



**CO-ORDINATION OF NOTIFIED BODIES**  
**PPE-Directive 89/686/EEC + amendments**

CNB/P/11.073  
Revision 01  
Language: E

**RECOMMENDATION FOR USE**

Number of pages: 13	Date: 13/10/2010	Approval by :	Approved on :
Origin : VG11, Protection against falls from a height		<input checked="" type="checkbox"/> Vertical Group	13/10/2010
		<input checked="" type="checkbox"/> Horizontal Committee	
		<input checked="" type="checkbox"/> Standing Committee	
Question related to:	EN/prEN: EN 353-1	Other:	
Annex:	Article: 10	Clause:	
Key words: EN 353-1, withdrawal of harmonized list, back fall test, sideways fall			
Question: How to assess guided type fall arrester including a rigid anchor line after the withdrawal of EN 353-1:2002 from PPE standards harmonised list ?			
Proposed solution:  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 European Coordination of Notified Bodies for PPE against fall from a height VG11 has approved on its 20 <sup>th</sup> meeting (October 2010) the following decisions:  1- Notified Bodies cannot anymore issue EC type examination certificates based solely on EN 353-1:2002  2- For recertification of product (or modified or new product) Notified bodies shall follow requirements described in following pages.			
Sent for information to : <input type="checkbox"/> members of the VG <input type="checkbox"/> other(s) VG <input type="checkbox"/> HC (2) <input checked="" type="checkbox"/> TC (3) <input checked="" type="checkbox"/> SC (4) <input type="checkbox"/> other (5)			

(1) Essential safety requirement  
(2) HC = horizontal committee

(3) N° of CEN/TC (Secretary & Chairman)  
(4) EEC Standing Committee 89/392

(5) To be specified

## Requirements and test procedure for Guided type fall arresters including a rigid anchor line

### Preliminary remarks:

- 1- All requirements of EN 353-1:2002 have to be applied
- 2- Applicable articles coming from prEN 353-1:2008 listed in the table are detailed after the table on annexe 1
- 3- Applicable articles coming from CEN/TC160/WG2 N446 listed in the table are detailed after the table on annexe 2

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

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

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

## ANNEX 1

### Relevant requirements and test methods of prEN 353-1:2008 with WG2 up-dates

## 3 Terms and definitions

### 3.10 - stop type A

stop device fitted to the rigid anchor line to prevent the guided type fall arrester from passing the device unintended during ascent or descent

### 3.11 - stop type B

stop fitted to the rigid anchor line to prevent the guided type fall arrester from passing the device unintended in a fall

### 3.12 - maximum rated load

maximum mass of the person, including tools and equipment carried, as specified by the manufacturer

## 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.

**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.

**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 skin of 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.

**4.1.2.2** The connecting element(s) shall be permanently attached to the guided type fall arrester.

**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.

## 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.

**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.

**4.2.2.3** For rigid anchor lines made from wire rope that have been tested in accordance with 5.2.4 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

**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

### 4.2.3 End stops

**4.2.3.1** 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).

**4.2.3.2** 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)

## 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 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

### 4.3.2 Orientation of the rigid 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).

### 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.

### 4.5 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 line in accordance with clause 7.

## 5 Test methods

### 5.1 General examination of material and construction

5.1.1 Confirm by reference to appropriate documentation accompanying the guided type fall arrester including a rigid anchor line and by normal or corrected vision and/or tactile examination and/or by measurement of the guided type fall arrester including a rigid anchor line that they conform to 4.1.1, 4.1.2.2, 4.1.2.5, 4.1.2.7. If necessary to examine internal components, dismantle the component.

5.1.2 Install a specimen of rigid anchor line (including a joint if the anchorage line is a rail, intermediate bracket if applicable) and the guided type fall arrester to verify 4.1.2.1, 4.1.2.3, 4.1.2.4, 4.1.2.6.

### 5.2 Static test

#### 5.2.1 Apparatus

The static strength test apparatus shall conform to 4.1 of EN 364:1992.

#### 5.2.2 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.

#### 5.2.3 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.

#### 5.2.4 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.

#### 5.2.5 Lateral strength on the guided type fall arrester

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

### 5.2.6 End stops

#### 5.2.6.1 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.

#### 5.2.6.2 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.

### 5.3 Dynamic performance tests

#### 5.3.1 Apparatus

The test apparatus shall conform to 4.4, 4.5 and 4.6 of EN 364:1992.

#### 5.3.2 Cold conditions test

Place the guided type fall arrester in a refrigerated chamber for  $(2 \pm 0,1)$  h at a temperature in accordance with the coldest temperature claimed by the manufacturer  $(-2)$  °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

### 5.3.3 Orientation of the rigid anchor line

- 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 ( $\pm 1^\circ$ ) 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 ( $\pm 1^\circ$ ) in accordance with the information supplied by the manufacturer.

## 5.4 Dynamic strength on end stop type B

### 5.4.1 Apparatus

The test apparatus shall conform to 4.4, 4.5 and 4.6 of EN 364:1992.

### 5.4.2 End stop type B

- 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.
- Attach the guided type fall arrester by means of its connecting element to the test mass.
- 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.

