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USA

EC TYPE EXAMINATION REPORT

PPE DIRECTIVE 89/686/EEC – Article 10

P.P.E. against falls from a height

Report n°	**14.6.0176**
Technical referentials	**EN 353-1: 2002 and VG11 11.073 Recommendation for use sheet approuved on 13/10/10**
Type of PPE	**Guided type fall arresters including a rigid anchor line**
Trade Mark	**TUF-TUG®**
Reference	**115-600 + TTWG-500**

Fontaine, 15th October 2014
Report sent for the attention of Mr Joey DEUER to the email address tuftug@aol.com
This report includes: 32 pages

PPE Technical Manager

Document original immatériel

Summary

1. Introduction - Description of the service

This report concerns a guided type fall arresters including a rigid anchor line, as defined § 3.1 of European standard EN 353-1:2002.

Its purpose is to assess the conformity of the guided type fall arrester including a rigid anchor line with the European Directive 89/686/EEC of 21 December 1989 "Personal Protective Equipment" transposed into French labour code, taking into account that the EU OJ dated 23.3.2010 withdrew the presumption of conformity of EN 353-1:2002 (because the basic health and safety requirements of clauses 1.1.1, 1.4 and 3.1.2.2 of Annex II to Directive 89/686/EEC are not considered to be satisfied by the standard).

The examination was conducted in accordance with purchase order placed by TUF TUG® Products - OHIO HOIST & PULLER, Inc.
Company: TUF TUG® Products - OHIO HOIST & PULLER, Inc. - 3434 Encrete Lane - MORAINE OHIO 45439 - USA

2. Use of the report

This report only concerns the equipment identified in clause 3 and described in clause 6.

Only an integral reproduction of this report is authorized.

The manufacturer, or his representative, commits himself not to use this report for equipment that is not strictly identical to the equipment covered by this report.

3. Identification of the equipment

3.1 Manufacturer – Manufacturing place – Place on the market

TUF TUG® Products - OHIO HOIST & PULLER, Inc. - 3434 Encrete Lane - MORAINE OHIO 45439 - USA

3.2 Tested equipment

Following equipment has been tested:
Trade mark: **TUF-TUG®**
Reference: **115-600 + TTWG-500**

3.3 Equivalences

No equivalence

3.4 Other trade name

No other trade name

4. Conditions for use of the equipment

This guided type fall arrester including a rigid anchor line is intended be used, together with other components, as personal protective equipment against falls from a height.

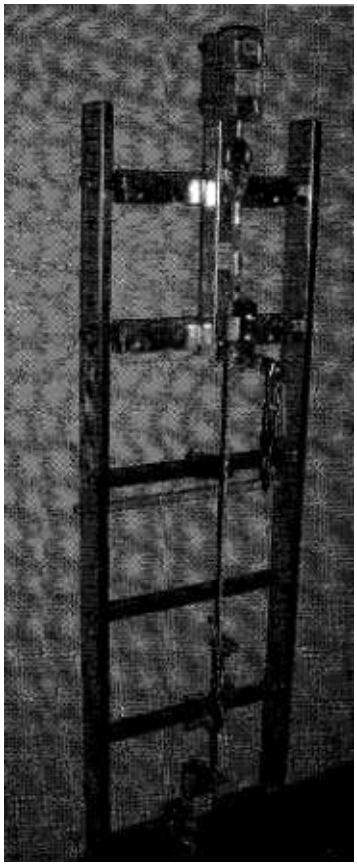
5. Reference specification

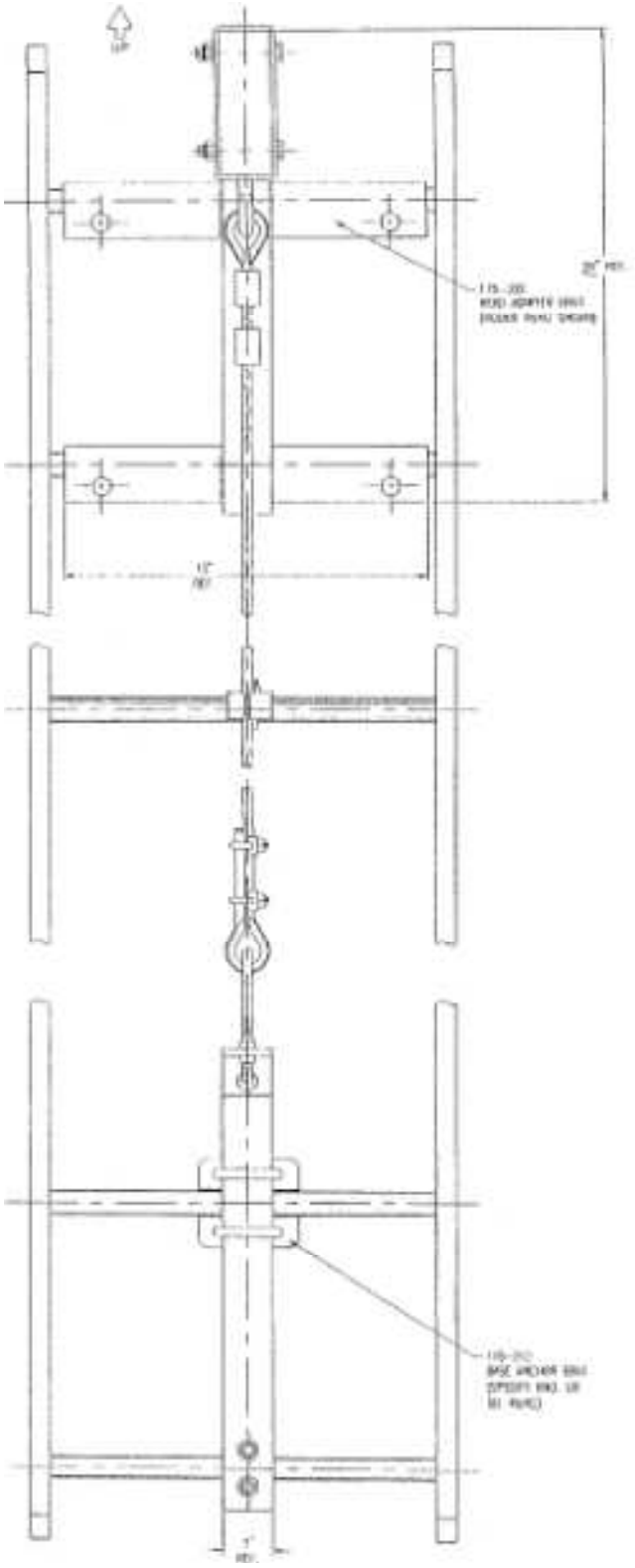
The assessment of conformity with Directive 89/686/EEC of 21 December 1989 "Personal Protective Equipment" was conducted taking also into account (cf. tables on § 7):

1. The provisions of European standard EN 353-1:2002 "Personal protective equipment against falls from a height – Guided type fall arresters including a rigid anchor line;
2. VG11 11.073 Recommendation for use sheet approuved on 13/10/10 taking into account the relevant articles of prEN 353-1:2008

6. Description of the equipment

6.1 Drawings





6.2 Description

1- Guided type fall arrester TTWG-500
Opening guided type fall arrester in zinc coated steel, reference TTWG-500, integrating a connector with automatic locking gate device by swivel ring, reference TTSMC, linked to the guided type fall arrester with a shock absorbing pack reference TTSSP by a bracket reference 113-504-SP.

