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PPE REGULATION 2016/425 – ANNEX V
MODULE B – EU TYPE EXAMINATION
ASSESSMENT REPORT

P.P.E. against falls from a height

Report n°	24.0841
Technical reference	EN 1891:1998
Type of device	PPE category III Low stretch kernmantel ropes
Trade mark	JECH®
Model	710096

Fontaine, the 08/10/2024

Report sent for the attention of Jayson to the email address sales02@jechchina.com

This report includes 16 pages

The technical assessment manager
Immaterial original


RCS CLC FONTAINE Yebnie

Validation électronique

M.MEPI.324.V1

1.Examination report

1.1.Requirements

Article of the standard EN 1891	Content	Conformity*			Comments
		Yes	No	N-A	
Art. 4 Requirements	Samples are conditioned in an atmosphere of less than 10% humidity for at least 24 hours and then stored at a temperature of $(20 \pm 2) ^\circ\text{C}$ and a humidity of $(65 \pm 5)\%$ for at least 72 hours. The tests are carried out at a temperature of $(23 \pm 5) ^\circ\text{C}$				
Art. 4.1 Materials	Materials used in the manufacture of low stretch kernmantel ropes shall be of continuous virgin synthetic fibre. The materials used for the construction of the sheath and the core shall be known to have a melting point $>195^\circ\text{C}$.	✓			
Art. 4.2 Rope diameter D	When calculated as the arithmetic mean of the six measurements described in 5.3, the rope diameter D shall be a minimum of 8.5 mm and a maximum of 16 mm.	✓			Date of tests: 21/01/2022 $D_{mean} = 9,6 \text{ mm}$
Art. 4.3 Knotability K	The rigidity of the low stretch kernmantel rope shall be such that the knotability K shall be less than 1.2 when determined in the knot test specified in 5.4.	✓			$K = 0,9$
Art. 4.4 Sheath slippage S_s	Sheath slippage S_s in a longitudinal direction relative to the core shall be determined as specified in 5.5. With the rope diameter, D as specified in 5.3: - the sheath slippage for type A ropes shall not exceed: * $20 \text{ mm} + 10 (D - 9 \text{ mm})$ for ropes up to 12 mm diameter, and * $20 \text{ mm} + 5 (D - 12 \text{ mm})$ for ropes with a diameter between 12,1 and 16 mm. - For type B ropes, the sheath slippage shall not exceed 15 mm. Measurements shall be according to value V in 5.5.6 and shall be reported as a percentage as described in 5.5.6.	✓		✓	$S_s = 0,0 \%$
		✓		✓	Type A $V_{max} = 26 \text{ mm}$ $V = 0,0 \text{ mm}$

* The measurement uncertainties are not taken into account for the assessment of conformity.

Article of the standard EN 1891	Content	Conformity*			Comments
		Yes	No	N-A	
Art. 4	Requirements (continuation)				Date of tests: 21/01/2022
Art. 4.5	Elongation E When tested as described in 5.6, the elongation E shall not exceed 5 %.	✓			$E = 2,5\%$
Art. 4.6	Shrinkage R Shrinkage R shall be determined as described in 5.7.	✓			$R = 0,0\%$
Art. 4.7	Mass per unit length M The mass per unit length M of 1000 mm of low stretch kernmantel rope shall be determined as described in 5.8.	✓			$M = 67 \text{ g/m}$
Art. 4.8	Mass of the outer sheath material S_p When tested as described in 5.8, the minimum mass of material used in the sheath alone, as a percentage of the total mass of the low stretch kernmantel rope, shall be: $S_{min} = \frac{\left(\frac{D}{2}\right)^2 - \left(\frac{D-2}{2}\right)^2}{\left(\frac{D}{2}\right)^2} \cdot 100, \text{ in percentage,}$ Which can be simplified to : $S_{min} = \frac{4 D-4}{D^2} \cdot 100, \text{ in percentage}$ Where: S = sheath and D = rope diameter as measured in 5.3. If the construction of the low stretch kernmantel rope is such that separating the sheath and the core is impracticable, an appropriate substitute method of determining the percentage mass of the outer sheath material may be used.	✓			$S_{pmin} = 37,3\%$ $S_p = 37,5\%$
				✓	

