



**FALL ARREST SYSTEMS**

## European Standards for FALL ARREST EQUIPMENT

All Fall arrest equipment includes different products adapted to the run risks and to the necessary protection. These products (full body harness, fall arrester on anchorage line, work positioning systems, energy absorbers, self retractable fall arrester and accessories) are governed by the European standards on Personal Protective Equipment (PPE)

### Standards applicable to all products :

- . **EN 363** : Fall arrest equipment
- . **EN 364** : Test methods
- . **EN 365** : General requirements for directions fo use and marking
  
- . **Other standards :**
- . **EN 353-1** : Mobile fall arrester on rigid anchorage line
- . **EN 353-2** : Mobile fall arrester on flexible anchorage line
- . **EN 354** : Lanyards
- . **EN 355** : Energy absorbers
- . **EN 358** : Work positioning system
- . **EN 360** : Self-retractable fall arrester
- . **EN 361** : Full body harness
- . **EN 362** : Connector
- . **EN 795** : Anchorage devices

### EN363 standard : Fall arrest equipment

Set of personal protective equipment against falls from a height, linked to one another and intended to stop a fall. A fall arrest equipment must contain at least a full body harness and a fall arrest equipment.

### EN364 standard : Test method

Describes the different test methods of the various PPE against falls from a height, as well as the test equipment.

### EN365 standard : General requirements for the instructions for use and the marking

Description of the marking which must figure on the PPE against falls from a height, and of the information which must appear on the instructions for use.

### EN353-1 standard : Mobile fall arrester on rigid anchorage line

Equipment consisting of a mobile fall arrester with self locking, integral with its rigid anchorage line (rail, cable...). An energy dissipating element can be built-in the equipment.

### EN353-2 standard : Mobile fall arrester on flexible anchorage line

Equipment consisting of a mobile fall arrester with self locking, integral with its flexible anchorage line (rope, cable...).

An energy dissipating element can be built-in the equipment.

### EN354 standard : Lanyards

Connection elements or equipment component. A lanyard can be in rope made of synthetic fibers, in metallic rope, in strap or in chain. Maximum length : 2m.

Caution : A lanyard without energy dissipating element must not be used as fall arrest equipment.

### EN355 standard : Energy absorbers

Component of a fall arrest equipment, which guarantees the stop of a fall from a height in safety by reducing the impact of the shock.

### EN354 standard : Lanyards

Connection elements or equipment component. A lanyard can be in rope made of synthetic fibers, in metallic rope, in strap or in chain. Maximum length : 2m.

Caution : A lanyard without energy dissipating element must not be used as fall arrest equipment.

### EN355 standard : Energy absorbers

Component of a fall arrest equipment, which guarantees the stop of a fall from a height in safety by reducing the impact of the shock.

### EN358 standard : Work positioning system

A work positioning system consists of components (work positioning belt and lanyard) linked to one form of complete equipment.

### EN360 standard : Self Retractable Fall Arrester

Fall arrester with self locking device and a self-retractable system for the lanyard. An energy dissipating element can be built-in the equipment.

### EN361 standard : Full body harness

Body gripping device intended to stop falls. The full body harness can be made of straps, buckles and other elements; set and adjusted in a right way on the body of an individual to hold him back during a fall and afterwards.

### EN362 standard : Connector

Connection element or equipment component. A connector can be a karabiner or a hook.

### EN795 standard : Anchorage devices

Element to which personal protective equipment can be fastened.

#### . A1 : no PPE

Consists of anchorage points designed to be fixed on vertical, horizontal and surfaces walls, columns, lintels).

#### . A2 class : no PPE

Consists of anchorage points designed to be fixed on leaning roofs.

#### . B class : PPE

Consists of mobile temporary anchorage devices.

#### . C class : no PPE

Consists of anchorage devices fitted with horizontal flexible anchorage lines "life line", admitted sloping : 15 degrees.

#### . D class : no PPE

Consists of anchorage devices fitted with horizontal rigid anchorage rails.

#### . E class : PPE

Consists of dead weight anchors to be used on horizontal surfaces, admitted sloping : 5 degrees ( not used in France).



