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# **SAFETY DIRECT LTD.**

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***Fall Protection Equipment Manufacturer***

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## **Instructions for Energy Absorbing Adjustable Lanyards**



### **IDENTIFICATION**

ALL Safety Direct energy absorbers can be identified by the color of webbing used for the backup strap in the energy absorber pack. The strap is **BLACK** for an E4 energy absorber, and either **BLUE** or **GREEN** for an E6 Energy absorber

### **WARNING**

Failure of the user to read and understand all instructions for use of this equipment may result in serious injury or death.

It is recommended that the user complete an approved fall protection program before using the product.

There should be an approved rescue plan in effect on any work site prior to the commencement of working at heights. The rescue plan must have provision to retrieve any worker, suspended as a result of a fall arrest, without delay in order to reduce the effects of suspension trauma.

In the event of a fall arrest and the energy absorber on the lanyard deploys, the deployed length of the lanyard can increase by up to 1.07 m (3.5 ft) on E4 energy absorbers and on E6 energy absorbers with a blue backup strap. It can increase by up to 1.75 m (5.7 ft) on E6 energy absorbers with a green backup strap.

The total fall distances should be calculated using this increased deployed length to ensure that there is sufficient clearance to the surface below the worksite. Refer to product label for maximum deployed length of lanyard.

### **General Instructions**

All warning labels and instructions must be understood and followed by the user before using the product.

All users must understand the relevant regulations and usage standards for fall protection, pertaining to this product, in the jurisdiction in which it is being used.

Only trained and competent personnel should use these products.

All fall protection equipment must be visually inspected by the worker prior to each use.

All fall protection equipment must be inspected by a competent person on a regular basis (at least annually).

Fall protection equipment must not be altered or modified in any way.

To reduce the possibility of accidental release, a competent person must ensure that all the system components are compatible.

Any equipment exhibiting deterioration, damage or deformation must be removed from service immediately and inspected by a competent person before being returned to service.

All equipment subjected to a fall arrest or fall incident must be removed from service immediately and be tagged for further inspection to determine the disposition of the equipment.

The locking snap hooks at the end of the lanyard legs should have the smallest throat opening necessary to accomplish the task. The use of oversized locking snap hooks could increase the possibility of accidental rollout or overloading of the gate on the snap hook.

## **Usage Instructions**

Failure to follow these instructions could result in catastrophic failure of the lanyard in the event of a fall arrest situation.

In the event of a fall arrest the suspended worker should be rescued without delay in order to minimize the effects of suspension trauma.

### **ADJUSTABLE LANYARD.**

The adjustable lanyard should be adjusted to the shortest length possible in order to be able to accomplish the work task. There should be no slack allowed in the adjustable lanyard while the worker is completing the task.

The lanyard is shortened by sliding the keeper away from the adjustable roller buckle and by then pulling on the end of the strap. When the adjustment is completed slide the keeper back up to the adjustable roller buckle to lock the adjustment in place.

To lengthen the adjustable lanyard slide the keeper away from the adjustable roller buckle and pull the amount of slack webbing required above the adjustable roller buckle. Then pull the slack through the adjustable buckle by pulling on the pull-tab attached to the roller buckle. Once the adjustment is made slide the keeper up to the adjustable roller buckle to lock the adjustment in place.

The locking snap hook adjacent to the energy absorber must be attached to the Dorsal (rear) D-ring of an approved full body harness and visual confirmation of the locking of the gate on the snap hook must be obtained.

The lanyard should be attached to an approved anchorage with a load rating of 5,000 lbs or in accordance with the regulations in the jurisdiction in which the equipment is being used.

Wherever possible the anchorage should be chosen so as to be directly above the work site in order to reduce or eliminate the possibility of a swing fall.

When selecting the anchorage ensure that there is sufficient clearance to the surface below to allow for the following:

- 1) Deployment of the energy absorber.
- 2) Stretch of the full body harness.
- 3) Slippage of the Dorsal D-ring on the full body harness.
- 4) Stretch of the anchorage means if applicable.

The length of the lanyard should be the minimum needed to accomplish the task, but should not exceed 1.8 metres (6 feet) unless the anchorage is above the attachment point to the full body harness.

