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Test Report

Personal fall protection equipment
EN 1497 : 2007 Rescue harnesses

Report no: 2.20.11.37

Client: Jinhua Jech Tools Co., Ltd.
No.1448 Tongxi Road, Linjiang Industrial Park
Wucheng District
Jinhua City
Zhejiang 321025
China

Manufacturer: Jinhua Jech Tools Co., Ltd

Client order: T/0733

Order received: 3 March 2020

Model: JE145002N

Dates of test: 1 June 2020 to 25 November 2020

Signed:

Steven Sum, Laboratory Manager

Issued: 26 November 2020

Conditions

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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.

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Summary of assessment*

Clause	Requirement	Assessment (See Key)
4.1	Ergonomics	Pass
4.2	Materials and construction	Ltd
4.3	Dynamic strength	Pass
4.4	Static strength	Pass
4.5	Corrosion resistance of metal parts (if fitted)	Pass
4.6	Marking and information	See 6 & 7
6	Marking	Pass
7	Instructions	Pass

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. (2H078+)
Full body harness, model JE145002N	09	13 April 2020	01 to 09

Procedures

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

Testing was performed in accordance with EN 1497:2007 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 Ergonomics

4.1.1	When specimen 2H07804 was worn, the test subjects reported an acceptable degree of comfort.	Pass
	When specimen 2H07804 was worn, the test subjects reported no impairment due to displacement of the straps.	Pass
4.1.2	The minimum width of primary straps was 45 mm. This is more than the permitted minimum of 40 mm.	Pass

4.2 Materials and construction

Specimen 2H07804 was assessed.

4.2.1	The elements of the harness had no sharp edges or burrs that may cause injury to the user.	Pass
	The materials that may come into contact with the skin of the user and their characteristics were not assessed. Manufacturer to certify.	NAs
4.2.2	The materials used for webbing, yarns and threads and their characteristics were not assessed. Manufacturer to certify.	NAs
	Thread used for sewing the harness was white colour. This contrasted with the black and yellow webbing respectively.	Pass
4.2.3.1	The harness incorporated means to adjust the straps to fit the wearer and did fit the test subjects.	Pass
	The harness was not incorporated within a garment.	
	It was possible visually to inspect each element and component of the harness.	Pass
4.2.3.2	The specimen included two attachment points, one was located in the front (sternal area) and the other was located on both shoulders.	Pass
	The attachment points were located above the centre of gravity of the torso dummy.	Pass
	A calibrated rod of a diameter 25 mm could pass through the eye of the attachment point.	Pass
4.2.3.3	There were no connectors incorporated into the harness.	NAp

4.3 Dynamic strength – Frontal attachment point

Specimen 2H07805 was assessed.

The mass of the torso dummy used for the following tests was 100 kg.

When tested at the front attachment element, the harness withstood the first-drop test without releasing the torso dummy. No primary straps or attachment element broke or ruptured and no element became detached. Pass

When tested at the front attachment element, the harness withstood a second-drop test without releasing the torso dummy. No primary strap or attachment element broke or ruptured and no element became detached. Pass

4.3 Dynamic strength – Shoulder attachment point

Specimen 2H07806 was assessed.

The mass of the torso dummy used for the following tests was 100 kg.

When tested at the shoulder attachment element, the harness withstood the first-drop test without releasing the torso dummy. No primary straps or attachment element broke or ruptured and no element became detached. Pass

When tested at the shoulder attachment element, the harness withstood a second-drop test without releasing the torso dummy. No primary strap or attachment element broke or ruptured and no element became detached. Pass

4.4 Static strength – Frontal attachment point

Specimen 2H07807 was assessed.

When tested at the front attachment element, the harness withstood the 15 kN force applied for 3 minutes without releasing the torso dummy. No primary straps or attachment element broke or ruptured and no element became detached. Pass

4.4 Static strength – Shoulder attachment point

Specimen 2H07808 was assessed.

When tested at the shoulder attachment element, the harness withstood the 15 kN force applied for 3 minutes without releasing the torso dummy. No primary straps or attachment element broke or ruptured and no element became detached. Pass

4.5 Corrosion resistance

Specimen 2H07809 was assessed.

Metal parts incorporated into the harness satisfied the corrosion protection requirement. Pass

4.6 Marking and information

Markings of the harness satisfied clause 6. Pass

Information supplied with the harness satisfied clause 7. Pass

6 Marking

Marking labels were provided electronically and used for assessment against the requirements specified in clause 4.8 of EN 365:2004. The detailed results of the assessment are given on page 8.

The same labels were also assessed against the specific requirements of EN 1497 and the results are detailed below:

The harness was marked with the maximum rated load, "100 kg". Pass

The markings were in the English.

7 Information supplied by the manufacturer

User Instructions were provided electronically and used for assessment against the requirements specified in clauses 4.1 and 4.7 of EN 365:2004 and the results are given from page 9 to 12.