### HA046 Harness

Full body harness 2 attachment points: rear and chest.  
Colour(s): Red / Grey  
Size(s): Adjustable  
CE EN361

PHA34FA



### HA008 Harness

Full body harness composed of straps & non corrosion buckles.  
Colour(s): Red / Grey  
Size(s): Adjustable  
CE EN361

PHA30FA



### Abyssin Harness

High visibility full body harness. 2 attachment points: rear and chest with cotton polyester vest integrated.  
Colour: Fluorescent Yellow  
Size: Adjustable. CE EN361 EN471 2.2

PHA26FA

FROMENT designs, develops and manufactures most of its comprehensive range and asserts itself as a major partner for the protection against fall from a height

The FROMENT range complies with highest safety standards while respecting user's comfort. FROMENT has and maintains the ISO 9002 certification.



### Steel Cable 10m

Self-retractable fall arrest equipment. ABS case. Galvanised steel cable. Length: 10m with ELARA01. Colour: Red  
CE EN362 EN360

PHA41FA



### Lanyard 2.5m

Self-retractable fall arrest equipment with 2.5m lanyard.  
Colour: Red  
CE EN360

PHA32FA

## PRO - Harness

Full body harness PRO101@FLEXA AB101E harness, 1 fall arrest dorsal D ring, adjustable shoulder and thigh straps, adjustable chest strap webbing, elastic polyamide - width 45 mm, stitching: high-strength polyamide thread, breaking strength > 22 kN fitting, high-strength zinc-plated steel, attachment D rings in zinc-plated wrought steel, energy absorbing dorsal plate, quick adjustment buckles system breaking strength >15 kN, net weight : 0,95 kg, comply with standard CE EN 361

AD101/E



## PRO - Harness "SCAFF"

Harness PRO 101/19 AB101/19 harness, 1 fall arrest dorsal D ring, adjustable shoulder and thigh straps, adjustable chest strap webbing polyester - width 45 mm, stitching: high-strength polyamide thread, breaking strength > 27 kN, fitting high-strength zinc-plated steel, attachment D rings in zinc-plated forged steel, energy absorbing dorsal plate, quick adjustment buckles lanyard, energy absorber: tear strap, trigger level force 2 kN, impact force reduction < 6 kN hooks strength > 25 kN, opening 17 mm, high strength forged steel, white electro-zinc-plated system breaking strength > 15 kN, net weight : 1,8 kg, comply with standard CE EN 361

AB101/19



## PRO-Karabiner

AJ501 carabiner screw locking, high strength steel, electro-zinc-plated breaking strength : > 25 kN, net weight : 0.168 Kg CE 0086 EN 362

AJ501

## PRO-Karabiner

AJ514 carabiner automatic twistlock, high strength steel, electro-zinc-plated breaking strength: > 25 kN, net weight 0.170 Kg 0086 EN 362 0082/037/160/11/93/46463G 1/08/94

AJ514

## Mobile Tripod

Mobile tripod anchorage system AM100 Telescopic adjustable feet, automatic locking legs when opened, stabilizer pad on each foot 4 high strength anchorage points, aluminium section design, cast head in high-strength. Aluminium 8 height setting points (1.35-2.35m), working diameter : 1.54-2.56m, closed length : 1.69m. Usable load capacity 2 persons or 500kg, Breaking strength > 10 kN, net weight 14.5kg. CE 0086 EN 795 CLASSE B

AM100



### Self Retracting Fall Arrester

12 m Galvanized Steel AD212, galvanised steel cable dia 4 mm, length 12 m. Internal absorbing element, integrated brake system, impact force reduction < 6 kN. Casing, black PP, anti-corrosive - shockproof Upper connector, karabiner AJ501, opening : 17 mm, steel - electro-zinc-plated. Lower connector, karabiner AJ565, opening : 19 mm, steel - nickel-plated. System braking strength > 12 kN. Horizontal use allowed. Maximum fall 2 m. Net weight : 4.5 kg  
CE EN 360

AD212

### JRG Fall Arrest Block

JRG 222 - Self-retractable lifeline – wire cable - 22 metres  
Providing more, this is the main feature the characterise the new JRG 222 the best. More compact, lighter, integrating more wire as its predecessor (AD220) and this without any sacrifice on the quality or the safety of this new block. All these great performances that can be used vertically or horizontally, for an attractive price.

AD222/FI



### Rebel - Fall Arrest Block



The Rebel is the highest performance fall arrester on the market: ultra compact, extremely light, as solid as a rock and with the best weight to length ratio around. Compatible with any harness on the market, the Rebel is available in three models.

