

## **BSI Code Of Practice Terms and Definitions and Equipment Checklist**

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## **Terms and Definitions**

For the purposes of this British Standard, the following terms and definitions apply.

### ***Work Types***

#### *Rope Access*

Technique using ropes, normally incorporating two separately secured systems, one as a means of access and the other as back-up security, used with a harness in combination with other devices, for getting to and from the place of work and for work positioning.

#### *Work Positioning*

Technique that enables a person to work supported in tension or suspension by protective equipment in such a way that a fall from a height is prevented or restricted

#### *Work Restraint*

Technique whereby a person is prevented by means of personal protective equipment from reaching zones where the risk of a fall from a height exists

#### *Aid Climbing*

Method of progression in suspension, either by moving from one fixed anchor to another or by the use of moveable anchors or anchor points.

#### *Lead Climbing*

Method of progression, not in suspension, in which the operative is supported by the structure and is protected by a safety line, which is passed through intermediate anchors

NOTE the safety line is passed through an independently anchored fall protection device, which is operated by another person, and by which a fall can be arrested with a limited force

#### *Traversing*

Broadly horizontal progression, generally using lead climbing or aid climbing techniques or transverse ropes or pulley systems.

#### *Workmate rescue*

Care and removal by one or more operatives of an incapacitated member of their rope access work team from a place of danger to a place of safety.

### ***Equipment***

#### *Lifting Equipment*

Work equipment that lifts or lowers loads and includes its attachments used for anchoring, fixing or supporting it

NOTE 1 Examples are chains, slings, eye-bolts, and anchorage equipment which includes rigging and associated items used in rope access methods, including ropes, karabiners, harnesses and strops.

NOTE 2 The lifting Operations and Lifting Equipment Regulations 1998 (LOLER) state that a load includes a person.

#### *Fall Arrest System*

Personal fall protection system for work at a height by which a fall is intended to be arrested to prevent the collision of the user with the ground or structure

#### *Anchorage*

##### *Anchor*

Fixing or fixture for the secure attachment of anchor lines or persons

NOTE also known as a belay.

##### *Anchor Point*

Attachment point at an anchor for anchor lines or persons

## *Lines and Ropes*

### *Anchor Line*

Flexible line connected at least at one end to a reliable anchor to provide a means of support, restraint or other safeguard for a person wearing a harness in combination with other devices

NOTE and anchor line may be a working line or a safety line.

### *Working Line*

Anchor line used primarily for suspension, work positioning and restraint including descending and ascending

### *Safety Line*

Anchor line provided as a safeguard to protect against falls if the user slips or if the primary support (e.g. the working line), anchor or positioning mechanism fails

NOTE also known as a "back-up rope".

### *Dynamic Rope*

Rope specifically designed to absorb energy in a fall by stretching, thereby minimizing the impact force

### *Low-Stretch Rope*

Textile rope with lower stretch and, therefore, less energy absorption than dynamic rope

NOTE 1 also known as a "semi-static rope".

NOTE 2 this used to be termed "static rope". However, the term "static rope" is now only applied to ropes with negligible stretch, e.g. wire or aramid, which show little extension at failure and hence have little ability to absorb shock loads.

### *Kernmantel Rope*

Textile rope consisting of a core enclosed by a sheath

NOTE the core is usually the main load-bearing element and typically consists of parallel elements which have been drawn and turned together in single or multiple layers, or of braided elements. The sheath is generally braided or woven and protects the core from, for example, external abrasion and ultraviolet degradation.

## *Rope Adjustment Devices*

### *Ascender*

Rope adjustment device which, when attached to an anchor line of appropriate type and diameter, locks under load in one direction and slides freely in the opposite direction.

NOTE normally used as a device for ascending the working line or positioning the operative on it.

### *Descender*

Manually operated, friction inducing, rope adjustment device, which when attached to an anchor line of appropriate type and diameter, allows the user to achieve a controlled descent and to stop with hands off anywhere on the anchor line.

NOTE normally used as a device for descending the working line or positioning the operative on it.

### *Back-up device*

Rope adjustment device for a safety line of appropriate type and diameter, which accompanies the user during changes of position or allows adjustment of the length of the safety line, and which locks automatically to the safety line, or only allows gradual movement along it, when a sudden load is applied

## *Connectors*

### *Connector*

Openable device used to connect components, which enables the user to link himself/herself directly or indirectly to an anchor

### *Karabiner*

Connector, formed as a complete loop, with a spring loaded entry gate often safeguarded in the closed position by a screwed sleeve or automatic locking device

NOTE a karabiner in which the entry gate is safeguarded in the closed position by a screwed sleeve is known as a "screwgate karabiner".

