

A GUIDE TO BUYING FALL ARREST EQUIPMENT



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INTRODUCTION

In a world of evolving legislation employers in the EU have had a legal responsibility for eliminating or reducing risks of falls since the introduction of *European Council Directive 2001/45/EC (Work at a height)*. This sets out the minimum health and safety requirements for using equipment to Work at Height, however it does not prevent EU member states from introducing more stringent measures with the result that standards do vary across different European countries.

Falls from height are generally the biggest single cause of workplace deaths and one of the main causes of major injuries in the work place. In 2014 in the UK alone falls from height were the most common cause of workplace fatalities, accounting for 29% of fatal injuries to workers (RIDBOR).

If there is any risk of falling, whatever the height, adequate measures must be taken to ensure safety. It's the responsibility of the employer to identify and plan work ensuring correct measures are in place. Any risk of falling should first be addressed using measures to eliminate falls, such as cherry pickers, scaffolding or guardrails, or by using a personal work restraint lanyard. Next nets or air bags should be considered taking into account the distance and consequence to mitigate risk.

Only then should fall protection equipment be considered and correct use is vital.

ACROSS EUROPE FALLING FROM HEIGHT IS THE NUMBER ONE CAUSE OF FATAL INJURIES TO WORKERS.

WHEN IS FALL PROTECTION EQUIPMENT REQUIRED AND WHY?

Fall protection is required whenever there is need for working at height, but what is actually classed as Work at Height? The classification can vary depending on the country in which the work is being carried out, but it is also important to note that employers will still be duty bound by the laws of their country of operation, even when undertaking work in another country.

EUROPE

All member states of the European Union (including the UK) must adopt and implement regulations and requirements specified within European Directives. These Directives come into force once published in the Official Journal of the EU. Member states must implement European Directives into national law within a specified timescale.

The current Directive concerning Work at Height is *European Council Directive 2001/45/EC* which sets out the minimum health and safety requirements for using equipment to Work at Height. Although this is a minimum requirement and member states can adopt more stringent safety measures, a good guide for the whole of Europe is the *Non-binding guide to good practice for implementing Directive 2001/45/EC (Work at a height)* published by the European Agency for Health and Safety at Work and available free via its bookshop.

UK

In the United Kingdom Work at Height is classed as work in any place, be it above or below ground level, where injury could occur to an employee as the result of a fall. Any Work at Height undertaken in the UK is subject to stringent regulation implemented by the Health & Safety Executive through the UK government.

US

Work at Height in the US has differing classifications according to industry sector; however, in general, fall protection equipment must be provided where the employee is working at a height of over 4 ft. The height limit increases within maritime and construction sectors. Fall protection equipment must always be provided, regardless of height, if a person is working above dangerous machinery or equipment.

AUSTRALIA

Australia's National Code of Practice for the Prevention of Falls in General Construction defines two standards for working at heights: one where the risk of falling is from a height of less than 6.6 ft (2 m) and a second where the risk of falling is from a height greater than 6.6 ft (2 m).

NEW ZEALAND

The current Work at Height regulations specify that fall prevention measures must be put in place where there is an apparent risk of a fall in excess of 9.10 ft (3 m), however fall protection equipment is required at all times if there is risk of harm from a fall – whatever the height. WorkSafe New Zealand is the health and safety government regulatory agency and publishes fact sheets on various aspects of working at height.



UK WORK AT HEIGHT LEGISLATION

- **The Health and Safety at Work Act 1974:** principle legislation applicable to both employers and employees
- **The Work at Height Regulations 2005:** this implements European Council Directive 2001/45/EC concerning minimum health and safety requirements for working at height
- **The Work at Height (Amendment) Regulations 2007:** revision of 2005 regulations
- **The Lifting Operations and Lifting Equipment Regulations (LOLER) 1998:** occasionally a person can be classed as a 'load' under these regulations

WHY BUY FROM RS?

As industry experts we offer a wide range of fall protection equipment for most requirements and environments sourced from a range of market-leading suppliers including JSP, expert in fall arrest and recovery equipment and collaborating partner in the production of this guide. This means you can find all the products you need from one source, with next-day delivery, competitive-pricing and bulk discounts.

FALL PROTECTION EQUIPMENT EXPLAINED

FALL ARREST

It is not always possible to completely eliminate any risk of fall – sometimes workers require the freedom to climb or move about. In these instances, Fall Arrest Equipment might be considered.

Fall Arrest is the only category of products that actually allow a fall to take place with the system effectively arresting the fall in a controlled manner, rather than providing restraint of some sort. Where workers do need more freedom of movement – for instance when building, maintaining or dismantling structures such as scaffolding, steel frame buildings, racking systems and tower cranes – it is important to mitigate the consequences of a fall as far as possible.