2- Vertical rigid anchorage line 115-600
Rigid anchorage line in galvanized wire rope of diameter 3/8 inch (9.52mm), reference RRW410F. The cable in upper end is crimped, connected to an impact attenuator reference 115-308 by a head adaptor bracket reference 115-330. In lower end, a buckle with two wire rope clips in stainless steel, linked to the base anchor bracket 115-212 including a tensioner by tightening the nut on the bottom of the eye bolt reference 115-110, tension applied on the wire cable is 0.8kN. Orientation of use: vertical. Exclusively use by only one person, maximum rated load: 100kg

6.3 Description of components

Detailed description of the equipment **115-600 + TTWG-500** in the manufacturing technical file dated on **05/01/2014** updated on **12/09/2014** and edited by **TUF-TUG**

6.4 Location of the CE marking

- EC mark : **CE 0082**
- Notified body in charge of manufactured PPE control (article 11): **APAVE Sudeurope SAS - France**
- Graphic of letters C and E: **conform**
- Height of mark: **12 mm**
- Marking clear and permanent: **conform**
- Location of the marking: **on the guided type fall arrester**

7. Correlation between the articles of Directive 89/686/EEC and the reference documents

7.1 Correlation with EN 353-1:2002

The following table shows the correlation between essential requirements of Directive 89/686/CEE of 21 December 1989 " Personal Protective Equipment " and the articles of the European Standard EN 353-1:2002 "Personal protective equipment against falls from a height – Guided type fall arresters including a rigid anchor line".

EU-Directive 89/686/EEC Annex II		Clauses of EN 353-1:2002
1.1	Design principles	4.1 and 4.2
1.2	Innocuousness of PPE	4.2 and 4.3
1.3.2	Lightness and design strength	4.4, 4.5 and 4.6
1.4	Information supplied by the manufacturer	6 and 7
2.1	PPE incorporating adjustment systems	4.2
2.9	PPE incorporating components which can be adjusted or removed by the user	4.2
2.10	PPE for connection to another, external complementary device	7
2.12	PPE bearing one or more identification or recognition marks directly or indirectly relating to health and safety	6
3.1.2.2	Prevention of falls from height	4 to 8

7.2 Complementary correlation of specific risks and requirements/test procedures

The following table complete the correlation with the essential requirements of the PPE Directive taking into account that the EU OJ dated 23.3.2010 withdrew the presumption of conformity of EN 353-1:2002 (because the basic health and safety requirements of clauses 1.1.1, 1.4 and 3.1.2.2 of Annex II to Directive 89/686/EEC are not considered to be satisfied by the standard)

Note: "gtfa" means "Guided Type Fall Arrester"

Correlation of specific risks and requirements/test procedures

	A				B						
	Risks during intended ascending/descending				Risks during foreseeable use						
	Fall Back	guided type fall arrester (gtfa) can become detached unintentionally	wrong orientation of the rigid anchor line	wrong positioning or lack of end stops	increasing the distance between the anchor line and the centre of gravity of the user	using a wrong attachment point on the harness (attachment point for work positioning)	posture of the user above the gtfa	using a wrong harness (waist belt/ full body harness with elastic webbing)	sideway use, sideway fall, guided sideway fall	hand operating influence of the gtfa	wrong storage, cleaning, maintenance, examination
PPE Directive (essential requirements Annex II)	**1.3.2, 3.1.2.2**	**1.1, 3.1.2.2**	**1.1, 1.4**	**1.1, 1.4**	**1.3.2**	**1.4**	**1.4, 3.1.2.2**	**1.4**	**1.3.2, 1.4 3.1.2.2**	**1.3.2, 1.4**	**1.4**
Design, ergonomics, materials and con-struction					**X**					**X**	
Locking		**X**					**X**				
Static strength		**X**									
Dynamic performance							**X**				
Dynamic strength	**X**	**X**			**X**		**X**		**X**		
Corrosion		**X**									
Marking	**X**	**X**									
Information supplied by the manufacturer	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**

X = requirement/test procedure covers the specific risk

7.3 Requirements and test procedure

All applicable requirements are listed in following tables:

Note: “gtfa” means “Guided Type Fall Arrester”

Design, ergonomics, material and construction			
	EN 353-1:2002	**From prEN 353-1:2008**	**From WG2 N446 report**
General	**4.1 and 4.2**	**4.1**	
End Stop A *The guided type fall arrester does not become detached unintentionally*		**4.1.2** **5.1**	
End Stop B *Has to stop the gtfa under load*		**4.1.2** **5.1**	
End Stops *Shall be designed so that they may only be opened by deliberate manual action*		**4.1.2** **5.1**	
Connecting Element(s) *Shall be permanently attached to the guided type fall arrester*		**4.1.2** **5.1**	
Guided type fall arrester *Shall be capable of accompanying the user during upward and downward changes of position without requiring manual intervention*		**4.1.2** **5.1**	
Locking			
	EN 353-1:2002	**From prEN 353-1:2008**	**From WG2 N446 report**
General	**4.3** **5.1**		
Static strength			
	EN 353-1:2002	**From prEN 353-1:2008**	**From WG2 N446 report**
Energy absorber preloading		**4.2.1** **5.2.2**	
General *Rigid anchor line with the guided type fall arrester*	**4.4** **5.2**	**4.2.2.1** **5.2.2**	
Non metallic materials		**4.2.2.2** **5.2.3**	
Wire rope systems where the dynamic load on the top anchor exceeds 6kN		**4.2.2.3** **5.2.4**	
Lateral strength on the guided type fall arrester		**4.2.2.4** **5.2.5**	
End stop A		**4.2.3.1** **5.2.6.1**	
End stop B		**4.2.3.2** **5.2.6.2**	