### *Screwlink Connector*

Connector that is closed by a threaded sleeve which is a load-bearing part of the connector when fully screwed up

NOTE also known as a "maillon rapide" (pronounced my-yon rapeed) or a "quicklink"

### *Anchor Sling*

Sling, strop or lanyard made from textiles, wire rope or chain, which is used to provide an anchor point for anchor lines, cow's tails etc. to anchors to which it is not possible to connect directly

### *Cow's Tail*

Short strop, lanyard or sling connected to the main attachment point of a harness

### *Energy Absorber*

Component or components in a fall arrest system, designed to minimize the impact force generated in a fall

NOTE also known as a "shock absorber".

### *Workseat*

Suspended seat, not forming part of the fall protection system, provided for the comfort of a rope access operative

## **Loads**

### *Working Load Limit (WLL)*

Maximum load that can be lifted by an item of equipment under conditions specified by the manufacturer

### *Safe Working Load (SWL)*

Designated maximum, working load of an item of equipment under specified conditions

NOTE see also working load limit (WLL)

### *Breaking Load*

Minimum load at which an item of equipment breaks when it is tested, new, under specific conditions

### *Proof Load*

Test load applied to verify that an item of equipment does not exhibit permanent deformation under the load, at that particular time

NOTE this result can then be theoretically related to the performance of the equipment in its particular application.

## **Persons**

### *Competent Person*

Designated person suitably trained or qualified by knowledge and practical experience to enable the required task or tasks to be carried out properly

### *Sentry*

Person responsible for keeping watch to safeguard the anchorage areas and/or the area of ground below the operatives

### *Supervisor*

Person responsible for all aspects of the rope access site

## **Fall Factor**

Length of a potential fall divided by the length of rope or lanyard available to arrest it

### **Exclusion Zone**

Zone designated to exclude the public from a hazardous area and from the rope access equipment, or to exclude the operatives from a hazardous area, unless suitably protected

### **Safety Method Statement**

Document prepared by an employer describing how a particular job (or type of job where several jobs are essentially identical) should be undertaken to ensure that any risks to the health and safety of the operatives, or others who might be affected, are minimized

### **Certificate of Conformity**

Documentation provided by a supplier of equipment at the time of purchase, stating performance specifications of the equipment or indicating conformity to known standards or compliance with relevant legislation

NOTE an example of relevant legislation is the personal protective equipment at work regulations 1992 and amendments.

### **Zero Targeting**

Establishment of a system of working which aims to achieve no accidents, no waste and no defects

## **EQUIPMENT INSPECTION CHECKLIST**

### **All Textile Equipment:**

#### **General checking procedure for all textile equipment**

- Have you read the information supplied by the manufacturer?
- Is the product within the manufacturer's recommended lifespan?

Visual - Check for:

- Excessive wear to any part
- Abrasion, particularly to load-bearing parts
- Furry webbing or rope (this indicates abrasion)
- Stitching cut, broken or abraded
- Cuts, particularly to load-bearing parts
- Dirty webbing or rope (dirt accelerates abrasion, both externally and internally)

Visual and tactile - Check for:

- Damage by chemicals.
- Powdery surface
- and/or discolouration
- and/or hardened areas (these often signify chemical contamination)
- Damage by heat, eg. glazed areas

Action:

- Product beyond recommended lifespan: remove from service
- Excessive wear to any part: remove from service
- Abrasion: a small amount is permissible. Remove from service if excessive
- Cuts: remove from service
- Dirty: clean according to manufacturer's instructions
- Chemical contamination: remove from service
- Heat damage: remove from service
- Stitching cuts, broken or abraded: remove from service

If in doubt on any point, remove from service

## ***Working Lines and Safety Lines***

### **Checks in addition to the general checking procedure for all textile equipment**

Visual - Check:

- Ends of rope for excessive wear

Visual and tactile - Check for:

- Internal damage. On cable-laid ropes, open up the lay and inspect as above. On Kernmantel ropes, feel for unusually soft or hard areas, on sheath and core. (This signifies damage.) Particularly check ends of ropes

Action:

- Excessive internal grit: Clean according to manufacturer's instructions. If it is not possible to remove the grit, inspect the rope for damage by abrasion more frequently than normal
- Unusually soft or hard areas: remove from service. (sometimes, the damage is only local, so damaged areas can be cut out.)

If in doubt on any point, remove from service.

