INSPEC TESTING SERVICES

INSPEC Technical Services (Kunshan) Co Ltd • 8 Jin Yang East Road • Lu Jia Zhen • Kunshan • Jiangsu • China
Email: testing@inspec.asia
Website: www.inspec-international.com
Tel: +86 512 5011 2646
ANAB Certificate number AT-1725

Test Report

ANSI Z359.12-2019 Connecting Components for Personal Fall Arrest Systems

Report no: 2.25.01.10

Customer: Zhejiang Jinrui Hardware Rigging Co., Ltd.
Lane 2, No. 30, Chuangqiang Road
Tengqiao Town, Lucheng District
Wenzhou City, Zhejiang
China

Manufacturer:
as advised by the Customer Zhejiang Jinrui Hardware Rigging Co., Ltd.

Customer order: T/1458A

Order received: 9 January 2025

Model: SGM7136TN

Dates of tests: 11 January 2025 to 22 January 2025

Signed:

Steven Sum, Laboratory Manager

Issued: 22 January 2025

Conditions

This report may be reproduced and distributed to your customers, provided that it is reproduced and distributed in full.

Specimens will be disposed of four weeks from the date of this report, unless otherwise instructed.

Opinions, comments and interpretations expressed in this report are shown in italics.

Copies of INSPEC interpretations referenced in this report are available upon request.

Tests marked ☒ are not included in our ANAB Scope of Accreditation.

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Summary of assessment *

Clause	Requirement	Assessment (See Key)
3.1.1	Surface finish of hardware	**Pass**
3.1.2	New and Unused	**Pass**
3.1.3	Snaphooks & Carabiners	**Pass**
3.1.4	D-rings, O-rings & Oval rings	
3.1.5	Buckles and adjusters	
3.1.6	Proof load testing	
3.1.7	Dynamic drop test	**Pass**
5.1 / 5.2	Marking	**Pass**
5.3	Instructions	

Key

	Shading shows the clauses requested. Any other clauses were not requested.
Pass	Requirement satisfied.
Ltd	Testing requested was insufficient completely to verify compliance with the clause. Refer to the "Result details" section for more information.
Fail	Requirement not satisfied. Refer to the "Result details" section for more information.
NAs	Assessment not carried out.
NAp	Requirement not applicable.
NT	Requested but not tested due to early termination following failure.

* Assessment relates only to those specimens which were tested and are the subject of this report.

Submission details

Product	Quantity	Date received	INSPEC specimen no. (2N006+)
Snaphook, model SGM7136TN	16	10 January 2025	01 to 16

Procedures

The specimens detailed within the submission above were used for the tests covered by this report.

Testing was performed in accordance with ANSI Z359.12-2019 unless otherwise specified below. Reference should be made to the standard when reading this report.

Unless stated otherwise, specimens were tested in the condition as received by INSPEC.

Testing was performed at INSPEC's laboratory in Kunshan City, China.

Result details

3 Requirements

3.1 Component and Element Requirements

3.1.1 Surface Finish of Hardware

Specimens 2N00601, 2N00602 and 3N00603 were assessed.

a)	The finishing of the specimens were clean and free of scale, rust and deposits of foreign matter.	**Pass**
b)	Following the salt spray test, there were no evidence of either, red rust visible to the unaided eye, or corrosion of the base metal of the specimens.	**Pass**
c)	All surfaces of the specimens, which may come in contact with tearable materials, were free of burrs, pits, sharp edges and rough surfaces.	**Pass**

3.1.2 Condition of Hardware

All specimens were new and unused when received. **Pass**

3.1.3 Snaphooks and Carabiners

Specimen 2N00604 was assessed.

	The connector incorporated a self-closing gate.	**Pass**
	The gate locked automatically when the gate closed.	**Pass**
	The connector was capable of being opened only by at least two consecutive, deliberate actions.	**Pass**
3.1.3.1	When tested along the major axis, specimens 2N00604, 2N00405 and 2N00606 withstood the 5,000 pound tensile load applied for 1-minute without breaking. All gates did not separate from the nose of the snaphook bodies.	**Pass**
3.1.3.2	When tested in accordance with 4.2.1.1.2, the gates of specimens 2N00607, 2N00608 and 2N00609 withstood the gate-face load of 3,600 pound applied for 1-minute without the gates separating from the nose of the snaphook bodies	**Pass**
3.1.3.3	When tested in accordance with 4.2.1.1.3, the gates of specimens 2N00610, 2N00611 and 2N00612 withstood the gate-side load of 3,600 pound applied for 1-minute to a point midway between the nose and gate hinge. All gates did not separate from the nose of the snaphook bodies.	**Pass**
3.1.3.4	The specimen was a captive-eye snaphook. Therefore, this clause was not applicable.	**NAp**
3.1.3.5	The clause is not applicable to the type of connector tested.	**NAp**
3.1.3.6	The clause is not applicable to the type of connector tested.	**NAp**

3.1.7 Dynamic drop test

Following abrasion and cold conditioning, specimens 2N00613, 2N00614 and 2N00615 withstood the dynamic drop tests and without permanent deformation. **Pass**

5.1 General Marking Requirements

5.1.1 Markings shall be in English.

5.1.2 The requirement that markings shall be expected to remain present and legible throughout the expected life of the component being marked was not assessed. **NAs**

Markings were provided electronically by the manufacturer and use for assessment.

5.1.3 Any restrictions on the use of such connectors (hardware) shall be marked on the connectors (hardware) or components, subsystems and systems of which they are an integral part. [No restrictions listed] **NAp**

5.2 Specific Marking Requirements

5.2.1 Connectors. Connectors (all components listed in 3.1.6, requiring proof loading as per this standard, i.e. Snaphooks, Carabiners, D-rings, O-rings and Oval rings) shall be marked to identify the following:

- Year of manufacture; [25] **Pass**
- Manufacturer's identification; **Pass**
- Markings for connectors shall be sufficient to provide traceability; [01/25] **Pass**
- Load rating for the major axis of the connector stamped or otherwise permanently marked on the device, minimum 5,000 lb. (22kN); [5000 lbs.] **Pass**
- Load rating for gate stamped or otherwise permanently marked on the gate mechanism; [3600 lbs.] **Pass**
- For connectors that are non-integral part (non-captive eye), then "ANSI Z359.12-XX" ("XX" denotes year of standard) is required. **NAp**

Estimates of the uncertainty of measurement

Clause	Test		Uncertainty
3.1.1	Surface finish of hardware		See Note 1
3.1.2	New and Unused		Not applicable
3.1.3	Snaphooks and carabiners	Tensile test	See Note 1
		Gate resistance	See Note 1
		Gap measurement	±1.4%
3.1.4	D-rings, O-rings and Oval rings		See Note 1
3.1.5	Buckles and Adjusters		See Note 1
3.1.6	Proof load testing		See Note 1
3.1.7	Dynamic Drop test		See Note 1
5	Marking and Instructions		Not applicable

Note 1 The acceptance criterion for this test is a straightforward “Pass/Fail”, rather than a numerical value. Consequently, as there is no value to be reported, uncertainty has not been reported either.

Note 2 The uncertainty value is based on a standard uncertainty multiplied by a coverage factor k = 2, which provides for a confidence level of approximately 95%. Values expressed as a percentage (%) are relative.

Note 3 It should be noted that the above values have not been taken into account when making assessment to the pass/fail criteria.

ANNEX

This Annex comprises one section.

1. Photograph of the product tested. (1 page)

END OF REPORT

Zhejiang Jinrui Hardware Rigging Co., Ltd. -
Snaphook, model SGM7136TN