Dynamic performance			
	EN 353-1:2002	From prEN 353-1:2008	From WG2 N446 report
Performance test	4.5 5.3		
Cold conditions test		4.3.1 5.3.2	
Orientation of the rigid anchor line		4.3.2 5.3.3	
Dynamic strength			
	EN 353-1:2002	From prEN 353-1:2008	From WG2 N446 report
End stop B *Has to stop the guided type fall arrester during a fall*		4.4 5.4.2	
Min Distance *to address the influence of the posture of the user above the guided type fall arrester*			1 – Dmin
Max Distance *to address the increase of the distance between the anchor line and the centre of gravity of the user*			2 – Dmax
Fall Back *to address the backward fall scenario*			3 – FB
Sideway fall *to address the sideway fall scenario*			4 - SW
Corrosion Resistance			
	EN 353-1:2002	From prEN 353-1:2008	From WG2 N446 report
General	4.6 5.4		
Marking			
	EN 353-1:2002	From prEN 353-1:2008	From WG2 N446 report
General Requirements	4.7 6		
Correct orientation of the guided type fall arrester		4.5 6	
Model and type/identification mark		4.5 6	

Information supplied by the manufacturer			
	EN 353-1:2002	From prEN 353-1:2008	From WG2 N446 report
General Requirements	4.7 7		
General		4.5 7.1	
Storage, cleaning, maintenance, servicing, disinfection, packaging		4.5 7.1 8	
Instruction for installation		4.5 7.2	
Instruction for use		4.5 7.3	

8. Examination report

8.1 Examination according EN 353-1 :2002

Article of EN 353-1 :2002	Content	Conformity			Comments
		Yes	No	N-A	
Art. 4.1	**Design and ergonomic** ✗ The general requirements for the design and ergonomics are specified in 4.1 of EN 363:2008				
	Article 4.1 of the standard EN 363:2008 :				
	Characteristics: A personal fall protection system consists of an assembly of components that are connected either separably or inseparably. A personal fall protection system includes a body holding device which is attached to a reliable anchorage point via an attachment system, which consists of one or more components that are normally included in the system in accordance with its intended use (e.g. lanyards, connectors, fall arresters, anchor devices).	✓			
	Assembly: When combining components into a personal fall protection system, aspects to be taken into account shall include:				
	• suitability of components for the intended use of the personal fall protection system, taking into account all the different phases of use (e.g. access, work);	✓			
	• the characteristics of the workplace (e.g. inclination of workplace, location of anchor device);	✓			
	• the intended user (e.g. level of competence);	✓			
	• compatibility of components (e.g. interaction between anchor device and other components);	✓			
	• ergonomic considerations, e.g. by choosing the correct harness and attachment elements to minimise discomfort and stress to the body;	✓			
	• information supplied for all components;	✓			
	• the need to facilitate safe and effective rescue operations (e.g. to prevent suspension trauma);	✓			
	• characteristics of the anchorage, e.g. location and strength.	✓			
	Any component used in a personal fall protection system shall be designed and tested for the intended purpose, e.g. conform to the relevant standards.	✓			
	Components may be used in various types of personal fall protection systems, as long as they are suitable for the specific purpose.	✓			
	A rescue plan should always be in place when work at a height is started.	✓			

Article of EN 353-1 :2002	Content	Conformity			Comments
		Yes	No	N-A	
Art. 4.1	**Design and ergonomic** ✗ The general requirements for the design and ergonomics are specified in 4.1 of EN 363:2008				
	Article 4.2.4 of the standard EN 363:2008 :				
	A fall arrest system is a personal fall protection system that arrests a free fall and which limits the impact force on the body of the user during fall arrest.	✓			
	Characteristics:				
	A fall arrest system:				
	• does not prevent a free fall;	✓			
	• limits the length of a fall;	✓			
	• allows the user to reach areas or positions where the risk of a free fall exists, and when a free fall occurs, it is arrested;	✓			
	• provides suspension after fall arrest.	✓			
	Assembly:				
	A fall arrest system shall be assembled in such a way that the user's collision with the ground or structure or other obstacle is prevented.				
	The minimum required clearance below the feet of the user shall be determined. This may be done based on the information supplied by the manufacturer(s) of the components, in particular taking account of possible interaction with the anchor device (e.g. due to the position and deflection of the anchor device).	✓			
	A full body harness shall be the only suitable body holding device in a fall arrest system.	✓			
	A fall arrest system shall include energy absorbing elements or functions to ensure that the impact forces on the body of the user during the arrest of a free fall are restricted to a maximum of 6 kN.	✓			

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Article of EN 353-1 :2002	Content	Conformity			Comments
		Yes	No	N-A	
Art. 4.2	**Materials and construction**				
	× A rigid anchor line shall be a rail or a wire rope. The material of a rigid anchor wire rope shall conform to 4.2.3 of EN 354:2010. Since July 2010 the european standard EN 354 has changes	✓			
	Articles 4.2.1 to 4.2.4 of the European standard EN 354 :2010				
	4.2.1 Materials which may come into contact with the skin of a user shall not be know, to, or suspected to, adversely affect user hygiene or health, e.g. cause irritating or sensitization effects, during normal use of the lanyard.	✓			
	4.2.2 Fibre ropes, webbing and sewing threads for lanyards shall be made from virgin filament or multifilament synthetic fibres suitable for their intended use. The breaking tenacity of the synthetic fibres shall be known to be at least 0.6 N/tex.			✓	
	4.2.3. Wire ropes for lanyards shall be made from steel. The ferrules of terminations shall be made from ductile metallic material. Wire ropes that are not made from stainless steel shall be galvanized in accordance with ISO 2232.	✓			
	4.2.4. Chains shall conform to the requirements for chains for at least 6 mm chains given in ISO 1835. Egg-shaped or similar end links and all connecting links shall be compatible with the chain in all respects.			✓	
	× And its minimum diameter shall be 8mm or of a value giving the equivalent safety.	✓			
	× In order to limit lateral movements, the rigid anchor line shall be secured to a structure at recommended intervals. If the rigid anchor line is a wire rope, it shall be secured to a structure and the wire rope shall be tightened.	✓			
	× The anchor line shall be so designed that it permits movement of the guided type fall arrester in the specified directions only and that it prevents any unintentional separation of the guided type fall arrester from the anchor line.	✓			
	× All attachment/detachment points of the rigid anchor line shall be either fitted with an end stop or be capable of being fitted with an end stop to prevent the guided type fall arrester from running off the anchor line unintended.	✓			Cf §.6
	× A guided type fall arrester shall be equipped with a connector or a connector-terminated lanyard. If the fall arrester is only equipped with a connector, it may be permanently attached to the fall arrester or be detachable from the fall arrester. If the fall arrester is equipped with a lanyard, one end of the lanyard shall be permanently attached to the fall arrester and the other end of the lanyard shall be terminated with a connector. The horizontal distance A shall be specified by the manufacturer and be reported in the information supplied by the manufacturer. A lanyard may be made from synthetic fibre rope, webbing, wire rope or chain. The material of a lanyard shall conform to 4.2.2, 4.2.3 or 4.2.4 of EN 354:2002.	✓			Cf §.6
	× A guided type fall arrester may be equipped with an opening device. If the guided type fall arrester is equipped with an opening device, it shall be so designed that it can only be detached or attached by at least two consecutive deliberate manual actions.	✓			