## ***Harnesses***

### **Checks in addition to the general checking procedure for all textile equipment**

Visual and tactile - Check:

- Inside and outside any textile attachment point loops for all the features listed under the general checking procedure
- Fastening and adjustment buckles for:
  - correct assembly,
  - correct functioning,
  - excessive wear,
  - corrosion,
  - cracks,
  - other damage
- Other safety critical metal or plastics components for:
  - correct functioning,
  - corrosion,
  - cracks,
  - other damage

Action:

- Textile attachment points loops: treat in accordance with general checking procedure
- Fastening and adjustment buckles, other safety critical metal or plastics components:
  - Excessive wear: remove from service
  - Corrosion: remove from service
  - Cracks: remove from service
  - Other damage: remove from service
  - Incorrect functioning: remove from service

If in doubt on any point, remove from service

## ***Cow's tails, lanyards, strops, slings***

## **Checks in addition to general checking procedure for all textile equipment**

Visual and tactile - Check:

- inside and outside and attachment point loops for all the features listed under the general checking procedure
- All knots for security
- That knot overlaps are sufficient
- That knots in cow's tails are not too tight (i.e.that they would still provide some energy absorption)

Action:

- Attachment point loops: treat in accordance with general checking procedure
- Knots: if in doubt, remove from service. Knots may be re-tied by a competent person. Tension knot with body weight and ensure that there is sufficient overlap (minimum 100 mm). If the knots in a cow's tail appear to be very tight, either re-tie the knots or replace the cow's tail

If in doubt on any point, remove from service

### ***Metal Components - Descenders***

#### **Checking procedures for metal components**

- Have you read the information supplied by the manufacturer

Visual - Check for:

- Wear, particularly on bobbins
- Deformation
- Cuts
- Cracks
- Heavy marking or scoring
- Burring
- Corrosion
- Contamination by chemicals e.g.pitting, flaking of aluminium products (usually due to salt water)
- Build up of foreign matter, e.g. grit, grease, paint

Visual and tactile -Check that:

- Moving parts function correctly, e.g handles, locking devices
- Threaded assemblies are fully tightened and correctly secured
- There is no deformations of any parts, e.g.handles

Action:

- Remove any foreign matter
- Some wear is permissible: refer to manufacturer's information
- Deformation: remove from service
- Cuts, heavy burring, marking or scoring: remove from service
- Cracks: remove from service
- Contamination by chemicals: remove from service
- Incorrect Functioning: remove from service
- Threaded assemblies not properly tightened: remove from service

If in doubt on any point, remove from service

### ***Ascender/Back-up devices***

- Have you read the information supplied by the manufacturer?

Visual - Check for:

- Wear, particularly on cam teeth or face, rope channel
- Deformation
- Cuts
- Cracks
- Heavy Marking or scoring
- Burring
- Corrosion
- Contamination by chemicals e.g pitting, flaking of aluminium products (usually due to salt water)
- Build up of foreign matter, e.g. grit, grease, paint

Visual and tactile - Check that:

- Moving parts function correctly, e.g.cam, springs, locking catch
- Hinge pin is in good condition
- Threaded assemblies are fully tightened and correctly secured
- There is no deformation of any parts

Action:

- Remove any foreign matter
- Wear: some wear is permissible; refer to manufacturer's information
- Moving parts: if any do not function correctly, remove from service
- Hinge pin not in good condition: remove from service
- Deformation: remove from service
- Cuts, heavy burring, marking or scoring: remove from service
- Cracks: remove from service
- Contamination by chemicals: remove from service
- Incorrect functioning: remove from service
- Threaded assemblies not properly tightened: remove from service

If in doubt on any point, remove from service

### **Connectors**

- Have you read the information supplied by the manufacturer?

Visual - Check for:

- Wear, particularly where the rope or webbing normally lies
- Deformation
- Cuts
- Crack
- Heavy marking or scoring
- Burring
- Corrosion
- Contamination by chemicals e.g. pitting, flaking of aluminium products (usually due to salt water)
- Build up of foreign matter, e.g. grit, grease, paint

Visual and tactile - Check that:

- Moving parts function correctly, e.g. keeper locates in body correctly, spring returns keeper correctly, keeper locking mechanism operates correctly (screw gate, twist-lock), and threaded parts run correctly
- Hinge pin is in good condition
- Catch pin is not bent
- There is no deformation of any parts

Action:

- Remove any foreign matter
- Wear: some wear is permissible; refer to manufacturer's information
- Moving parts: if any do not function correctly, remove from service
- Hinge pin not in good condition: remove from service
- Catch pin bent: remove from service
- Deformation: remove from service
- Cuts, heavy burring, marking or scoring: remove from service
- Cracks: remove from service
- Contamination by chemicals: remove from service
- Incorrect functioning: remove from service
- Threaded assemblies not properly tightened: remove from service

If in doubt on any point, remove from service

### ***Helmets***

- Have you read the information supplied by the manufacturer?
- Is the helmet within the manufacturer's recommended lifespan

Visual and tactile

Check for:

- Cracks, deformation or other damage to the shell
- Damage to the cradle/chinstrap assembly
- Excessive wear to any part
- Check that:
- Chin strap adjusts easily

Action:

- Helmet beyond recommended lifespan: remove from service
- Any cracks, deformation or other damage, including scoring or cuts to the shell: remove from service
- Damage to the cradle/chinstrap assembly: remove from service
- No chin strap, or chin strap does not adjust easily: remove from service

If in doubt on any point, remove from service





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