So small, and yet it possesses all the attributes of its more cumbersome relatives! The design of this new self-retractable lifeline has been carried out with the utmost care and attention to detail, and has been especially created for industry and construction workers (maintenance work, work on scaffolding, pylons, in lifts etc...). Looking for a product that is both easy to handle and high-performance, these professionals will certainly be won over by the Rebel's reduced size and "feather" weight, allowing it to be carried around with the worker. On site, it provides an extremely high level of security, with its blocking mechanism designed to lock up at the slightest notion of danger. All this while avoiding any untimely locking during normal use, something that reduces impact force and stopping distance in case of fall. The Rebel also includes a fall indicator which allows the user to check at a glance the integrity of the product as well as being able to ensure that the product is not re-used if it has already been subjected to a fall. EN360

AD111

### AUTOBLOC Strap Fall Arrester

Webbing polyamide width 48 mm, strength > 15 kN sewed. Shock absorbing element, absorbing strap, polyamide webbing width 45 mm, engaging peak force 2 kN, impact force reduction < 6 kN. Casing composite material, anti corrosion - anti impact. Hooks strength A/B >25 kN, opening A: 17 mm / B: 18 mm, A/B high strength steel, A : electro-zinc-plated / B: nickel-plated. System breaking strength >15 kN  
Net weight : 1.54Kg. CE 0086 EN 360

AD104 / AD107





top selling kit

### Kit 11 - Back-pack kit

**The number one selling kit from Miller!**

1 or 2-point Duraflex elasticated harness, rear anchorage and 2m elasticated Miller Manyard with 50mm steel scaffold hook with TEFLON finish. Includes free back-pack

DKT02FA



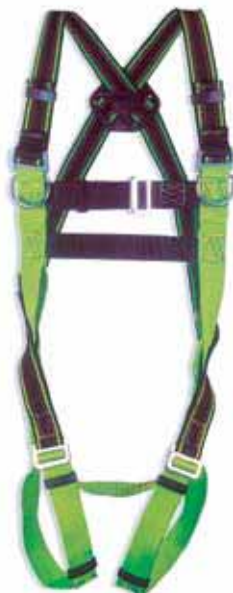
### Kit 8

This leading kit contains a 1-point Duraflex elasticated harness with TEFLON finish. Lanyard with shock absorber and scaffold hook 50mm, (soft loop attachment to harness) length 2m or 1.75m for scaffolders.

PKT02FA



Miller Duraflex Stretchable Harnesses have integrated comfort, safety and a host of design features into standard harness models. With a variety of features, these harnesses can be used for construction, industrial maintenance, telecommunications, utilities and other applications.



### MA02 Harness

Front D-Ring Harness. Used for a variety of climbing, combined space and rescue applications.

PHA20FA



### MA60 Harness

Side D-Ring Harness. Most commonly used for work positioning.

PHA22FA





### Fall Arrester Kit Case

Ready-for-use fall arrester kit case: Harness with 2 attachment points and energy absorber lanyard 2m and case. CE EN355 EN361 EN362

PHA25FA



### Energy Absorber

Energy absorber fall arrester with shock absorber 2m SECUREX lanyard and 2 karabiners. Colour: Red /White AN202 CE EN355

PLN38FA

### Karabiner

Screw safety karabiner. Galvanised steel. 17mm opening. Colour: Steel CE EN362 AM002



PHA10FA

### Snap Hook

Double action snap hook. Aluminium. 62mm opening Colour: Steel AM005 CE EN362



PLN37FA



### Self-Retracting Lifeline

Composite retractable galvanised wire rope lifeline with load indicator, quick acting braking mechanism stops the fall within a few centimetres, dual swivels and is approved for horizontal applications. High quality corrosion resistant stainless steel and aluminium internal components extend service life and reduce replacement costs. Fitted with snaphook and Karabiner. Requires annual certification. Conforms to EN360

PHA67FA (6.2 mtr)

PHA68FA (20 Mtr)

## PASSIVE FALL ARREST SYSTEMS



### Falls are the single most common cause of deaths in UK & Ireland's workplace

During 2004/2005 falls from height accounted for 53 fatalities and around 3,800 major injuries such as broken bones and fractured skulls. It's easy to see why the Health and Safety Executive has made reducing these numbers a priority.