The lanyard should not be modified or altered in any way.

In the event that a lanyard is involved in a fall arrest situation it must be removed from service immediately and discarded.

## **Inspection**

All lanyards should be inspected by the user before each use and should be visually inspected by a competent person, other than the user, on an annual basis or sooner. A record of these inspections should be kept in a log.

When an inspection reveals any defects the lanyard must be removed from fall arrest service immediately and be tagged to preclude any further use. The lanyard should not be returned to service until it has been reworked or repaired by the manufacturer.

The lanyard should be removed from service immediately if an inspection reveals any of the following:

- a) that the lanyard has been subjected to fall arrest service.
- b) there is evidence of any corrosion or deformation of the hardware connectors and components, including cracks, sharp edges, chemical attack, excessive heat exposure or alteration in any way.
- c) function tests show that the gates on carabiners and snap hooks do not lock automatically.
- d) if the original labeling on the lanyard has been removed or is illegible.
- e) the lanyard material has become adulterated with paint, bitumen, solvent or other chemical reagent.
- f) The webbing material used to manufacture the lanyard is compromised, including but not limited to any spliced terminations or stitch patterns, cuts, tears, abrasion, burns, knots, kinks or excessive wear.

Any lanyard removed from service and awaiting inspection should be tagged to indicate that it should not be used until it has been inspected and approved for further fall protection service.

Only persons or organizations authorized in writing by Safety Direct Ltd. shall make repairs to lanyards.

## **Care and maintenance**

Maintenance of the lanyard should be carried out in accordance with the instructions provided by Safety Direct Ltd.

All lanyards should be stored in a clean, dry environment, with limited exposure to the following:

- 1 sunlight and UV radiation
- 2 excessive heat
- 3 harmful fumes
- 4 corrosive chemicals or environments

If necessary the lanyard can be cleaned by the use of a mild soap solution and warm water and a sponge. The use of harsh detergents or chemical solvents is not recommended. After washing, rinse the lanyard in clean water, and hang the lanyard to air dry away from direct heat and then carry out a further inspection. After washing, any hardware should be function tested and a light lubricating oil can be applied if necessary.

## **Product Design Parameters.**

### E4 Energy Absorber

Average Arresting Force ( $F_{avg}$ ) as per CSA Z259.11-05: 2.65 kN.

Maximum Elongation ( $X_{max}$ ) as per CSA Z259.11-05: 1.24 m.

### E6 Energy Absorber with BLUE Backup Strap

Average Arresting Force ( $F_{avg}$ ) as per CSA Z259.11-05: 3.97 kN.

Maximum Elongation ( $X_{max}$ ) as per CSA Z259.11-05: 1.24 m.

### E6 Energy Absorber with GREEN Backup Strap

Average Arresting Force ( $F_{avg}$ ) as per CSA Z259.11-05: 3.25 kN.

Maximum Elongation ( $X_{max}$ ) as per CSA Z259.11-05: 2.24 m.

## **WARNINGS**

The following situations should be avoided when using lanyards:

- 1) Snap hooks should not be attached to each other directly.
- 2) Only one snap hook should be attached to each D-ring.
- 3) Unless specifically designed as a "Tie-Back" lanyard the snap hook should not be connected back into the body of the lanyard.
- 4) When the lanyard is not in use the *free leg* of the lanyard should be attached to a tear away fitting on the harness. It must not be attached to either the harness or any D-ring.
- 5) Connecting components attached together must be compatible in order to reduce or eliminate the possibility of snap hook "roll out".
- 6) The anchorage point should be directly overhead wherever possible to eliminate any swing fall situation.
- 7) Lanyards with E4 energy absorbers are rated for 1 person, maximum total mass 115 kg (254 lb).
- 8) Lanyards with E6 energy absorbers are rated for 1 person, maximum total mass 175 kg (386 lb). For workers with a total mass exceeding 140 kg please contact Safety Direct Ltd

In case of any issues or interpretations arising out of the use of these products or these instructions please contact Safety Direct Ltd. for clarification.

**Fall Protection You Can Live With! ®**

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