

Test Report

Personal Fall Arrest Equipment ANSI/ASSE Z359.11-2014 Full Body Harness

Report no: 2.16.08.17

Client: Jinhua Jech Tools Co., Ltd
No.10 Jinlong Road,
Bailongqiao Town,
Jinhua City, Zhejiang,
China 215126

Manufacturer: Jinhua Jech Tools Co., Ltd

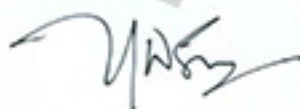
Client order: Signed T/0296a

Date received: 22 June 2016

Model: JE113048SET

Dates of tests: 1 August 2016 to 16 August 2016

Signed:



Steven Sum, Laboratory Manager

Issued: 29 August 2016

Page 1 of 13

Conditions

This report may be reproduced and distributed to your clients, 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.

This report has been provided in accordance with our standard Terms of Business, which can be viewed at, and printed from:

<http://inspec-international.com/ToB.pdf>

If you have difficulty accessing the Terms of Business, you may contact us for a copy.

Summary of assessment *

Clause	Requirement	Assessment (See Key)
3.1	Design requirements	Ltd
3.2	Attachment Element Requirement	
3.2.1	Dorsal	
3.2.1.3.1	Dynamic Feet First	
3.2.1.3.2	Dynamic Head First	
3.2.1.3.3	Static Feet First	
3.2.1.3.4	Fall Arrest Indicator	
3.2.2	Sternal	
3.2.2.3.1	Dynamic Feet First	
3.2.2.3.2	Static Feet First	
3.2.2.3.3	Fall Arrest Indicator	
3.2.3	Frontal	
3.2.3.1.1	Dynamic Feet First	
3.2.3.1.2	Static Feet First	
3.2.4	Shoulder	
3.2.4.1.1	Static Feet First	
3.2.5	Waist, Rear	
3.2.5.2.1	Static Feet First	
3.2.6	Hip	
3.2.6.1.1	Static Feet First	
3.2.7	Suspension Seat	
3.2.7.1.1	Static Feet First	
3.3	Component Requirements	
3.3.1	Load bearing straps	
3.3.1.2	Strap tensile test	
3.3.1.5	Strap tensile test (after abrasion)	
3.3.2	Thread and Stitching	
3.3.3	Connecting components	
3.3.1.2	Strap tensile test (soft loops)	
3.3.1.5	Strap tensile test (soft loops - after abrasion)	
5.1	Marking requirements	Ltd
5.2	Instructions requirements	Ltd

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	Dates received	INSPEC specimen no. (2D092 +)
Full body harness with integral energy absorber, model JE113048SET consisting of: 1) Full body harness, model JE113048 2) Energy absorber, model JE311015Y	02 sets	3 June 2016	01 to 02

Procedures

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

Testing was performed in accordance with ANSI Z359.11-2014 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 laboratory in Kunshan, China.

Clause 5.0 Markings and Instructions were supplied electronically and used for assessment.

Result details**3 Requirements****3.1 Design Requirements**

Specimen 2D09201 was assessed.

- | | | |
|---------|---|------------------------------|
| 3.1.1 | The specimen permanently incorporated a dorsal attachment element.
The specimen did not incorporate other attachment elements. | Pass |
| 3.1.2 | The specimen did incorporate a load bearing sub-pelvic strap. | Pass |
| 3.1.3 | All shoulder straps on the specimen came together at the dorsal location and were crossed by webbing.

A D-ring was attached to the dorsal location.

Testing of the D-ring was not requested. | Pass

NAs |
| 3.1.4 | The specimen permanently incorporated a back strap as means of controlling the separation of the shoulder straps on the back of the full body harness. | Pass |
| 3.1.5 | The specimen was not equipped with modular components or assemblies. | NAP |
| 3.1.5.1 | There were no modular components or assemblies attached, therefore this clause is not applicable. | NAP |
| 3.1.5.2 | The specimen was not equipped with an attachment element extender, therefore this clause is not applicable. | NAP |
| 3.1.6 | The specimen was not integrated into a vest or garment. | NAP |
| 3.1.7 | The specimen was equipped with a fall arrest indicator.

The fall arrest indicator deployed during dynamic testing defined in section 3.2.

It was possible visually to inspect the fall arrester indicator. | Pass

Pass

Pass |
| 3.1.7.1 | The specimen was not equipped with other fall arrest indicators. | NAP |
| 3.1.8 | The specimen was equipped with connecting subsystem combinations (a full body harness and an energy absorber).

The full body harness satisfied the requirements of ANSI Z359.11. See INSPEC Test Report 2.15.11.11

The energy absorber satisfied the requirements of ANSI Z359.13. See INSPEC Test Report 2.16.08.17.