Article of EN 353-1 :2002	Content	Conformity*			Comments
		Yes	No	N-A	
4.2	**Material and construction (continuation)**				
	× An energy absorber for a sub-system with guided type fall arrester shall conform to EN 355.	✓			
	× Energy absorbers integrated in the lanyard shall conform to EN 355, but need not to be tested in accordance with 5.2 of EN 355:2002.	✓			
	× Connectors for a sub-system with a guided type fall arrester shall conform to EN 362.	✓			
4.3	**Locking**	✓			
.4.3.1 5.1.2.1 5.1.2.3	**Locking after conditioning** × When the guided type fall arrester and the rigid anchor line are conditioned as described in 5.1.2.1 and tested as described in 5.1.2.3 with a test mass of 5kg, the guided type fall arrester shall in each case lock and remain locked until released.	✓			Date of tests: 18/04/2014
4.3.2 5.1.2.2 5.1.2.3	× **Locking after optional conditioning** If the information supplied by the manufacturer of the guided type fall arrester claims a feature concerning the use under specific condition, the locking function of the fall arrester shall be tested accordingly. When conditioned as described in 5.1.2.2 and tested as described in 5.1.2.3 with a test mass of 5kg, the guided type fall arrester shall in each case lock and remain locked until released.			✓	
4.4	**Static strength**				
4.4 5.2	× When tested as described in 5.2, the rigid anchor line with the attached guided type fall arrester and the lanyard shall sustain a force of at least 15 kN.	✓			Date of tests: 24/04/2014
4.5	**Dynamic Performance**				
4.5 **5.3**	× When tested as described in 5.3 with a rigid steel mass of 100kg, the braking force F_{max} shall not exceed 6 kN and the arrest distance H shall not exceed 1m. **Tension of 80daN applied**	✓			Date of tests: 24/04/2014 Fmax = 3.9kN H = 0.90m<1.00m Fext=4.3kN
4.6	**Corrosion Resistance**				
4.6 **5.4**	× After the test described in 5.4 has been carried out, the elements of the guided type fall arrester including a rigid anchor line shall be examined. Where necessary to gain visual access to the internal elements, the device shall be dismantled. The test is classed as a failure if any corrosion is evident that could affect the function of the device (while scaling or tarnishing is acceptable)**. ****Tests carried out by our subsidiary**	✓			Date of tests: from 05th to 06th May 2014

***The uncertainties are not taken in account to declare the conformity**

Article of EN 353-1 :2002	Content	Conformity			Comments
		Yes	No	N-A	
4.7	**Marking and Information**				
	× Marking of the guided type fall arrester including a rigid anchor line shall be in accordance with clause 6. Information shall be supplied with the guided type fall arrester including a rigid anchor in accordance with clause 7.	✓			
6	**Marking**				
	× Marking on the guided type fall arrester and the rigid anchor line shall conform to 4.8 of EN 365:2004 and any text shall be in the language of the country of destination.	✓			
	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/ a means of identification, e.g. manufacturer's name, supplier's name, or trademark; *Note : When PPE is marked with the supplier's name this should be with the approval of the Notified body.*	✓			
	b/ the manufacturer's production batch or serial number or other means of traceability;	✓			
	c/ the model and type/identification;	✓			
	d/ the number and year of the European Standard to which the equipment conforms;	✓			
	e/ a pictogram or other method to indicate the necessity for users to read the instruction for use;	✓			
	f/ any additional marking required in the relevant European Standard	✓			
	The characters in the markings shall be legible and unambiguous.	✓			
	× In addition to conforming to 4.8 of EN 365:2004, the marking shall include the following:	✓			
	a On the guided type fall arrester, a pictogram to indicate that users shall read the information supplied by the manufacturer;	✓			
	b If appropriate, e.g. if the guided type fall arrester can be removed from the rigid anchor line, an indication on the guided type fall arrester of the correct orientation in use;	✓			
	c If appropriate, e.g. if the guided type fall arrester can be removed from the rigid anchor line, an indication that the guided type fall arrester shall only be used on an appropriate rigid anchor line. This shall be either on the guided type fall arrester, the rigid anchor line, or adjacent to the rigid anchor line;	✓			
	d The model/type identification mark of the guided type fall arrester;	✓			
	e The number of this European Standard, i.e. EN 353-1.	✓			

Article of EN 353-1 :2002	Content	Conformity			Comments
		Yes	No	N-A	
7	**Information supplied by the manufacturer**				
	The information supplied by the manufacturer shall be provided in the languages of the country of destination. It shall comply with EN 365	✓			
	Concerning the instruction for use: Only English 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.	✓			
	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. Note : The instructions for use, for maintenance and for periodic examination may be supplied in separate documents	✓			
	Article 4.2 Instruction 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;	✓			
	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; *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.*	✓			

Article of EN 353-1 :2002	Content	Conformity			Comments
		Yes	No	N-A	
	Information supplied by the manufacturer (continuation)				
	l/ the 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 and not used again until confirmed in writing by a competent person that it is acceptable to do so;	✓			
	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 placed 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 document 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 involved with the design stage and the Notified Body involved in the production control phase.;	✓			
	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;	✓			
	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; *Note: any additional relevant information specific to the item of equipment should also be provided;*	✓			

Article of EN 353-1 :2002	Content	Conformity			Comments
		Yes	No	N-A	
	Information supplied by the manufacturer (continuation)				
4.3	**Instruction for maintenance**				
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.	✓			
4.4	**Instructions for periodic examinations (see 4.7)**				
	Instruction 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, but 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/ a requirement to check the legibility of the product markings	✓			
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.	✓			

Article of EN 353-1 :2002	Content	Conformity			Comments
		Yes	No	N-A	
	Information supplied by the manufacturer (continuation)				
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/ 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 of 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.	✓			
	Note : It is the responsibility of the user organisation to provide the record and to enter onto the record the details required.				
4.7	**Periodic examination** Manufacturer 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. *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.*	✓			
	In addition shall include at least advice or information as follows:				
	a The specific conditions, e.g. the horizontal distance A, under which the guided type fall arrester including a rigid anchor line may be used;			✓	
	b Instructions for the installation of the rigid anchor line;	✓			
	c On how to connect to a full body harness and other components of the fall arrest system;	✓			
	d On how to ensure the compatibility of any components to be used in conjunction with the guided type fall arrester including a rigid anchor line, e.g. by reference to other European Standards;	✓			
	e For the guided type fall arrester, that only the recommended diameter and type of the rigid anchor line shall be used;	✓			
	f If a complete system is supplied, that components of any complete system shall not be substituted;	✓			
	g The correct way of operating the guided type fall arrester on the rigid anchor line;	✓			
	h If the guided type fall arrester can be removed from the rigid anchor line, how to attach and detach it;	✓			