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Article of the standard EN 1891	Content	Conformity*			Comments
		Yes	No	N-A	
Art. 4	Requirements (continuation)				Date of tests: 21/01/2022
Art. 4.9	Masse of the core material C When tested as described in 5.8, the minimum mass of the material used in the core alone, as a percentage of the total mass of the low stretch kernmantel rope, shall be: - for type A ropes: $C_{min} = \frac{12}{(\frac{D}{2})^2} \cdot 100$, in percentage Which can be simplified to: $C_{min} = \frac{48}{D^2} \cdot 100$, in percentage - for type B ropes: $C_{min} = \frac{10}{(\frac{D}{2})^2} \cdot 100$, in percentage Which can be simplified to: $C_{min} = \frac{40}{D^2} \cdot 100$, in percentage Where: C = core and D = rope diameter as measured in 5.3. If the construction of the low stretch kernmantel rope is such that separating the sheath and the core is impracticable, an appropriate substitute method of determining the percentage mass of the core material may be used.	✓			$C_{min} = 52,1\%$ $C = 62,5\%$
Art. 4.10	Fall arrest peak force F When tested as described in 5.9.3, the peak force shall not exceed 6 kN	✓			$F = 5,1 \text{ kN}$
Art. 4.11	Dynamic performance When tested as described in 5.9.5, the low stretch kernmantel rope shall withstand five falls without releasing the mass.	✓			$N = 7$
Art. 4.12	Static strength				
Art 4.12.1	Static strength without terminations When tested according to the appropriate parts of 4.1, 5.1, 6, 8.1, 8.2, 8.5 et 9.5 of EN 919:1995, the low stretch kernmantel rope shall sustain a force of: - at least 22 kN for type A ropes and - at least 18 kN for type B ropes.	✓		✓	$F_{breaking} = 30 \text{ kN}$
Art 4.12.2	Static strength with terminations Terminations may be made with knots or by other methods. When testes as described in 5.10, the low stretch kernmantel rope including terminations shall sustain a force of: - $(15_0^{+0.5}) \text{ kN}$ for type A ropes and - $(12_0^{+0.5}) \text{ kN}$ for type B ropes, each for a period of 3 min. It shall be possible to create a termination (loop) suitable for use as an attachment point anywhere on the low stretch kernmantel rope, for example a figure of eight knot.	✓		✓	

* The measurement uncertainties are not taken into account for the assessment of conformity.

Article of the standard EN 1891	Content	Conformity			Comments
		Yes	No	N-A	
Art. 6 Art 6.1	Marking The marking of low stretch kernmantel rope shall comply with 4.8 of EN 365 and at least with 6.2 and 6.3 of EN 1891. Article 4.8 Marking of EN 365:2004 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: a/ means of identification, e.g. manufacturer's name, supplier's name, or trademark; <i>Note 1: When PPE is marked with the supplier's name this should be with the approval of the Notified body.</i> b/ manufacturer's production batch or serial number or other means of traceability; c/ model and type/identification; d/ number and year of the European Standard to which the equipment conforms; e/ pictogram or other method to indicate the necessity for users to read the instructions for use. <i>Note 2: Any additional relevant marking specific to the item of the equipment should also be included.</i> 4.8.2 The characters in the markings shall be legible and unambiguous.	✓			
Art 6.2	Low stretch kernmantel rope shall have external bands at both ends which shall have the following permanent markings: a) The letter A for type A ropes or the letter B for type B ropes followed by the diameter in millimetres as specified in 4.2 e.g. A11,0 ; B9,2	✓			
Art 6.3	b) The number of this European standard Low stretch kernmantel rope shall have the following internal markings repeated at least every 1000 mm throughout its length: a) The name or trade mark of the manufacturer, importer or supplier, b) The number of this European standard and the type of rope, A or B, c) The year of manufacture, d) Either the name of the material from which the low stretch kernmantel rope is made, or a colour to signify the material from which the low stretch kernmantel rope is made according to EN 701. <i>Note The material used to carry the marks describes in 6.3 need not be the same as that used for the construction of the low stretch kernmantel rope</i>	✓			
Regulation	CE Marking (CE + Notified body in charge of module C2 or D) ; The CE marking shall be affixed visibly, legibly and indelibly to the PPE ; For PPE subject to ageing: the month and year of manufacture and/or, if possible, the month and year of obsolescence must be indelibly and unambiguously marked on each item of PPE placed on the market and on its packaging ; Name and address of the manufacturer ; Type, batch or serial number or other means of identification	✓ ✓ ✓ ✓ ✓			Address on the instructions for use

