
4.1	General		
4.2	Durability (1 – first box):	Grade H3	—
4.3	Mass (2 – second box):	Grade 100	—
4.4	Corrosion resistance (3 – third box):	Grade 4	—
4.5	Test sizes (4 – fourth box):	Grade 1300 x 1200	—
5	**Requirements**		
5.1	Dangerous substances Materials in products should not release any dangerous substances in excess of the maximum levels specified in the European material standards and any national regulations.	Informative	—
5.2	Mechanical stability		
5.2.1	Stability of the scissor stay The scissors stay shall ensure that a sash, when operated incorrectly (mishandled), is securely held. In case of mishandling, the hinges (scissor stay with stay bearing and corner pivot rest with sash hinge) shall still demonstrate a connection between the sash and the frame and afterwards function in its intended manner. If the scissors stay does not fulfil this requirement, a mishandling device shall be installed. In this case the test takes place in accordance with Clause 7 with an installed mishandling device.	Complied	P
5.2.2	Mechanical strength of hinges Hinges which have a scissor stay with a stay bearing and corner pivot rest with sash hinge shall guide the sash securely during every operating position.	Complied	P
5.3	Durability Three grades shall be established: — grade H1: 5 000 cycles (+1 %); — grade H2: 10 000 cycles (+1 %); — grade H3: 20 000 cycles (+1 %).	Grade H3 20 000 cycles	P

Test Report

Report Number: 230221059GZU-001
Report Date: 2023-04-06

EN 13126-8 Building hardware - Hardware for windows and door height windows Part 8: Requirements and test methods for Tilt and Turn, Tilt-First and Turn-Only hardware			
Clause	Requirement - Test	Result - Remark	Verdict
5.4	Admissible tolerances		
5.4.1	Sash operation tolerance The horizontal force in the vicinity of the sash support-component shall not exceed 100 N in order to close the sash from the turn-position (see 7.6.5).	Closing force: 12,4 N	P
5.4.2	Handle operation tolerance In conjunction with a counteracting force of 20(0~+1) N per locking point (see 7.6.5): — the maximum torque applied to the handle shall not exceed 10 Nm; — the maximum force applied to the end of the handle shall not exceed 100 N.	Mmaximum torque applied to the handle: 1,9 Nm Maximum force applied to the end: 12,1 N	P
5.4.3	Locking point variable tolerance Before and after the durability test, the distance “X” between the frame surface and the sash-overlap begin shall be measured in conjunction with a counteracting force of 20(0~+1)N per locking point (see 7.6.5). The results shall not differ by more than 1 mm (see Figure 3).	Variable tolerance: 0,84 mm	P
5.5	Resistance to additional loading During and after the additional loading test (see 7.6.6), the sash shall remain on its hinges.	Additional vertical force: 1 000 N The sash remain on its hinges.	P
5.6	Minimum closing device resistance The closing device shall withstand a minimum of 25 Nm (see 7.7). Upon completion of this exerted torque, the closing device shall operate.	Complied	P

Test Report

Report Number: 230221059GZU-001
Report Date: 2023-04-06

EN 13126-8 Building hardware - Hardware for windows and door height windows Part 8: Requirements and test methods for Tilt and Turn, Tilt-First and Turn-Only hardware			
Clause	Requirement - Test	Result - Remark	Verdict
5.7	Corrosion resistance Hardware shall conform to the grades listed in EN 1670, except grades 0, 1 and 2. Unless already stated with a test report by the manufacturer, relevant components which are representative for the hardware shall be tested in accordance with EN 1670 (see 7.8). As specified in EN 1670 the hardware components shall not be mounted on a window profile for the corrosion test. Exempt from the corrosion resistance evaluation are: — rivet locations; — locations of later processing (for example: cleaved surfaces that result from cropping the hardware components, millings, etc.); — non surface-treated parts/surfaces, provided they are not in the visible vicinity of the hardware in the build-in sate (for example: screw guide-holes made of zinc die-cast, etc.); — welding joints and their immediate surroundings; — areas of corrosion as a result of contact corrosion.	Grade 4 Salt spray time: 240 hours No corrosion on the significant surface.	P
5.8	Resistance to other additional tests After the additional reveal- and rebate-hindrance test (see 7.6.7 until 7.6.9) the sash shall not drop. The hinges (scissor stay with stay bearing and corner pivot rest with sash hinge) shall still demonstrate a connection between the sash and the frame.	Without turn-restrictor The sash was not drop after test.	P