Article of EN 353-1 :2002	Content	Conformity			Comments
		Yes	No	N-A	
	Information supplied by the manufacturer (continuation)				
	l That with a mass of 100 kg and a fall factor two situation (worst case) the necessary minimum distance below the feet of the user is 2 m;	✓			
	j Advice that for the first two meters the users may not be protected against hitting the ground and that extra care should be taken when ascending or descending;	✓			
	k On limitation of the materials in the product or hazards which may affect its performance, e.g. temperature, the effect of sharp edges, chemical reagents, electrical conductivity, cutting, abrasion, UV degradation, other climatic conditions;	✓			
	l That before and during use, consideration should be given as to how any rescue could be safely and efficiently carried out;	✓			
	m That the product should only be used by a trained and/or otherwise competent person or the user should be under the direct supervision of such a person;	✓			
	n On how to clean the product including disinfection, without adverse effect;	✓			
	o If information exists, the expected lifespan of the product (obsolescence) or how this may be determined;	✓			
	p On how to protect the product during transportation;	✓			
	q On the meaning of any markings on the product;	✓			
	r The model/type identification mark of the guided type fall arrester of the guided type fall arrester including a rigid anchor line;	✓			
	s The number of this European Standard, i.e. EN 353-1.	✓			
8	**Packaging** **×** Guided type fall arresters including a rigid anchor line shall be supplied wrapped, but not necessarily sealed, in a material that provides some resistance against the penetration of moisture.	✓			

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8.2 Examination according relevant articles of prEN 353-1:2008 with WG2 up-dates

Article of prEN353-1 :2008	Content	Conformity			Comments
		Yes	No	N-A	
4	**Requirements**				
4.1	**Materials and construction**				
4.1.1	**Materials**				
4.1.1.1	A rigid anchor line shall be a rail or a wire rope. The material of a rigid anchor line made from wire rope shall be steel and its minimum diameter shall be 8 mm.	✓			Wire rope
4.1.1.2	Wire ropes that are not made from stainless steel shall be galvanized in accordance with ISO 2232. NOTE : Manufacturers of guided type fall arresters including a rigid anchor line should be aware that stainless steel can be susceptible to pitting and stress corrosion cracking where chloride levels are high.			✓	Stainless steel
4.1.1.3	Where a ferrule is used in a termination, it shall be made from ductile metallic material.	✓			
4.1.1.4	Fibre ropes, webbing and sewing threads shall be made from virgin filament of multifilament synthetic fibres, suitable for their intended use. The braking tenacity of the synthetic fibres shall be known to be at least 0,6 N/tex.			✓	
4.1.1.5	Materials used in the guided type fall arrester, including a rigid anchor line, which may come into contact with the user, shall not be known to cause irritating or sensitization effects during intended use.	✓			
4.1.1.6	When checked in accordance with 5.1, the guided type fall arrester, including a rigid anchor line, shall have no sharp edges and burrs that may cause injury to the user.	✓			
4.1.2	**Construction**				
4.1.2.1	The anchor line shall be so designed that it prevents any unintentional separation of the guided type fall arrester from the rigid anchor line.	✓			GTFA cannot be unfastened unintentionally
4.1.2.2	The connecting element(s) shall be permanently attached to the guided type fall arrester.				from ends stops A and B
4.1.2.3	A guided type fall arrester shall be capable of accompanying the user during upward and downward changes of position without requiring manual intervention.	✓			
4.1.2.4	If the guided type fall arrester is equipped with any load-bearing element made from textiles, the guided type fall arrester shall have a means of protection against environmental influences (e.g. the guided type fall arrester is removable from the rigid anchor line by the user).			✓	
4.1.2.5	When a guided type fall arrester includes non-metallic elements, e.g. an energy absorber, these elements (including extremities) shall be fully protected against abrasion.			✓	
4.1.2.6	If the guided type fall arrester is removable by the user from the rigid anchor line, other than by removing it from the ends of the anchor line, the guided type fall arrester or the rigid anchor line shall be so designed that the guided type fall arrester can only be detached by at least two consecutive deliberate manual actions.	✓			
4.1.2.7	End stops shall be designed so that they may only be opened by deliberate manual action.	✓			
4.1.2.8	Connectors used in or as a connecting element shall conform to EN 362.	✓			

Article of prEN353-1 :2008	Content	Conformity*			Comments
		Yes	No	N-A	
4.2	**Static strength**				
4.2.1	**Energy absorber preloading**				
	If any part of the guided type fall arrester including the rigid anchor line is fitted with an energy absorber then the energy absorber shall be tested in accordance with 5.2.2. The permanent extension caused by activation of an energy absorber after pre-loading with 2 kN shall not be greater than 50 mm *(value to be updated depending on WG2 decision)*			✓	
4.2.2	**Guided type fall arrester including rigid anchor line**				
4.2.2.1	When tested in accordance with 5.2.2, the rigid anchor line with the attached guided type fall arrester shall sustain a force of $(15\ ^{+0,2}_{0})$ kN.	✓			Date of tests : 24/04/2014
5.2.2 (test method)	*Method for guided type fall arrester including rigid anchor line* Install the specimen of rigid anchor line (including a joint if the anchorage line is a rail) and the guided type fall arrester in the test machine such that the test force is applied simultaneously to the rigid anchor line (and joint, if the rigid anchor line is a rail), and the guided type fall arrester. Submit these to the specified static test force in the direction of loading, in the event of a fall, for a period of $(3\ ^{+0,25}_{0})$ min.				
4.2.2.2	If any load-bearing element of the rigid anchor line e.g; energy absorber is made from non-metallic materials, then those parts shall sustain a force of $(22\ ^{+0,2}_{0})$ kN when tested in accordance with 5.2.3.			✓	
	If the guided type fall arrester remains permanently connected to the rigid anchor line, includes non-metallic load bearing elements and cannot be stored in accordance with the information supplied by the manufacturer, non metallic elements shall also sustain a force of $(22\ ^{+0,2}_{0})$ kN when tested in accordance with 5.2.3 (if the guided type fall arrester can be removed it shall sustain a load of 15kN). NOTE The synthetic materials may be tested as part of the total system or be isolated from the metallic parts.			✓	
5.2.3 (test method)	*Method for non-metallic materials* Install the specimen in the test machine. Submit to the specified static test force in the direction of loading, in the event of a fall, for a period of $(3\ ^{+0,25}_{0})$ min			✓	
4.2.2.3	For rigid anchor lines made from wire rope that have been tested in accordance with 5.3 of EN 353-1:2002 and have a peak load at the top anchor greater than 6 kN, the wire rope and all other elements from the top of the anchor line e.g. an energy absorber, but excluding the guided type fall arrester, shall be tested in accordance with 5.2.4 and shall hold a load of 2,5 times $(^{+0,2}_{0})$ kN that maximum peak recorded load			✓	