The combination can be separated and tested individually | Pass

Pass

Pass |
| 3.1.9 | The specimen did include strap retainers (keepers) which serve to control the loose ends of straps. | Pass |

3.1.10 Static Feet First Test - Lanyard Parking Attachment Element

The design of the lanyard parking attachment element did not deviate from a previously tested model of a full body harness of this manufacturer.

The previously tested model was JE115021. The disengagement load was 42.7 lbf. See INSPEC Test Report 2.15.11.08. Pass

Specimen 2D09201 was assessed.

- | | | |
|--------|--|------|
| 3.1.11 | It was not possible to remove elements of the full body harness that support the shoulders / upper torso from those that support the legs / lower torso. | Pass |
| 3.1.12 | The dorsal attachment element was located laterally within "zero" inch of the vertical centreline of the full body harness. | Pass |
| 3.1.13 | The specimen did not consist of a sternal attachment element. | NAp |
| 3.1.14 | The specimen included a sub-pelvic strap, therefore this clause is not applicable. | NAp |

5.1 Marking Requirements

5.1.1	-	Warnings shall be in English.	Pass
		The legibility and attachment of required markings shall be designed to endure for the life of the component, subsystem or system been marked. Mfr to certify.	NAs
	a		
5.1.2		<i>Markings were supplied electronically and used for assessment.</i>	
	b	When pressure-sensitive labels are used, they shall comply with the applicable provision of the reference in Section 7.6. Mfr to certify.	NAs
	a	The material of construction; "Polyester"	Pass
	b	The size or range of sizes; "Large"	Pass
	c	Part number and/or model designation; JE113048SET	Pass
	d	The month and year of manufacture; "07/28/16"	Pass
	e	The manufacturer's name or logo; JECH®	Pass
	f	An identifying number, unique to each individual FBH produced by the manufacturer; "20150829"	Pass
	g	A warning to follow Mfr instructions included with the equipment at the time of shipment from the Mfr.	Pass
5.1.3	h	A label permanently attached to the lanyard parking attachment which either states "Park Lanyard Here. See instructions." verbally or conveys this by means of a pictogram.	Pass
		A label as defined in Figure 10a and 10b.	Ltd
		<i>Only the text were assessed and satisfied the requirements</i>	
	a)	The label shall be placed in a prominent location on the FBH	NAs
	b)	If the label is part of a label pack or book, the label shall be placed so that the user will see it first.	NAs
	i		
	c)	The border surrounding the label text shall be no closer than 0.4 inches (10 mm) from any other markings on the FBH	NAs
	d)	The label may be modified to include the mark of the qualification body, and may include a part number located on the label outside of the border as needed by the manufacturer as defined in figure 10a and 10b.	NAs

5.2 Instruction Requirements

Specimen 2D09201 was assessed. The detailed results of the assessment are given below.

The instructions to users have been assessed as detail below, with reference only to the relevant requirements of the Standard.

INSPEC Technical Services has not assessed these instructions with respect to claims made by the manufacturer outside of these requirements, and therefore accepts no responsibility for the legitimacy of any such claims.

5.2.1	Instructions shall be provided to the user in English, and affixed to the equipment at the time of shipment from the manufacturer.	NAS
	<i>Instructions were supplied electronically and used for assessment.</i>	
5.2.2	Instructions shall contain the following information:	
a)	Annex A in its entirety, either incorporated in the Mfr's instructions, as an appendix to the Mfr's instructions, or separately provided with the product along with the Mfr's instructions.	Pass
b)	A statement that the Mfr's instructions shall be provided to the users.	Pass
c)	Manufacturer's name, address and telephone number.	Pass
d)	Manufacturer's part number and/or model designation for the equipment.	Pass
e)	Intended use and purpose of the equipment.	Pass
f)	Length of FBH Stretch H_s , and warning to include other factors such as D-ring/connector length, setting of the user's body and all other contributing elements when calculating fall clearance.	Pass
g)	Proper method of use and limitations of the equipment.	Pass
h)	Illustrations showing locations and markings on the equipment.	Pass
i)	Reproduction of printed information on all markings.	Pass
j)	Inspection procedures (including frequency) required to assure the equipment is in serviceable condition and operating correctly.	Pass
k)	Criteria for discarding equipment that fails inspection.	Pass
l)	Procedures for cleaning, maintenance and storage.	Pass
m)	Reference to ANSI/ASSE Z359.11 (Full Body Harnesses) and applicable regulations governing occupational safety.	Pass
n)	Acceptable use for all attachment elements (see Annex A)	Pass