Fall arrest systems work by keeping the force impact and fall distance within known limits to mitigate the risk and potential consequences of a fall from height.



WORK RESTRAINT

This category of work equipment effectively limits the movement of the user to prevent them approaching a fall hazard and creates a safe working zone.

Work restraint systems generally consist of an Anchor Point, Connecting Element and Harness – plus it is vital to have the knowledge and training to use them all safely. Once a safe working zone is in place, the worker's awareness level will decrease.



WORK POSITIONING

This type of equipment is suitable for environments where the worker needs to remain suspended at height in their work position.

Work Positioning Systems comprise of equipment to hold a worker in place to carry out a task, therefore reducing the risk of falling, and generally require a back-up secondary safety system in addition to the main work positioning system.



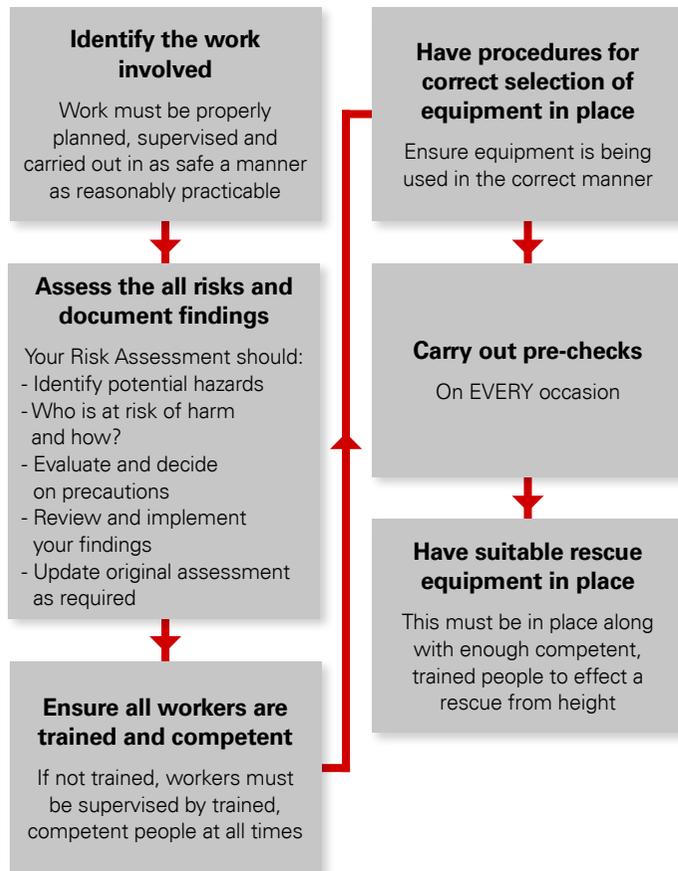
EN STANDARDS

| Standard | Covers |
|----------|---|
| EN341 | Descenders |
| EN353-1 | GuidedType Fall Arresters including a rigid anchor line |
| EN353-2 | GuidedType Fall Arresters including a flexible anchor line |
| EN354 | Lanyards |
| EN355 | Shock Absorbers |
| EN358 | Work Positioning Systems |
| EN360 | RetractableType Fall Arresters |
| EN361 | Full Body Harness |
| EN362 | Connectors (Class A/B/T) |
| EN363 | Fall Arrest Systems |
| EN364 | Test Methods |
| EN365 | General requirements for instructions for use, maintenance, periodic examination, repair, marking and packaging |
| EN795 | Anchorage Devices (Class A/B/C) |
| EN813 | Sit Harnesses |
| EN1496 | Rescue Lifting Devices |
| EN1497 | Rescue Harnesses |
| EN1498 | Rescue loops |
| EN1891 | Low stretch kernmantel loops |
| EN13463 | Non-electrical equipment intended for use in potentially explosive atmospheres. Protection by constructional safety 'c' |

GOOD PRACTICE PRINCIPLES FOR SELECTING SUITABLE FALL PROTECTION EQUIPMENT

Selecting adequate and suitable fall protection equipment can appear daunting at first; with so many factors to consider and so many available options it can be difficult to know where to start.

At the simplest level, the selection of protective equipment should include assessment of the following:



TRAINING FOR CORRECT USE

If fall protection equipment is not worn and used correctly it will have dire consequences, so it is vital that you have adequately trained and competent people in your organisation.

All people involved in the initial risk assessment, selection, use and maintenance (if necessary) of fall protection equipment must be trained and competent. Contact local training specialists to discuss your specific training needs.