## 6 Marking

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:

- Marking on the guided type fall arrester:
  - the minimum and 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;
- 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.

## 7 Information supplied by the manufacturer

### 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.

### 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.

### 7.3 Instructions 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;
- b) that the weight of the user, including clothing and equipment, shall not exceed the maximum rated load marked on the guided type fall arrester;
- c) 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;
- d) the horizontal distance *A* (see 3.7), and a warning that the length of the connecting element shall not be extended or shortened, e.g. by adding or subtracting a connector;
- e) 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;
- f) the correct way of operating the guided type fall arrester on the rigid anchor line;
- g) if the guided type fall arrester can be removed from the rigid anchor line, how to attach and detach it;
- h) 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;
- i) 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;
- j) 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;
- k) 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;
- l) 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;
- m) 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;
- n) the coldest temperature at which the guided type fall arrester including the rigid anchor line may be used.

## 8 Packaging

Packaging shall conform to EN 365:2004

## ANNEX 2

### Relevant requirements and test methods of CEN/TC160/WG2 N446

## 1- Dmin : Minimum distance dynamic test

### 1.1 Requirement

When tested in accordance with the maximum rated load test mass (and at least 100kg), the maximum arrest distance  $H_1$  shall be 1m and  $H_2$  shall be measured

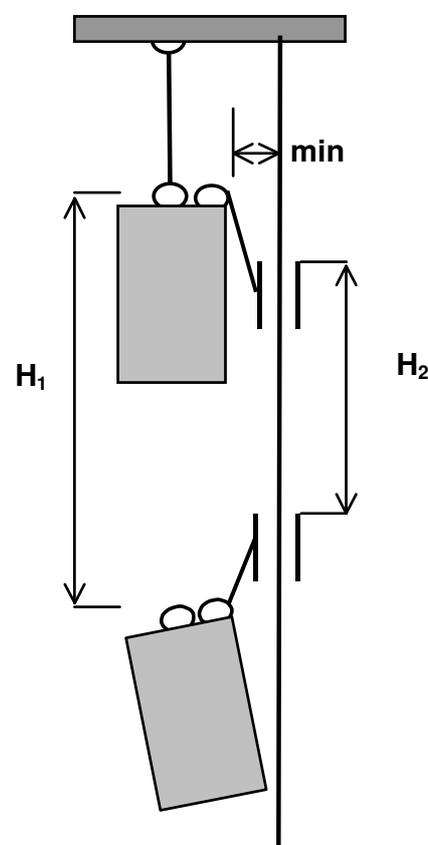
with

$H_1$  : 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.

### 1.2 Test method

- 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  $\pm$ 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  $H_2$



**Figure 1**

## 2- Dmax: Maximum distance dynamic test

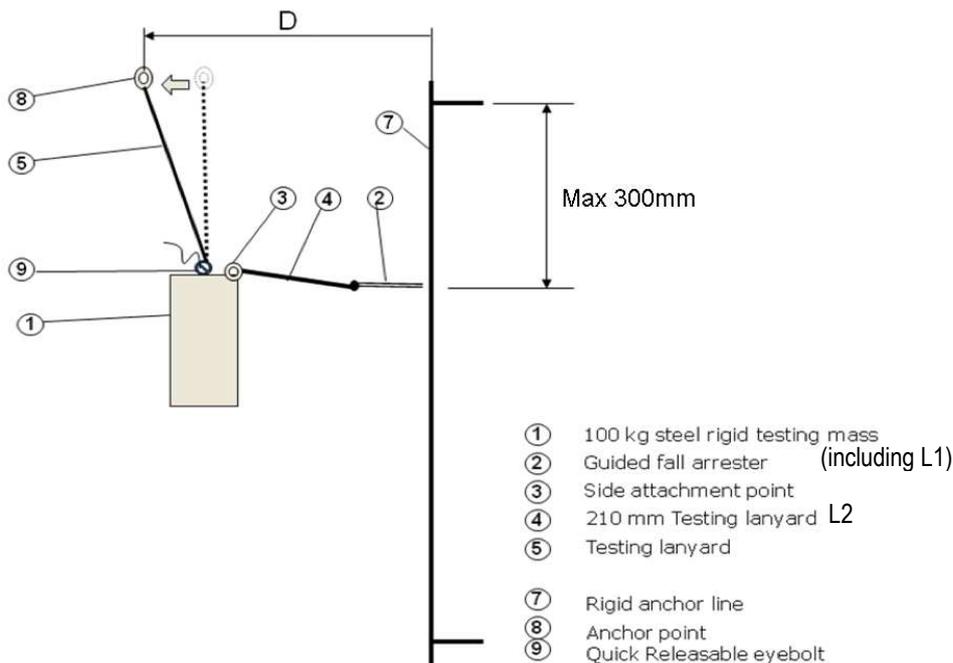


Figure 2: Maximum distance dynamic test

### 2.1 Requirement

When tested with the maximum rated load test mass (and at least 100kg) the arrest distance H shall not exceed  $2L_1 + L_2 + 1\text{m}$  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<sub>1</sub>: length of the guided fall arrester lanyard