The same user instructions were assessed against the specific requirements of EN 1497 and the results are detailed below.

The language assessed was English.

a) User to read & understand information before use was stated. Pass

b) Maximum rated load was stated (100 kg). Pass

c) Warning re suspension trauma was stated. Pass

d) The required advice was stated. Pass

e) EN 1497:2007 was stated. Pass

f) Warning re: harness is not for fall arrest was stated. Pass

EN 365:2004, Clause 4.8, Marking

4.8.1 Each item of PPE or other equipment shall be clearly, indelibly and permanently marked by the manufacturer in the official language of the country of destination, by any suitable method not having a harmful effect on the materials so marked, and shall include at least:

The language assessed was English.

a) means of identification, e.g. manufacturer's name, supplier's name, or trademark; Pass

Note 1. When PPE is marked with the supplier's name this should be with the approval of the Notified Body.

b) manufacturer's production batch or serial number or other means of traceability; Pass

c) model and type/identification; Pass

d) number and year of the document to which the equipment conforms; Pass

e) pictogram or other method to indicate the necessity for users to read the instructions for use; Pass

Note 2: Any additional relevant marking specific to the item of equipment should also be included.

4.8.2 The characters in the markings shall be legible and unambiguous. Pass

EN 365:2004, Clause 4.1 to 4.7, Instructions

4.1 General

The manufacturer shall prepare instructions for use, for maintenance and for periodic examination for each item of PPE or other equipment, in the official languages of the country of destination.

The language assessed was English.

Note. The instruction for use, for maintenance and for periodic examination may be supplied in separate documents.

4.2 Instructions for use

4.2.1 The instructions for use shall be in a written format, shall be clear, legible and unambiguous, and shall contain appropriate detail, supplemented by diagrams if necessary, to enable the PPE or other equipment to be used correctly and safely. Pass

4.2.2 The instructions for use shall include:

a) name and contact details of the manufacturer or authorised representative as appropriate; Pass

b) statements describing the equipment, its intended purpose, application and limitations; Pass

c) warning about medical conditions that could affect the safety of the equipment user in normal and emergency use; Pass

d) warning that the equipment shall only be used by a person trained and competent in its safe use; Pass

e) warning that a rescue plan shall be in place to deal with any emergencies that could arise during the work; Pass

f) warning against making any alterations or additions to the equipment without the manufacturer's prior written consent, and that any repair shall only be carried out in accordance with manufacturer's procedures; Pass

g) warning that the equipment shall not be used outside its limitations, or for any purpose other than that for which it is intended; Pass

h) advice as to whether the equipment should be a personal issue item, where this is applicable; Pass

i) sufficient information to ensure the compatibility of items of equipment when assembled into a system; Pass

j) warning of any dangers that may arise by the use of combinations of items of equipment in which the safe function of any one item is affected by or interferes with the safe function of another; Pass

k) instruction for the user to carry out a pre-use check of the equipment, to ensure that it is in a serviceable condition and operates correctly before it is used; Pass

Note1. A pre-use check by the user may not be applicable in the case of certain parts of equipment for emergency use which have been pre-packed or sealed by a competent person.

l) features of the equipment that require the pre-use check, the method of checking, and the criteria against which the user can decide whether or not the equipment is defective; Pass

m) warning stating that it is essential for safety that equipment is withdrawn from use immediately should:
1) any doubt arise about its conditions for safe use or; Pass
2) it have been used to arrest to fall Pass
and not used again until confirmed in writing by a competent person that it is acceptable to do so;

n) requirements of the anchor device or structural member chosen to serve as the anchor point(s), in particular the minimum required strength, the suitability and the position; Pass

o) where relevant, instruction on how to connect to the anchor device or structure; Pass

p) where relevant, an instruction detailing the correct harness attachment point to use, and how to connect to it; Pass

q) for equipment intended for use in fall arrest systems, a warning to emphasise that it is essential for safety that the anchor device or anchor point should always be positioned, and the work carried out in such a way, as to minimise both the potential for falls and potential fall distance. Where is it essential that the anchor device/point is placed above the position of the user, the manufacturer shall make a statement to that effect; Pass

r) where relevant, an instruction that a full body harness is the only acceptable body holding device that can be used in a fall arrest system; Pass

s) for equipment intended for use in fall arrest systems, a warning to emphasise that it is essential for safety to verify the free space required beneath the user at the workplace before each occasion of use, so that, in the case of a fall , there will be no collision with the ground or other obstacle in the fall path; Pass

t) information on the hazards that may affect the performance of the equipment and corresponding safety precautions that have to be observed, e.g. extremes of temperature, trailing or looping of lanyards or lifelines over sharp edges, chemical reagents, electrical conductivity, cutting, abrasion, climatic exposure, pendulum falls; Pass

u) instruction as relevant on how to protect the equipment against damage during transportation; Pass

v) information on the meaning of any markings and/or symbols on the equipment; Pass

w) statement describing the equipment model, type, identification marks and, if appropriate, the document and year to which it conforms; Pass

x) where it is a requirement that an EC type examination be carried out by a Notified Body, the name, address and identification number of the Notified Body involved with the design stage and of the Notified Body involved in the production control phase; Pass

y) statement of any known limit to the safe useable life of the product or any part of the product and/or advice on how to determine when the product is no longer safe to use; Pass

z) warning that it is essential for the safety of the user that, if the product is re-sold outside the original country of destination, the reseller shall provide instructions for use, for maintenance, for periodic examination and for repair in the language of the country in which the product is to be used. Pass