Courses are available with key aims, such as:

- To prevent falls
- To teach good understanding of height safety and equipment methodology
- To lower or lift personnel in the event of an emergency
- To evacuate or rescue personnel from or in high structures, this includes tower cranes

ANNUAL TESTING & INSPECTION

European Standards dictate that all items of fall protection equipment for Work at Height and all safety systems undergo a periodic examination by a competent person.

Training of competent people or annual inspections can be carried out by local specialists, suppliers or manufacturers.

FALL PROTECTION ABCs

An easy reminder of the main components that make up a personal Fall Arrest System:

A

is for **Anchorage** – a secure point of attachment



B

is for **Body Support** – harnesses provide a connection point and distribute fall force



C

is for **Connectors** – to connect the anchorage with the harness using lanyards or lifelines



D

is for **Descent and Rescue** – devices for rescuing and lowering to the ground



E

is for **Education** – ensure workers are trained and competent





SHOPPING THE RS RANGE: FALL ARREST HARNESSES, KITS AND EQUIPMENT

To help you find exactly what you need, we have organised our range into the following categories:

- **Fall Arrest Harnesses & Vests**
- **Fall Arrest Lanyards**
- **Fall Arrest Blocks & Lifelines**
- **Fall Arrest Karabiners, Anchor Points & Accessories**
- **Fall Arrest & Fall Recovery Kits**

Each section can then be refined using a series of specifications to filter down, selecting any or all of your requirements, making it easier to find the ideal product for you:

FALL ARREST HARNESSES & VESTS

| Attachment Points | Rear Attachment | Front Attachment | Size | Type | Colour | Adjustable Leg Straps | Adjustable Shoulder Straps | Adjustable Chest Straps | High Visibility | Quick Release Buckles | Elasticated Webbing | Dielectric | Weight | Holding Tools | Standards |
|-------------------|-----------------|------------------|------|---------|--------|-----------------------|----------------------------|-------------------------|-----------------|-----------------------|---------------------|------------|--------|---------------|-----------|
| 1 | Yes | Yes | S | Harness | Black | Yes | Yes | Yes | Yes | Yes | Yes | Yes | 1570g | Yes | CE EN 361 |
| 2 | No | No | M | Vest | Red | No | No | No | No | No | No | No | | No | CE EN 358 |
| 3 | | | L | | | | | | | | | | | | |

FALL ARREST LANYARDS

| Type | Material | Width | Length | Weight | Harness Connection | Maximum User Weight | Anchorage Connection | Adjustable | Standards |
|------------------|----------|-------|--------|--------|--------------------|---------------------|----------------------|------------|-----------|
| Work Positioning | Webbing | 44mm | 2m | 900g | Karabiner | 80kg | Scaffold Hook | Yes | CE EN 354 |
| Shock Absorbing | Rope | | 5m | | | | | No | CE EN 358 |

FALL ARREST BLOCKS & LIFELINES

| Type | Length | Weight | Retractable | Material | Casing Material | Maximum User Weight | Standards |
|----------|--------|--------|-------------|----------|-----------------|---------------------|-----------|
| Block | 5m | 3.45kg | Yes | Webbing | Polymer | 80kg | CE EN 360 |
| Lifeline | 20m | | No | Rope | Aluminium | | |

FALL ARREST KARABINERS & ACCESSORIES

| Type | Material | Maximum Opening | Locking | Length | Weight | Static Resistance | Standards |
|---------------|-----------|-----------------|------------|--------|--------|-------------------|-----------|
| Karabiner | Aluminium | 18mm | Screw Gate | 90mm | 80g | 22KN | CE EN 362 |
| Sling | Steel | | Twist Lock | 120mm | | | |
| Rope Grab | Alloy | | Snap Gate | | | | |
| Scaffold Hook | | | | | | | |
| Tower Hook | | | | | | | |

FALL ARREST & FALL RECOVERY KITS

| Kit Type | Attachment Points | Rear Attachment | Front Attachment | Kit Contents | Maximum User Weight | Length | Distance Between Legs | Maximum Height Between Legs | Maximum Load | Weight | Standards |
|-------------------|-------------------|-----------------|------------------|---|---------------------|----------------|-----------------------|-----------------------------|--------------|---------|-----------|
| Fall Arrest Kit | 1 | Yes | Yes | Harness, Lanyard, Rucksack | 80kg | 1.35m to 2.15m | 0.8m | 1.5m | 100kg | 12.15kg | CE EN 362 |
| Fall Recovery Kit | 2 | No | No | Draw String Bag, Harness, Lanyard | | | | | | | |
| | 3 | | | Harness, Retractable Fall Limiter, Rucksack | | | | | | | |