L<sub>2</sub> : additional test lanyard (to simulate flexibility of harness and body positioning). L<sub>2</sub> = (210 +/- 5)mm. Use as many screwlink connectors (EN362 type Q) as necessary to achieve L<sub>2</sub>

### 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 eyebolt
- 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

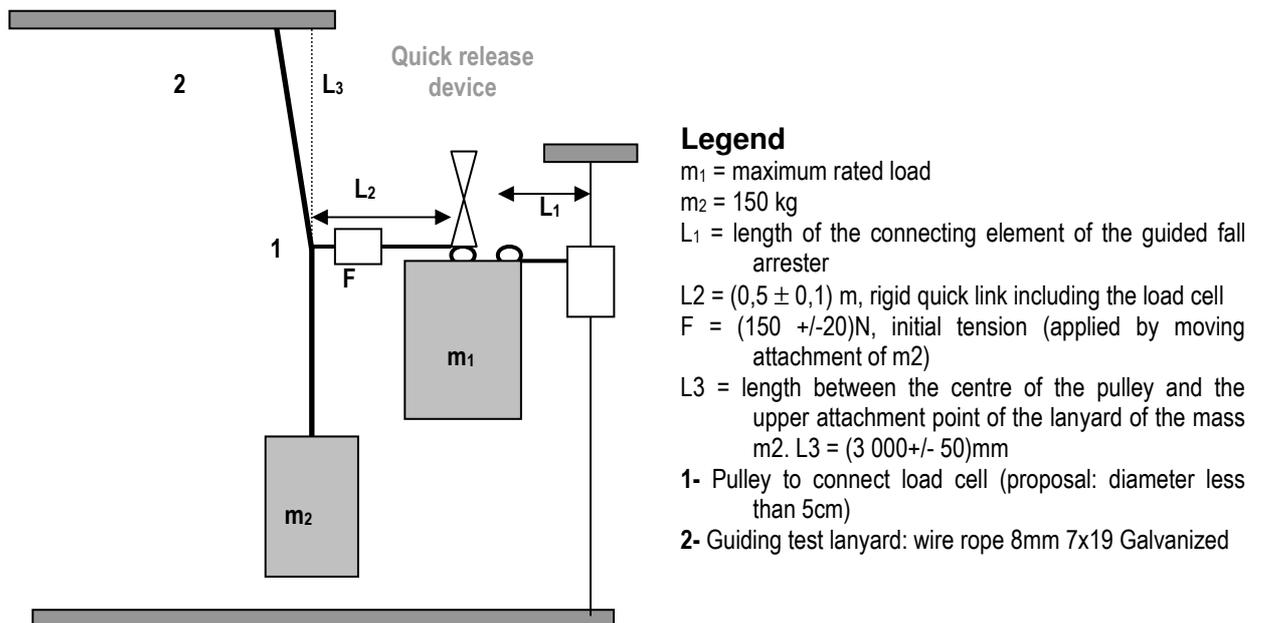


Figure 3: Fallback fall dynamic test

#### 3.1 Requirement

When tested in accordance with the maximum rated load test mass (and at least 100kg), the maximum arrest distance  $H_1$  shall be 1m and  $H_2$  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.

#### 3.2 Test method

See figure 3

Move  $m_1$  in such a way that  $L_1$  is horizontal until the guided type fall arrester is unlocked. If necessary, lift  $m_1$  until the guided type fall arrester unlocks.

Connect the load cell to the lanyard of  $m_2$  and move the guided test lanyard supporting  $m_2$  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  $H_1$  and  $H_2$  of the point of attachment of the rigid steel mass

## 4- SW: Sideway maximum distance dynamic test

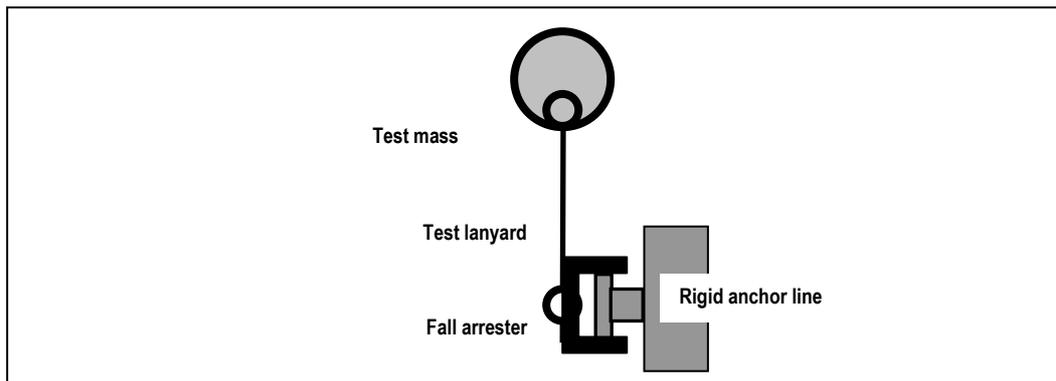


Figure 4: Sideway maximum distance dynamic test

### 4.1 Requirement

Same as "Maximum distance dynamic test"

### 4.2 Test method

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