- | | | |
|-------|--|------|
| 5.2.3 | Instructions shall require that only the equipment Mfr, or persons or entities authorized in writing by the Mfr, make repairs to the equipment. | NAP |
| 5.2.4 | Instructions shall require the user to remove equipment from service if it has been subjected to the forces of arresting a fall and will include information on inspection of load indicators. | Pass |
| 5.2.5 | Instructions shall require the user to have a rescue plan and means at hand to implement it when using the FBH for fall arrest. | Pass |
| 5.2.6 | Instructions shall provide warnings against: | |
| a) | Altering equipment | Pass |
| b) | Misusing equipment | Pass |
| c) | Using combinations of components or sub-systems, or both, which may affect or interfere with the safe function of each other. | Pass |
| d) | Exposing the equipment to chemicals, heat, flames or other environmental conditions, which may produce a harmful effect and to consult the manufacturer in case of doubt. | Pass |
| e) | Using the equipment around moving machinery and electrical hazards. | Pass |
| f) | Using the equipment near sharp edges or abrasive surfaces. | Pass |
| g) | Exposure to light (UV degradation) | Pass |

Estimates of the uncertainty of measurement

Clause	Test	Uncertainty	
3.1.1	Dorsal attachment	See Note 1	
3.1.2	Sub-pelvic strap	See Note 1	
3.1.3	Shoulder straps	See Note 1	
	Connector	See report	
3.1.4	Waist belt or back strap – control of separation of shoulder straps	See Note 1	
3.1.5	Modular components or assemblies, as appropriate	See Note 1	
3.1.5.1	Modular components.	See report	
3.1.5.2	Attachment element extender	Length	±0.14%
3.1.6	Full body harness integrated into a vest	See Note 1	
3.1.7	Fall Arrest Indicator	See Note 1	
3.1.8	Harness with attached connecting subsystem combinations	See report	
3.1.9	Strap retainers (keepers)	See Note 1	
3.1.10	Lanyard parking attachment element - Disengagement load	±2.90%	
3.1.11	Support – shoulders/upper torso	See Note 1	
3.1.12	Location of single point attachment	See Note 1	
3.1.13	Sternal attachment – bilateral elements	See Note 1	
3.1.14	Sub-pelvic straps	See Note 1	
3.2.1	Dorsal attachment element	See Note 1	
3.2.1.3.1	Dorsal attachment element	Dynamic Feet First	±2.92%
3.2.1.3.2		Dynamic Head First	±2.92%
3.2.1.3.3	Dorsal attachment element	Static strength	See Note 1
		Slippage	±1.31%
3.2.1.3.4	Fall Arrest Indicator test – dorsal attachment	See Note 1	
3.2.2	Sternal attachment element	See Note 1	
3.2.2.3.1	Sternal attachment element	Dynamic Feet First	±2.92%
3.2.2.3.2	Sternal attachment element	Static strength	See Note 1
		Slippage	±1.31%
3.2.2.3.3	Fall Arrest Indicator test – sternal attachment	See Note 1	
3.2.3	Frontal attachment element	See Note 1	
3.2.3.1.1	Frontal attachment element	Dynamic Feet First	±2.92%
3.2.3.1.2	Frontal attachment element	Static strength	See Note 1
		Slippage	±1.31%
3.2.4	Shoulder attachment element	See Note 1	
3.2.4.1.1	Shoulder attachment element	Static strength	See Note 1

Clause	Test	Uncertainty
	Slippage	±1.31%
3.2.5	Waist, Rear attachment element	See Note 1
3.2.5.2.1	Waist, Rear attachment element	Static strength
		Slippage
3.2.6	Hip attachment element	See Note 1
3.2.6.1.1	Hip attachment element	Static strength
		Slippage
3.2.7	Suspension Seat attachment element	See Note 1
3.2.7.1.1	Suspension Seat attachment element	Static strength
		Slippage
3.3.1.1	Straps	Width
3.3.1.2	Straps	Static strength
3.3.1.3	Straps – material and characteristics	Not applicable
3.3.1.4	Straps - terminations	See Note 1
3.3.1.5	Straps (after abrasion)	Static strength
3.3.1.6	Straps – contact with metal connectors	See Note 1
3.3.1.7	Buckle & eyelet type adjusters	Spacing
3.3.2.1	Threads and stitching – material	See Note 1
3.3.2.2	Lock stitching	Not applicable
3.3.2.3	Stitching – contrasting colour	See Note 1
3.3.3.1	Connecting components (except soft loops)	See report
3.3.3.2	Soft loop attachments	See Note 1
3.3.3.3	Soft loop	Static strength
	Soft loop (after abrasion)	Static strength
3.3.3.4	Soft loop attachments – protection from wear	See Note 1
5.1	Marking requirements	See Note 1
5.2	Instructions requirements	See Note 1

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)

**Jinhua Jech Tools Co., Ltd -
Full body harness with integral energy absorber,
model JE113048SET**