Note 2. Any additional relevant information specific to the item of equipment should also be provided.

4.3 Instructions for maintenance

4.3.1 The maintenance instruction shall be clear, legible and unambiguous, and shall contain appropriate detail, supplemented by diagrams if necessary, to enable the PPE or other equipment to be maintained correctly and safely. Pass

4.3.2 The maintenance instructions shall include:

a) cleaning procedures, including disinfection where applicable, without causing adverse effect on the materials used in the manufacture of the equipment, or to the user, and a warning that the procedure is to be strictly adhered to; Pass

b) where appropriate, a warning that, when the equipment becomes wet, either from being in use or when due to cleaning, it shall be allowed to dry naturally, and shall be kept away from direct heat; Pass

c) storage procedures, including all necessary preventative requirements where environmental or other factors could affect the condition of components, e.g. damp environment, sharp edges, vibration , ultraviolet degradation; Pass

d) other maintenance procedures as relevant to the equipment, e.g. lubrication. NAp

4.4 Instructions for periodic examination

Instructions for periodic examination shall include:

a) warning to emphasize the need for regular periodic examinations, and that the safety of users depends upon the continued efficiency and durability of the equipment; Pass

b) recommendation in regard to the frequency of periodic examinations, taking account of such factors as legislation, equipment type, frequency of use, and environmental conditions. The recommendation shall include a statement to the effect that the periodic examination frequency shall be at least every 12 months; Pass

c) warning to emphasize that periodic examinations are only to be conducted by a competent person for periodic examination and strictly in accordance with the manufacturer's periodic examination procedures; Pass

d) where deemed necessary by the manufacturer, e.g. due to the complexity or innovation of the equipment, or where safety critical knowledge is needed in the dismantling, reassembly, or assessment of the equipment, (e.g. a retractable type fall arrester), an instruction specifying that periodic examinations shall only be conducted by the manufacturer or by a person or organisation authorised by the manufacturer; NAp

e) requirement to check the legibility of the product markings. Pass

4.5 Instructions for repair

Where the manufacturer permits repair, repair instructions shall be supplied in the official languages of the country in which the item is in service. These instructions shall include a statement to the effect that any repair shall only be conducted by a competent person for repair, who has been authorised by the manufacturer, and that the repair procedure shall be strictly in accordance with the manufacturer's instructions. NAp

Repair not permitted by manufacturer

4.6 Records

Advice shall be given that a record is kept for each component, subsystem and system. The record should contain headings for, and spaces to allow entry of, the following details:

a) product, (e.g. full body harness), model and type/identification and its trade name; Pass

b) name and contact details of the manufacturer or supplier; Pass

c) means of identification, which could be the batch or serial number; Pass

d) where applicable, the year of manufacturer or life expiry date, (refer to 4.2.2 y); Pass

e) date of purchase; Pass

f) any other information as necessary, e.g. maintenance and frequency of use; Pass

g) date first put into use; Pass

h) history of periodic examinations and repairs, to include:

1) dates and details of each periodic examination and repair, and the name and signature of the competent person who carried out the periodic examination or repair; Pass

2) next due date of periodic examination. Pass

Note. It is the responsibility of the user organisation to provide the record and enter into the record the details required.

4.7 Periodic examination

Manufacturers shall provide all the necessary information and equipment e.g. instructions, checklists, spare parts lists and special tools etc, to enable periodic examinations to be carried out by a competent person. Pass

Estimates of the uncertainty of measurement

Clause	Test	Uncertainty
6	Marking	-
7	Instructions	-
4.1	Ergonomics	-
4.2	Materials and construction	-
4.1.2	Width of primary straps	±0.59 mm
4.2.3.3	Connectors (if fitted)	See report
4.3	Dynamic strength	See Note 1
4.4	Static strength	See Note 1
4.5	Corrosion resistance of metal parts (if fitted)	See Note 1
4.6	Marking and information	-

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 assessments against the pass/fail criteria.

ANNEX

This Annex comprises one section.

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

END OF REPORT

Jinhua Jech Tools Co., Ltd –
Full body harness, model JE145002N

INSPEC Testing Services' specimen 2H07801 28 May 2020