Test Report

Report Number: 230221059GZU-001
Report Date: 2023-04-06

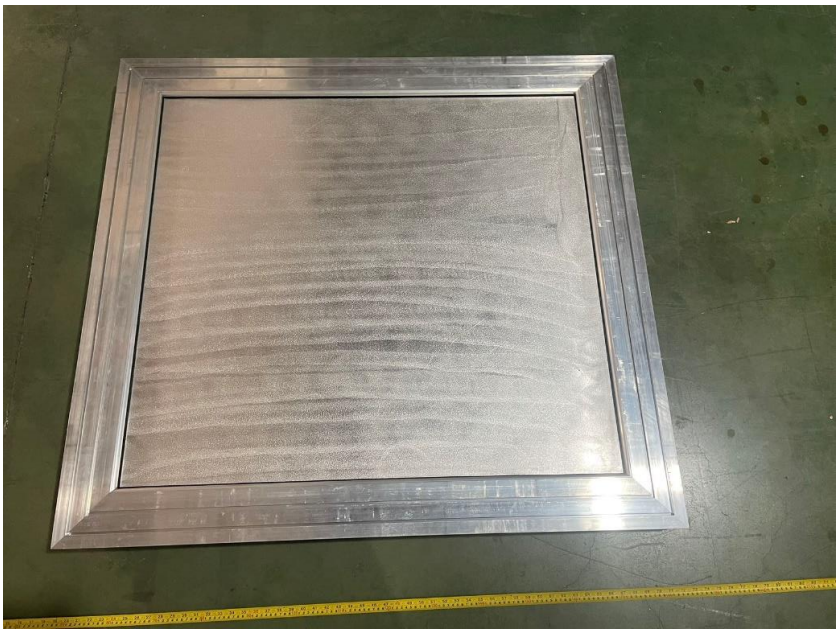
Appendix B: Product Photos

Before 240 Hours Salt Spray Test

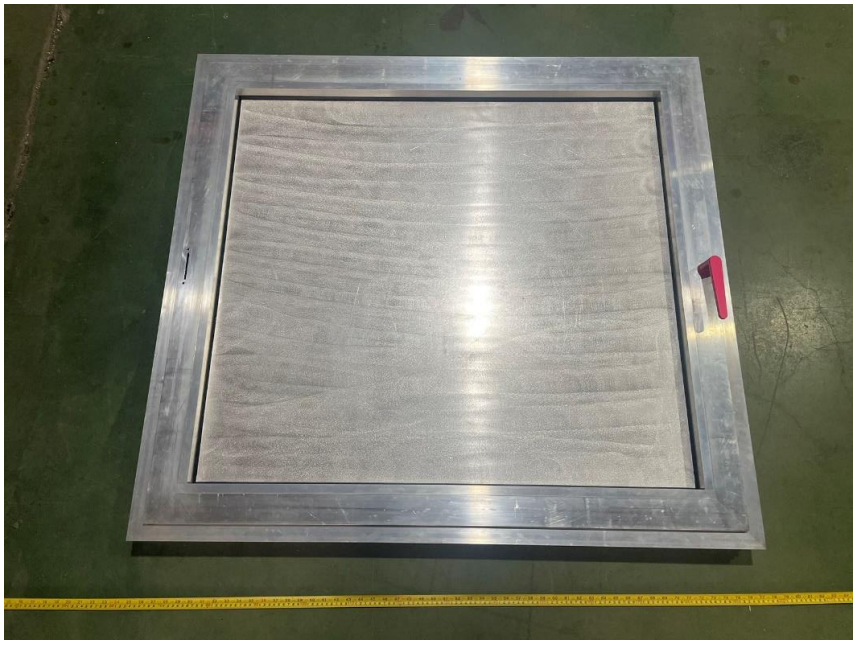
After 240 Hours Salt Spray Test

Test Report

Report Number: 230221059GZU-001
Report Date: 2023-04-06



Test Window (Outside View)

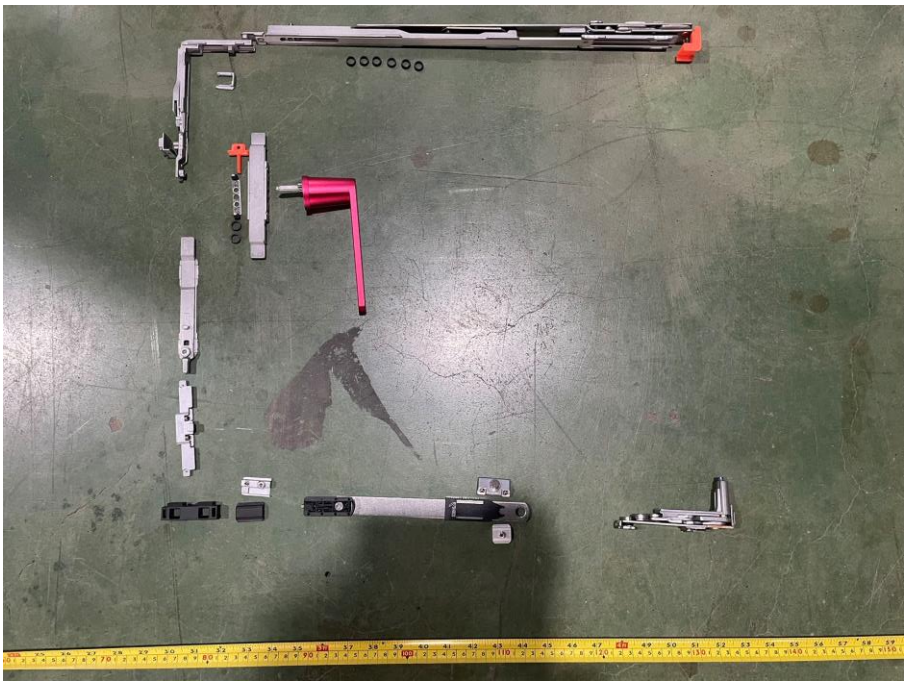


Test Window (Inside View)

Test Report

Report Number: 230221059GZU-001
Report Date: 2023-04-06

Test Window (Installation Complete)



KN219FX KN219FM

Test Report

Report Number: 230221059GZU-001

Report Date: 2023-04-06

Revision:

Revision No.	Date	Changes	Author	Reviewer
R0	2023-04-06	First issue	Ziqing Chen	Nelson Zhu

****

The End of Report