

## Test Report

### PPE against fall from a height EN 361 : 2002 Full body harnesses

**Report no:** 2.16.11.17

**Client:** INSPEC Certification Services  
56 Leslie Hough Way,  
Salford,  
Greater Manchester,  
M6 6AJ,  
United Kingdom

**On behalf of:** Jinhua Jech Tools Co., Ltd.

**Client orders and dates received:** TA16/0098 (10 October 2016)  
TA16/0098a (24 October 2016)  
TA16/0098b (01 November 2016)

**Model:** JE148141

**Dates of tests:** 18 October 2016 to 16 November 2016

**Signed:**



Steven Sum, Laboratory Manager

**Issued:** 28 November 2016

Page 1 of 9

**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)
4.1	Design & ergonomics	Ltd
4.2	Materials and construction	Ltd
4.3	Static strength	Pass
4.4	Dynamic performance	Pass
4.5	Additional elements	Ltd
4.6	Marking and information	
6	Marking	
7	Information	
8	Packaging	

**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. (20172+)
Full body harness with waist belt and sit harness, model JE148141	14	29 September 2016	01 to 14

**Procedures**

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

Testing was performed in accordance with EN 361:2002 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, China.



**Result details****4.1 Design and ergonomics**

Specimen 2D17204 was assessed against the general requirements specified in clause 4.1 of EN 363:2002. The detailed results of the assessment are given on page 7 of this report.

**4.2 Materials and construction**

Specimen 2D17201 was assessed.

The materials used for webbing and threads and their characteristics were not assessed. Manufacturer to certify. NAs

Threads used for sewing the harness were red and black colours. These contrasted with the blue and red colours of the webbing respectively. Pass

The harness incorporated pelvic straps. Pass

The harness incorporated shoulder straps. Pass

The harness incorporated means to adjust the straps to fit the wearer. Pass

The straps did not migrate or self-loosen. Pass

The minimum width of primary straps was 44 mm. This is more than the permitted minimum of 40 mm. Pass

The minimum width of secondary straps was 44 mm. This is more than the permitted minimum of 20 mm. Pass

During the static strength test performed on specimen 2D17202, it was confirmed that the straps which supported, and exerted pressure on, the torso dummy were primary straps. Pass

The specimen incorporated two fall arrest attachment elements. One was located at the back and one was located at the front of the chest.

The location of fall arrest attachment elements were at a level above the centre of gravity of the torso dummy. Pass

The harness was not incorporated within a garment.

It was possible visually to inspect the whole body harness. Pass

The securing buckles of the specimen could not be assembled in more than one manner. Pass

Metallic elements incorporated into specimen 2D17214 satisfied the corrosion protection requirements specified in 5.13 of EN 364:1992. Pass

**4.3 Static strength (back attachment element)**

When specimen 2D17202 was tested at the back attachment element, the harness withstood the 15 kN force applied upwards for 3 minutes without releasing the torso dummy. Pass

When specimen 2D17202 was tested at the back attachment element, the harness withstood the 10 kN force applied downwards for 3 minutes without releasing the torso dummy. Pass

**4.3 Static strength (front attachment element)**

When specimen 2D17203 was tested at the front attachment element, the harness withstood the 15 kN force applied upwards for 3 minutes without releasing the torso dummy. Pass

When specimen 2D17203 was tested at the front attachment element, the harness withstood the 10 kN force applied downwards for 3 minutes without releasing the torso dummy. Pass

**4.4 Dynamic performance (back attachment element)**

When specimen 2D17204 was tested at the back attachment element, the harness withstood the feet-first drop test without releasing the mass and without rupturing. The torso dummy was arrested in the head-up position and the angle of its back to the vertical was 13 degrees, which is less than the maximum 50 degrees permitted. Pass

When specimen 2D17204 was tested at the back attachment element, the harness withstood the head-first drop test without releasing the torso dummy and without rupturing. The torso dummy was arrested in the head-up position and the angle of its back to the vertical was 17 degrees, which is less than the maximum 50 degrees permitted. Pass

**4.4 Dynamic performance (front attachment element)**

When specimen 2D17205 was tested at the front attachment element, the harness withstood the feet-first drop test without releasing the mass and without rupturing. The torso dummy was arrested in the head-up position and the angle of its back to the vertical was 43 degrees, which is less than the maximum 50 degrees permitted. Pass

When specimen 2D17205 was tested at the front attachment element, the harness withstood the head-first drop test without releasing the torso dummy and without rupturing. The torso dummy was arrested in the head-up position and the angle of its back to the vertical was 47 degrees, which is less than the maximum 50 degrees permitted. Pass



#### 4.5 Additional elements

The specimen was equipped with elements for the use of the harness in a system for work positioning, restraint, rope access and rescue.

The work positioning / restraint system elements satisfied the requirements specified in EN 358. See INSPEC Test Report 2.16.11.18. Ltd

The work positioning / restraint / rope access system elements satisfied the requirements specified in EN 813. See INSPEC Test Report 2.16.11.19. Ltd

The rescue system elements satisfied the requirements specified in EN 1497. See INSPEC Test Report 2.16.11.20. Ltd

#### EN 363:2002, Clause 4.1, Design and ergonomics

A fall arrest system shall be so designed and manufactured:

- that, in the foreseeable conditions of use for which it is intended, the user can perform the risk-related activity normally while enjoying appropriate protection of the highest possible level; NAs
- as to preclude risks and other nuisance factors under foreseeable conditions of use; NAs
- as to facilitate correct positioning on the user and to remain in place for the foreseeable period of use, bearing in mind ambient factors, movements to be made and postures to be adopted. For this purpose, it shall be possible to optimize the adoption of a full body harness to user morphology by all appropriate means, such as adequate adjustment elements or the provision of an adequate size range; Pass
- that it is as light as possible without prejudicing design strength and efficiency; NAs
- as to become not incorrectly adjusted without the user's knowledge under the foreseeable conditions of use; Pass
- that, under the foreseeable conditions of use, the vertical drop of the user is minimized to prevent collision with obstacles and the braking force does not, however, attain the threshold value at which physical injury or the tearing or rupture of any component or element which might cause the user to fall can be expected to occur; NAs
- that, after arresting, the user is maintained in a correct position in which he may await help if necessary. Pass

Only the characteristics given in indents 3, 5 and 7 lend themselves to objective assessment. Compliance or otherwise with the relevant European standard, against which the specimen has been tested, support the assessments made against those characteristics.

The characteristics given in the other indents, whilst being desirable attributes, cannot be objectively assessed by a testing laboratory, because they involve parameters about which the technician may have only an opinion, not factual knowledge.

**Estimates of the uncertainty of measurement**

Clause	Test	Uncertainty
4.1	Design & ergonomics	-
4.2	Materials and construction	-
4.3	Static strength	±3.5%
4.4	Dynamic performance	±0.9%
4.5	Additional elements	-
4.6	Marking and information	-
6	Marking	-
7	Information	-
8	Packaging	-

\* 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.

Values expressed as a percentage (%) are relative.

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 waist belt and sit harness,  
model JE148141**



**INSPEC Testing Services' specimen 2D17201**

**18 October 2016**

**Jinhua Jech Tools Co., Ltd. -  
Full body harness with waist belt and sit harness,  
model JE148141**



**INSPEC Testing Services' specimen 2D17201**

**18 October 2016**