***The uncertainties are not taken in account to declare the conformity**

Article of prEN353-1 :2008	Content	Conformity*			Comments
		Yes	No	N-A	
5.2.4 (test method)	*Method for wire rope systems where the dynamic load on the top anchor exceeds 6 kN* Install the specimen of rigid anchor line made from wire rope, including all other elements from the top of the anchor line, in the test machine such that the test force is applied simultaneously to the rigid anchor line and components. Submit these to the specified static test force for a period of $(3\ ^{+\ 0,25}_{0})$ min.	✓			
4.2.2.4	When tested in accordance with 5.2.5 the rigid anchor line with the attached guided type fall arrester shall sustain a force of 1 (0, +0,2) kN without releasing the guided type fall arrester. After the test the rigid anchor line shall not present a permanent deformation such that the normal functioning of the guided type fall arrester is impaired Comment: objective is to avoid guided type fall arrester to be detached from the rigid anchor line with a lateral movement	✓			
5.2.5 (test method)	For a rigid anchor line made from rail, position the guided type fall arrester between two structural anchors , at least 1 m from one of the structural anchors . Apply the test force to the attachment element of the guided type fall arrester in a orthogonal direction to the working axis in order to obtain the maximum torque moment and maintain the force for a period of (3 0/+0,25) min. Repeat the test, with the guided type fall arrester positioned at a joint, if applicable. Repeat the test, with the guided type fall arrester positioned at a structural anchor. For a rigid anchor line made from wire rope, carry out the test at an intermediate bracket, if applicable. Comment: it is suggested that side way static test is unuseful on wire rope as the guide type fall arrester would rotate	✓			

***The uncertainties are not taken in account to declare the conformity**

Article of prEN353-1 :2008	Content	Conformity*			Comments
		Yes	No	N-A	
4.2.3	**End stops**				
4.2.3.1 5.2.6.1 (test method)	When tested in accordance with 5.2.6.1, stops type A shall hold a load of ($2^{+0,2}_{0}$) kN (deformation is acceptable). *Method for end stops type A* Install the specimen of rigid anchor line including the end stop type A, and the guided type fall arrester in the test machine. Set the guided type fall arrester in the unlocked mode and position it below the end stop type A. Apply the specified static test force to the guided type fall arrester via its connecting element such that the force is also applied to the end stop type A for ($3^{+0,25}_{0}$) min..	✓			Date of tests: 24/04/2014
4.2.3.2 5.2.6.2 (test method)	When tested in accordance with 5.2.6.2, stops type B shall hold a load of ($12^{+0,2}_{0}$) kN. (deformation is acceptable) *Method for end stops type B* Install the specimen of rigid anchor line including the end stop type B, and the guided type fall arrester in the test machine. Set the guided type fall arrester on an initially unlocked mode and position it above the end stop type B. Apply the specified static test force to the guided type fall arrester via its connecting element such that the force is also applied to the end stop type B for ($3^{+0,25}_{0}$) min.	✓			
4.3	**Dynamic performance**				
4.3.1	**Cold conditions test**				
	The guided type fall arrester shall be conditioned in accordance with 5.3.2 at the coldest temperature claimed by the manufacturer and tested in accordance with article 5.3 of EN 353-1:2002. The rigid test mass shall be equivalent to the maximum rated load, with a tolerance on the mass of ($^{+2\%}_{0}$) kg and a minimum of 100 ($^{+2}_{0}$) kg. The mass shall be held clear of the ground and the arrest distance *H* shall not exceed 1 m.	✓			Test carried out at -30° H_1=0.95m<1.00m H_2=0.09m
5.3.2 (test method)	Place the guided type fall arrester in a refrigerated chamber for (2 ± 0,1) h at a temperature in accordance with the coldest temperature claimed by the manufacturer ($^{0}_{-2}$) °C. Remove the guided type fall arrester from the refrigerated chamber and within 90 s attach it to the rigid anchor line and carry out the test according to 5.3 of EN 353-1:2002	✓			

***The uncertainties are not taken in account to declare the conformity**

Article of prEN353-1 :2008	Content	Conformity*			Comments
		Yes	No	N-A	
4.3.2	**Orientation of the rigide anchor line** Where the manufacturer claims that the rigid anchor line can be used at angles/deviations greater than 1° from the vertical, the guided type fall arrester shall be tested in accordance with 5.3.3. Individual tests shall be carried out for the backward angle, the sideways angle, and the combination of both, if both are permitted, up to the maximum angle as recommended by the manufacturer. The test mass shall be held clear of the ground and the vertical arrest distance *H* shall not exceed 1 m. The test mass shall be equivalent to the maximum rated load, with a minimum of 100 kg and a tolerance of ($^{+2\%}_{0}$) kg. Note : limit the orientation test to vertical or at least to maximum angle(s) for which the EN 353-1:2002 requirement can be met (instruction for installation shall conform). **Mass de 100kg -- Test on wire 3/8" solid core** **Tension at 80daN**	✓			Only vertical use Test done on 24/04/2014 Back angle 5° H_1=0.90m<1.00m H_2=0.04m
5.3.3 (test method)	Secure the rigid anchor line at the maximum backwards angle from the vertical, in accordance with the information supplied by the manufacturer. Attach the guided type fall arrester by means of its connecting element to the test mass. Position the guided type fall arrester on the rigid anchor line at a maximum of 300 mm from the top anchor, but, where an intermediate anchor is fitted, mid-way between the top and the intermediate anchor. Hold the mass by the quick release device. Raise the mass above the guided type fall arrester to its maximum height and at the closest distance to the rigid anchor line. Let the mass fall without initial velocity. After the fall and with the mass at rest, measure the vertical displacement H of the point of attachment of the mass. Repeat the test 5.3.5.2 to 5.3.5.5 for the maximum sideways angle (± 1°) in accordance with the information supplied by the manufacturer. Repeat the test 5.3.5.2. to 5.3.5.5 for the maximum combination of the backwards and sideways angle (± 1°) in accordance with the information supplied by the manufacturer.				
5.3.5.1 (test method)	Secure the rigid anchor line at the maximum backwards angle from the vertical, in accordance with the information supplied by the manufacturer				
5.3.5.2 (test method)	Attach the guided type fall arrester by means of its connecting element to the test mass.				
5.3.5.3 (test method)	Position the guided type fall arrester on the rigid anchor line at a maximum of 300 mm from the top anchor, but, where an intermediate anchor is fitted, mid-way between the top and the intermediate anchor.				
5.3.5.4 (test method)	Hold the mass by the quick release device. Raise the mass above the guided type fall arrester to its maximum height and at the closest distance to the rigid anchor line.				
5.3.5.5 (test method)	Let the mass fall without initial velocity. After the fall and with the mass at rest, measure the vertical displacement *H* of the point of attachment of the mass.				
5.3.5.6 (test method)	Repeat the test 5.3.5.2 to 5.3.5.5 for the maximum sideways angle (± 1°) in accordance with the information supplied by the manufacturer.				