Article of the standard EN 1891	Content	Conformity			Comments
		Yes	No	N-A	
Art. 7	Concerning the instruction for use: Only the English or French version has been checked. It is the responsibility of the manufacturer to supply the instruction for use in the official languages of the country of destination Information to be supplied by the manufacturer including instructions for use The manufacturer's notes shall comply with § 4 of EN 365 : Article 4.1 General of EN 365:2004 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. <i>Note: The instructions for use, for maintenance and for periodic examination may be supplied in separate documents.</i> Article 4.2 Instructions for use of EN 365:2004 4.2.1 The instruction for use shall be in 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 . 4.2.2 The instruction for use shall include: a/ the name and contact details of the manufacturer or authorised representative as appropriate; b/ statements describing the equipment, its intended purpose, application and limitations; c/ a warning about medical conditions that could affect the safely of the equipment user in normal and emergency use; d/ a warning that the equipment shall only be used by a person trained and competent in its safe use; e/ a warning that a rescue plan shall be in place to deal with any emergencies that could arise during the work; f/ a 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; g/ a warning that the equipment shall not be used outside its limitations, or for any purpose other than that for which it is intended; h/ advice as to whether the equipment should be a personal issue item, where this is applicable; i/ sufficient information to ensure the compatibility of items of equipment when assembled into a system; j/ a warning of any dangers that may arise be 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 or another; k/ an 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; <i>Note: 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.</i>				
		✓			

Article of the standard EN 1891	Content	Conformity			Comments
		Yes	No	N-A	
	Article 4.2 Instruction for use of EN 365:2004 (continuation) - 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; - m/ a warning stating that it is essential for safety that equipment is withdraw from use immediately should: 1/ any doubt arise about its condition for safe use or; 2/ it have been used to arrest a fall - n/ the 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; - o/ where relevant, instructions on how to connect to the anchor device or structure; - p/ where relevant, and instruction detailing the correct harness attachment point to use, and how to connect to it; - 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 way, as to minimise both the potential for falls and potential fall distance. Where it is essential that the anchor device/point is place above the position of the user, the manufacturer shall make a statement to that effect; - r/ where relevant, and instruction that a full body harness is the only acceptable body holding device that can be used in a fall arrest system; - 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 the other obstacle in the fall path; - 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; - u/ instructions as relevant on how to protect the equipment against damage during transportation; - v/ information on the meaning of any markings and/or symbols on the equipment; - w/ a statement describing the equipment model, type, identification marks and if appropriate the European Standard and year to which it conforms; - x/ where it is a requirement that a EC type examination be carried out by a Notified body, the name, address and identification number of the Notified Body; - y/ a 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; - z/ warning that it s 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; Note 2: any additional relevant information specific to the item of equipment should also be provided:	✓ ✓ 			

