



Personal protective equipment (PPE): safety helmets

Construction Information Sheet No 50

Introduction

Every year, in the construction industry, workers are killed and many others injured as a result of head injuries. If you wear a safety helmet your chances of being seriously hurt are greatly reduced. Wearing one could save your life.

Personal protective equipment (PPE) is always the last line of defence. Wherever possible, other measures should first be taken to reduce or control the risk, eg:

- provide brick guards and toe boards to stop objects falling from the scaffold;
- keep scaffolds free of loose materials;
- tie suspended loads securely.

Legally, when should safety helmets be worn?

The Construction (Head Protection) Regulations 1989 require suitable head protection, normally safety helmets, to be provided and worn when there is a risk of injury.

If **you** are in **control of a site**, eg as a principal contractor, you need to think about risks of head injury. There may be risks from falling materials or of knocking into things such as low scaffolds. Unless there is no foreseeable risk of injury you must provide your employees with safety helmets and decide when, where, and how they should be worn. Safety helmets must be worn in designated 'hard hat' areas. Only turban-wearing Sikhs are exempt from these requirements.

The Construction (Head Protection) Regulations 1989 allow you to make rules governing when and where safety helmets should be worn. These rules apply to **everyone** on site, and that includes visiting workpeople such as architects, delivery drivers and utility workers. These rules should be in writing and should be brought to the attention of all those who may be affected by them so that everyone knows when and where safety helmets are to be worn.

Duties of employees and the self-employed

Employees must wear their safety helmets properly and follow the instructions of their employer or, in other cases, the rules made by the person in control of the site. They should take care of their helmets and not misuse them. Any defects or problems should be reported promptly. If safety helmets are not provided on site, the **self-employed** must supply their own. They must wear them when there is a risk of head injury or when told to do so by someone in control. They also need to follow the rules made by the person in control of the site, and in addition, maintain and replace the safety helmet whenever necessary.

Selection of suitable safety helmets

Helmets come in a variety of designs and it is important that the right type is provided for the work to be done.

A properly fitting safety helmet should have the right shell size for the wearer and an easily adjustable headband, nape and chin strap. The range of size adjustments should be large enough to accommodate thermal liners used in cold weather.

Safety helmets should be as comfortable as possible. Comfort is improved by the following:

- a flexible headband of adequate width and contoured both vertically and horizontally to fit the forehead;
- an absorbent sweatband that is easy to clean or replace;
- textile cradle straps;
- chin straps (when fitted) which:
 - fit around the ears;
 - are fitted with smooth, quick-release buckles which don't dig into the skin;
 - are made from non-irritant materials;
 - can be stowed on the helmet when not in use.

Compatibility with the work to be done

Whenever possible, the safety helmet should not hinder the work being done. For example, an industrial safety helmet with little or no peak is useful for a surveyor taking measurements, or to allow unrestricted upward vision for a scaffold erector. Chin straps should be provided and used if a job involves work in windy conditions, especially at height, or repeated bending or constantly looking upwards.

Helmets should be compatible with any other PPE, eg ear defenders or eye protectors. The design should allow them to be worn comfortably and remain effective. Check manufacturer's instructions regarding the compatibility of safety helmets with other types of PPE. Don't attempt to modify existing helmets to take these fittings as this may weaken them.

Maintenance

Safety helmets must be maintained in good condition. They should:

- (a) be stored in a safe place, eg on a peg or in a cupboard on site;
- (b) not be stored in direct sunlight or in excessively hot, humid conditions because long-term exposure can weaken the shell;
- (c) be checked regularly for signs of damage or deterioration;
- (d) have defective parts replaced (if the model allows this). Parts from one model cannot normally be interchanged with those from another;

- (e) have the sweatband cleaned regularly or replaced.

Before the safety helmet is issued to another person, it should be inspected to ensure it is serviceable and thoroughly cleaned in accordance with the manufacturer's instructions, eg using soap and water. The sweatband should always be cleaned or replaced.

Damage to the shell

Damage to the shell of a helmet can occur when:

- objects fall onto it;
- it strikes against a fixed object;
- it is dropped or thrown.

Certain chemicals can weaken the plastic of the shell leading to rapid deterioration in shock absorption or penetration resistance. Chemicals which should be avoided include aggressive cleaning agents or solvent-based adhesives and paints. Where names or other markings need to be applied using adhesives, advice should be sought from the helmet manufacturer.

Replacement

Normally, helmets should be replaced at intervals recommended by the manufacturer. They will also need replacing when the harness is damaged or if it is likely that the shock absorption or penetration resistance has deteriorated. For example, when the shell has received a severe impact, or if deep scratches occur (ie to a depth greater than 25% of the shell thickness) or if the shell has any visible cracks.

Some dos and don'ts for safety helmets

Do

- Wear the helmet the right way round - it does not give proper protection when worn back to front. Safety comes before fashion.
- Keep a supply of helmets for visitors on site. These should be checked before each issue.
- Wear a chin strap if you have to bend forward or down, look up or work where it is windy.
- Wear the helmet so that the brim is level when the head is upright, ie don't wear it sloping up or down as this may significantly reduce the protection it can provide.

Don't

- Don't use your helmet as a handy basket - it is designed to fit on your head, not for mixing cement or carrying nails!
- Don't paint it or use solvents to stick labels to it, or scratch an identification mark onto it: the shell could weaken and rapidly deteriorate. The manufacturer can be asked to add a label.
- Don't store them in heat or direct sunlight, such as in the rear window of a car. Excessive heat and

sunlight can quickly weaken the plastic.

- Don't modify, cut or drill your helmet.
- Don't share your helmet with anyone else on site.

Some relevant British and European Standards

BS 5240: Part 1 1987 *Industrial safety helmets - specification for construction and performance* (To be replaced by BS EN 397)

BS 4033: 1966 (1978) *Specification for industrial scalp protectors (light duty)* (To be replaced by BS EN 812)

BS 3864: 1989 *Specification for protective helmets for fire-fighters* (To be replaced by BS EN 443)

Note: Many British Standards will be replaced by harmonised European Standards, eg BS 3864:1989, will be replaced by the European Standard EN 443. When the European Standard is introduced it will be prefixed by 'BS' so EN 443 will become BS EN 443 in the UK.

References

Personal Protective Equipment at Work Regulations 1992 Guidance on Regulations HSE Books 1992 ISBN 0 11 886334 7

Construction (Head Protection) Regulations 1989 Guidance on Regulations L102 HSE Books 1998 ISBN 0 7176 1478 6

Head protection for Sikhs wearing turbans INDG262 HSE Books 1997

The Management of Health and Safety at Work Regulations (workplace directive) Approved Code of Practice HSE Books 1992 ISBN 0 7176 0412 8

BS 5240: Part 1 1987 *Industrial safety helmets - specification for construction and performance* (To be replaced by BS EN 397)

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Further information

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HSE home page on the World Wide Web:
<http://www.open.gov.uk/hse/hsehome.htm>

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