***The uncertainties are not taken in account to declare the conformity**

Article of prEN353-1 :2008	Content	Conformity*			Comments
		Yes	No	N-A	
5.3.5.7 (test method)	Repeat the test 5.3.5.2. to 5.3.5.5 for the maximum combination of the backwards and sideways angle (± 1°) in accordance with the information supplied by the manufacturer.			✓	
4.3.8	**Additional tests** Additional tests may be conducted to assess the performance of the guided type fall arrester when subject to horizontal and downwards loads.			✓	Cf. 8.3
4.4	**dynamic strength on end stop type B**				
	When tested in accordance with 5.4 with a test mass equivalent to the maximum rated load, with a tolerance on the mass of ($^{+2\%}_{0}$) kg, and a minimum of (100 $^{+2}_{0}$) kg, the guided type fall arrester shall retain the test mass on the rigid anchor line.	✓			Date of tests: 24/04/2014
5.4.2.1 (test method)	Install the specimen of rigid anchor line including the end stop type B, and the guided type fall arrester. Position the guided type fall arrester just above the end stop type B and set it in the unlocked mode.	✓			
5.4.2.2 (test method)	Attach the guided type fall arrester by means of its connecting element to the test mass.	✓			
5.4.2.3 (test method)	Raise the mass as far above the guided type fall arrester as the connecting element permits and at a maximum of 300 mm horizontally from the rigid anchor line. Hold the mass by the quick release device. Release the mass fall without initial velocity.	✓			
4.5	**Marking and information**				
	VG11 recommends that marking includes both EN 353-1:2002 and VG11 RfU11.073 Marking on the guided type fall arrester and the rigid anchor line shall conform to EN 365:2004 and in addition shall include the following:	✓			Cf. 8.1
	a) Marking on the guided type fall arrester: the maximum rated load;	✓			
	• if the guided type fall arrester can be removed from the rigid anchor line, an indication on the guided type fall arrester of the correct orientation in use and the model and type/identification marks of the appropriate rigid anchor line;	✓			
	b) Marking on the rigid anchor line or adjacent to the rigid anchor line:	✓			
	• if the guided type fall arrester can be removed from the rigid anchor line, an indication about model and type/identification marks of the appropriate guided type fall arrester; • the maximum number of users and the minimum distance between each user.				

***The uncertainties are not taken in account to declare the conformity**

Article of prEN353-1 :2008	Content	Conformity			Comments
		Yes	No	N-A	
Directive	× EC Marking (CE + Notified body) × The marking shall be clearly, durably and permanently marked by any mean without effect on material	✓ ✓			
Art 7	**Information supplied by the manufacturer**				
Art 7.1	**General** The information supplied by the manufacturer shall be provided in the languages of the country of destination. It shall conform to EN 365:2004.	✓			Cf. 8.1
Art 7.2	**Installation** In addition to conforming to EN 365:2004, the information supplied by the manufacturer shall include advice or information on installation as follows: a) instructions for the installation of the rigid anchor line including the maximum angle of installation from the vertical; b) that if the rigid anchor line is a wire rope it shall be anchored to the top and bottom of a structure and the rope shall be tightened to a minimum equivalent force of 0,8 kN; c) that if the end stop has not been tested to clause 5.4, it shall be clearly stated that the bottom of the rigid rail can only be terminated where there is a no fall hazard; d) additional information on the maximum load which will be applied to the anchorage, based on the result of the dynamic performance test of EN 353-1:2002 e) that all points of the rigid anchor line where the guided type fall arrester could unintentionally run off the rigid anchor line and there is or could be a fall hazard shall be fitted with an end stop.	✓ ✓ ✓ ✓ ✓			

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Article of prEN353-1 :2008	Content	Conformity			Comments
		Yes	No	N-A	
Art 7.3	**Instruction for use** In addition to conforming to EN 365:2004, the information shall include advice or information on installation as follows:				
	a) the specific conditions under which the guided type fall arrester including a rigid anchor line may be used;	✓			
	that the weight of the user, including clothing and equipment, shall not exceed the maximum rated load marked on the guided type fall arrester;	✓			
	on how to connect the connecting element to a full body harness, including a clear statement on the required position of the harness attachment point, and that the harness attachment point should be at the position of the sternum i.e. a front attachment point; a warning that the full body harness should be properly adjusted to a snug fit and should not be used if loose;	✓			
	a warning that the length of the connecting element shall not be extended or shortened, e.g. by adding or subtracting a connector;	✓			
	if the guided type fall arrester can be removed from the rigid anchor line, that only the type and model of rigid anchor line and guided type fall arrester, as tested to this standard, shall be used;	✓			
	the correct way of operating the guided type fall arrester on the rigid anchor line;	✓			
	if the guided type fall arrester can be removed from the rigid anchor line, how to attach and detach it;	✓			
	if a complete system is supplied, that components of any complete system shall not be substituted unless agreed by the manufacturer of the complete system;	✓			
	advice that for the first two metres the user may not be protected against hitting the ground and that extra care should be taken when ascending or descending;	✓			
	that for those systems which permit more than one user there should be a recommendation that there should be a minimum distance of 3 m between the feet of the upper person and the head of the lower person;	✓			
	a warning that engaging the guided type fall arrester's release function or handling the guided type fall arrester during ascent or descent can hinder the safe operation of the braking mechanism;	✓			
	advice that it is essential for the safety of the user that any engagement of the guided type fall arrester's release function or handling of the guided type fall arrester during ascent or descent is only carried out from a safe position where there is no risk of a fall;	✓			
	that the guided type fall arrester shall not be used for work positioning and that if work positioning is required, a separate system shall be used;	✓			
	the coldest temperature at which the guided type fall arrester including the rigid anchor line may be used.	✓			
Directive	× Presence of name, address and notified body number who have done EC type examination	✓			
Art. 8	**Packaging** Packaging shall conform to EN 365:2004	✓			