Article of the standard EN 1891	Content	Conformity			Comments
		Yes	No	N-A	
	Article 4.3 Instructions for maintenance of EN 365:2004 4.3.1 The maintenance instructions 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. 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; 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; 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, ultra-violet degradation; d/ other maintenance procedures as relevant to the equipment, e.g. lubrication. Article 4.4 Instructions for periodic examinations of EN 365:2004 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; 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; 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; 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; e/ requirement to check the legibility of the product markings Article 4.5 Instructions for repair of EN 365:2004 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.	✓			
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Article of the standard EN 1891	Content	Conformity			Comments
		Yes	No	N-A	
	Article 4.6 Records of EN 365:2004 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/ the product (e.g. full body harness), model and type/identification and its trade name; - b/ the name and contact details, of the manufacturer or supplier; - c/ a means of identification, which could be the batch or serial number; - d/ where applicable, the year of manufacture or life expiry date, refer 4.2.2 (y); - e/ the date of purchase; - f/ any other information as necessary e.g. maintenances and frequency of use; - g/ the date first put into use; - h/ the 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; 2/ next due date for periodic examination. <i>Note: It is the responsibility of the user organisation to provide the record and to enter onto the record the details required.</i> Article 4.7 Periodic examination of EN 365:2004 Manufacturers shall provide all the necessary information and equipment e.g. instructions, checklists, spare parts lists and specials tools etc, to enable periodic examinations to be carried out by a competent person. <i>Note: Manufacturers may provide training for persons to become competent or for updating competency in the periodic examination of PPE or other equipment, or make arrangements for authorised organisations or persons to be made available.</i> Article 4.9 Packaging of EN 365:2004 Manufacturers shall take all reasonable care to ensure that the equipment is sufficiently packaged to prevent damage and deterioration during transportation. <i>Note: Where severe environmental conditions exist, or special conditions of supply are detailed, e.g. for long term storage, or transportation requirements, arrangements should be specified by the purchaser and agreed by the manufacturer.</i> In addition, the manufacturer's notes shall include at least advice or information as follows: a. The name (model designation) and type (A or B) of the low stretch kernmantel rope; b. The diameter <i>D</i> of the rope as specified in 4.2; c. The sheath slippage <i>S_s</i> as specified in 4.4; d. The elongation <i>E</i> as specified in 4.5; e. The mass of the outer sheath <i>S_p</i> as specified in 4.8; f. The mass of the core material <i>C</i> as specified in 4.9;	✓			

Article of the standard EN 1891	Content	Conformity			Comments
		Yes	No	N-A	
Art. 7	Information to be supplied by the manufacturer including instructions for use (continuation)				
	g. The mass per unit length <i>M</i> as specified in 4.7;	✓			
	h. The shrinkage <i>R</i> as specified in 4.6;	✓			
	i. The static strengths as specified in 4.12.1 and 4.12.2;	✓			
	j. The material(s) from which the low stretch kernmantel rope is made;	✓			
	k. The number of this European Standard : EN 1891;	✓			
	l. If type B ropes are chosen, users should be aware that the level of performance will be less than that of type A; that greater care will be required in protecting against the effects of abrasion, cuts, general wear and tear etc..., and that in use great care should be taken to minimise the possibility of a fall. This advice shall be presented in such a way that it attracts the reader's attention, e.g. by the use of bold text or colour;	✓			
	m. That type A ropes are more suitable for use in rope access and work positioning than type B ropes;	✓			
	n. That the product should be used only by trained and/or otherwise competent persons or the user should be under the direct supervision of such a person;	✓			
	o. That before and during use consideration should be given as to how any rescue could be safely and efficiently carried out;	✓			
	p. On how to ensure the compatibility of any components to be used in conjunction with the low stretch kernmantel rope: - That the adjustment device chosen is suitable for the diameter of the rope - By reference to other European standards;	✓			
	q. On limitations of the materials in the product or hazards which may affect its performance, e.g. temperature, the effect of sharp edges, chemical reagents, cutting, abrasion, knotting, UV degradation;	✓			
	r. On disinfection of the product without adverse effect;	✓			
	s. On the expected lifespan of the product (obsolescence) or how the user can determine the lifespan;	✓			
	t. On how to protect the product during transportation;	✓			
	u. On the meaning on any markings on the product;	✓			
	v. On recommended methods of forming terminations on the low stretch kernmantel rope;	✓			
	w. That the system should incorporate a reliable anchorage point, above the user, and that any slack low stretch kernmantel rope between the user and the reliable anchorage point should be avoided;	✓			
	x. Advice that ropes used for protection during any free climbing activity in rope access, rescue or speleology, other European Standards shall be taken into account (e.g. EN 892);	✓			
	y. Advice that cut lengths of low stretch kernmantel rope should be marked as described in 6.	✓			
Regulation	Name and address of the manufacturer;	✓			
	The risk against which the PPE is designed to protect ;	✓			
	The reference to this Regulation ;	✓			
	The references to the relevant harmonised standard(s) used, including the date of the standard(s), or references to the other technical specifications used ;	✓			
	Name, address and identification number of the notified body or bodies involved in the conformity assessment of the PPE (module B and module C2 or D) ;	✓			
	EU declaration of conformity or the internet address where the EU declaration of conformity can be accessed	✓			