The HSE Work at Height Regulations 2005 provides guidelines as to what employers need to do to comply. They have a duty to safeguard their employees by undertaking risk assessment to ensure work at height is properly planned, appropriately supervised and carried out in a safe manner. This includes the provision of appropriate equipment to minimise the distance and the consequences of a fall should one occur. All of the top housebuilders use Passive Fall Arrest Systems, designed to help them comply with the latest HSE regulations.

The Passive Fall Arrest or Landing System comprises a series of robust yet lightweight bags filled with an energy absorbent material. In circumstances where the risk of a fall cannot be eliminated, these bags provide a more yielding surface, hence reducing the possibility of serious injuries.

Manufactured using 75% recycled materials, the bags are available in various sizes, providing a flexible solution whatever the customer's needs.

The bags are quickly and easily installed using a simple clip method, providing a closely interlocked surface to completely fill the available space. They can be installed by on-site labour after minimal training by site management, requiring no complicated installation equipment and no electrical power.

### Where to use a Passive Landing System and Correct Installation

The Landing System was originally designed to protect carpenters and bricklayers working inside a building construction, where the bags will be enclosed by walls or partitions. The bags can be installed at ground floor level as soon as the first lift scaffold is installed, ensuring protection against falls. On first or subsequent floors, protecting workers bricklaying or installing trusses. Outside the housebuilding industry too there is significant interest in this range of products which have proved adaptable enough to provide protection across a wide range of applications where falls from height may occur.

The Landing System is installed by site staff trained and certified by the JBS or their appointed agents. The installation is then checked and approved by a designated person employed by the main contractor or developer. Each bag must be visually inspected to ensure there is no damage to the outer casing. The overall appearance of the bag should also be assessed to check that the energy absorbent material has not been crushed and any build-up of mortar or mud should be removed. The clips must also be inspected for damage to ensure they are fully operational. Wherever the bags are to be used, the area should be cleared of all rubbish and sharp objects and swept thoroughly to provide a clear surface.

The bags are very strong, but should not be walked upon unless absolutely necessary. Continual walking on the bags will eventually compress the energy-absorbing fill and reduce effectiveness.

**Checking Bags:**

Each bag must be visually inspected to ensure that there is no damage to the outer casing. The clips must be inspected for damage to ensure that they are fully operational. Any build-up of mortar or mud should be removed with a stiff hand brush. The overall appearance of the bag should be assessed to check if the energy absorbent material has not been crushed

**Installation at Ground Floor:**

The concrete oversite should be cleared of all rubbish and sharp objects and swept out to provide a clear surface on which to install the bags. Working from one corner, clip the "Soft Bags" together to form a complete unit. As each bag is installed it must be pushed hard into the previous bags to ensure that a continuous mat is assembled. Ensure all clips except those on the perimeter are used. Where the area of floor to be covered by the final row of bags is smaller than the length or width of bag, simply allow the bag to curve up the perimeter wall, (This should direct a falling body onto the "Landing System").

**Installation at First Floor Joists:**

Once first floor joists are fixed and brickwork is commenced, the bags can be used for protection on the first floor by passing them up through the stairwell opening. Alternatively a forklift truck fitted with our special stillage can be used to offer up the bags to the operatives standing on the scaffold. The stillage should be raised so that each layer of the bags can be pulled on to the scaffold over the handrail on to the scaffold platform. (Note:- The bags weigh under 7kg and are easily handled by one man, however extra care should be taken in strong winds.) At first floor, it is recommended that the bags are laid on "Weather Deck" or similar weatherproof flooring or on temporary boarding. However, if engineered "I beams" are used then weatherproof boarding should always be installed before using the bags. Particular care should be taken at stairwells which must be adequately boarded over to ensure that a firm ase is in place for the bags. The bags will not span a stairwell without support. Use scaffold boards or similar, directly on the joists at right angles to the joists, to provide an adequate safe working platform for operatives to install the bags. An example of a suitable method when using weather deck flooring is to fit temporary joists across the stairwell and board over completely, cutting out the stairwell once the roof construction is complete. Once a safe working platform has been established the installation is the same as at ground floor.

**Checking installation:**

Once the bags are installed the "Foot Test" should be carried out. This is a simple way to check that the bags have been correctly installed. If the bags have been correctly installed, you will be unable to push your foot in between the bags. (See installation guide). If the foot test fails, additional bags should be installed