8.3 Examination according to the relevant requirements and test methods of CEN/TC160/WG2 N446 – Annex 2 of the VG11 11.073 Rfu sheet approuved on 14/10/10

Article of WG2 N446	Content	Conformity*			Comments
		Yes	No	N-A	
1-Dmin	**Minimum distance dynamic test methodology** *Note: cf figure on VG11 11.073 sheet for more details*				
1.1	**Requirement:** When tested in accordance with the maximum rated load test mass (and at least 100kg), the maximum arrest distance H1 shall be 1m and H2 shall be measured with H_1 : vertical displacement of the mass measured on the inner contact point between the lateral eyebolt and the connecting element of the fall arrester H_2 locking distance to be measured on the rigid anchor line between initial and final position of the guided type fall arrester.	✓			Date of test: 24/04/2014 mass stopped H_1 =0.95m H_2= 0.05m
1.2	**Test methodology:** Secure the rigid anchor line in accordance with the information supplied by the manufacturer and with a length that provides at least 2m of the rigid anchor line below the fall arrester's initial position, Rail systems shall be secured on the top against vertical movement. Attach the guided type fall arrester to the rigid anchor line in accordance with the information supplied by the manufacturers. Attach the guided type fall arrester by means of its connecting element to the lateral eyebolt of the test mass according to article 4.5 of EN 364:1992 with a distance from the edge of 30mm +- 5mm. Position the guided type fall arrester on the rigid anchor line at a maximum of 300 mm from the top anchor for wire systems or top fixing point for rail systems or, where an intermediate anchor is fitted, mid-way between the top and the intermediate anchor. Hold the central eyebolt of the rigid steel mass by the quick release device. Raise the mass vertically in the same plane as the rigid anchor line and the guided type fall arrester to its maximum height and at the closest distance to the rigid anchor line (the rigid steel mass might be in contact with the guided type fall arrester but shall not be above the guided type fall arrester), see figure 1. Let the mass fall without initial velocity. After the fall and with the mass at rest, measure the vertical displacement *H_1 and H_2*	✓			
2-Dmax	**Maximum distance dynamic test** *Note: cf figure on VG11 11.073 sheet for more details*				
2.1	**Requirement:** When tested with the maximum rated load test mass (and at least 100kg) the arrest distance H shall not exceed $2L_1+ L_2 + 1$m with H : vertical displacement of the mass measured on the inner contact point between the lateral eyebolt and the connecting element of the fall arrester L_1: length of the guided fall arrester lanyard L_2 : additional test lanyard (to simulate flexibility of harness and body positioning). L_2= (210 +/- 5)mm. Use as many screwlink connectors (EN362 type Q) as necessary to achieve L_2	✓			Date of test: 24/04/2014 mass stopped H_1=0.80m<2.01m H_2=0.03m

***The uncertainties are not taken in account to declare the conformity**

Article of WG2 N446	Content	Conformity*			Comments
		Yes	No	N-A	
2.2	**Test method** Install the system in accordance with figure 2 with at least 2m of rigid anchor line below the fall arrester initial position Rail systems shall be secured on the top against vertical movement . Attach the guided type fall arrester to the rigid anchor line in accordance with the information supplied by the manufacturers Secure the rigid anchor line in accordance with the information supplied by the manufacturer. Connect the guided type fall arrester to the rigid anchor line Connect the 210mm test lanyard to the guided type fall arrester Connect the 210mm test lanyard to the offset eyebolt of the steel rigid mass. Position the guided type fall arrester on the rigid anchor line at a maximum of 300 mm from the top anchor, but, where an intermediate anchor is fitted, mid-way between the top and the intermediate anchor. Hold the mass by the quick release device from the centre eybold Move the rigid steel mass to its furthest distance away from the rigid anchor line. Whenever the guided type fall arrester can move freely (down) when applying a backward force, test it in an unlocked position. If necessary, increase the distance D until the guided type fall arrester becomes fully unlocked. If necessary lift the mass. Let the rigid steel mass fall. After the fall and with the mass at rest, measure the displacement H of the point of attachment of the mass.	✓			
3-FB	**Fallback falls dynamic test** *Note: cf figure on VG11 11.073 sheet for more details*				
3.1	**Requirement:** When tested in accordance with the maximum rated load test mass (and at least 100kg), the maximum arrest distance H1 shall be 1m and H2 shall be measured with H_1 : vertical displacement of the mass measured on the inner contact point between the lateral eyebolt and the connecting element of the fall arrester H_2 locking distance to be measured on the rigid anchor line between initial and final position of the guided type fall arrester.	✓			Date of test: 24/04/2014 mass stopped H_1=0.75m<1.00m H_2m=0.03m
3.2	**Test methodology:** Move m1 in such a way that L1 is horizontal until the guided type fall arrester is unlocked. If necessary, lift m1 until the guided type fall arrester unlocks. Connect the load cell to the lanyard of m2 and move the guided test lanyard supporting m2 until the required force F is reached Let the rigid steel mass fall. After the fall and with the mass at rest, measure the displacement H1 and H2 of the point of attachment of the rigid steel mass	✓			

***The uncertainties are not taken in account to declare the conformity**

Article of WG2 N446	Content	Conformity*			Comments
		Yes	No	N-A	
4-SW	**Sideway maximum distance dynamic test** *Note: cf figure on VG11 11.073 sheet for more details*				
4.1	**Requirement and test methodology** Same as “Maximum distance dynamic test”	✓			
4.2	**Test methodology** Same as “Maximum distance dynamic test” except a lateral release of the test mass **Note 1**: the guided type fall arrester shall be tested in unlocked position **Note 2**: The sideways test does not need to be carried out on wire cable if the fall arrester can rotate freely on the rigid anchor line even when passing intermediate anchor (if existing). **Note 3**: if the fall arrester is not vertically symmetrical, repeat the test on the other side	✓			

***The uncertainties are not taken in account to declare the conformity**

9. Conclusion

The guided type fall arrester including a rigid anchor line of trademark “ **TUF-TUG®** ” and reference " **115-600 + TTWG-500** ", complies with the basic requirements of European Directive 89/686 of 21 December 1989, "Personal Protective Equipment" relative to the design of the product examined and transposed into French law by the relevant articles of French labour code.

The assessment of conformity takes into account the compliance of the guided type fall arrester including a rigid anchor line with the provisions of European standard NF EN 353-1 of September 2002, relevant articles of prEN 353-1:2008, VG11 11.073 Recommendation for use sheet approuved on 13/10/10 and with the conformity of manufacturer’s technical file.

Consequently, an EC type examination certificate is issued for this equipment:

Number of EC Type examination certificate: 0082/2100/160/10/14/0363