**Head Protection**

The use of helmets, commonly known as hard hats, offers head protection against falling objects and head-bumping hazards. This section will discuss the common hazards where head injuries may occur, the types of hard hats available, where they should be worn and some advice on when a hard hat is no longer safe to use. Reference should be made to SABS 1438 for hard hat specifications.

**Hazards causing head injuries**

Some of the most common hazards causing head injuries are:

- Rock falls in a mine.
- Falling spillage and other loose debris from a conveyor or crane
- gantry.
- Hitting head against hanging wall.
- Hitting head against haulage installations, for example
- compressed air, ventilation and water pipes and cable racks.
- Falling tools

**Where must I wear a hard hat?**

- Your risk assessment process will designate areas of mandatory use of hard hats. Below are some examples:
    - It is mandatory to wear a hard hat at all times when underground and in any opencast mining area.
    - In all areas like processing plants, where material might fall on top of you.
    - In all areas designated as “hard hat” areas, normally designated with yellow lines (or any other colour preferred by the organization, as long as the entire work force is aware of the colour coding) or notices to that effect.
    - Under lifting equipment and conveyor gantrie

**When is a hard hat unsafe to use?**

- A hard hat is designed to operate with a harness, or headband
- It offers none or very little protection if the shell sits directly on your head, as the “buffer zone” (the space or air gap between the head and roof of the hat) is lost, and with it, the capability to absorb shock when the hat is struck by an object.

## These are some general guidelines on when a hard hat is unsafe to use:

- When the headband is missing or perished - replace it at once.
- Most designs are such that the head band is replaceable.
- When the shell is cracked.
- When the hard hat is brazed, or ultraviolet damaged, identified by a discolouration of the shell.
- Hard hats may be damaged through contact with petrol, paint, aerosol sprays or cleaning agents. Hard hats should be washed with soap and water only.

**Eye Protection**

Our eyesight enables us to avoid most visible hazards, but unfortunately our eyes are often vulnerable to damage caused by small and swiftly-moving objects such as those listed below. Protective measures

should be taken to avoid damage to the eyes. Reference should be made to the following SABS standards on eye protection: SABS EN 169, SABS 1400, 1404 and 1644.

**Hazards that can cause eye damage**

The following agents can cause eye damage:

- Dust.
- Fine grains of rock, during water jet cleaning operations.
- Sand particles, during sand blasting operations.
- Shavings, during a machining process.
- Filings resulting from surface grinding operations.
- Compressed air jets or bursts.
- Water jets.
- Glare from light, arc and gas welding processes.

**How can eye hazards be minimized ?**

There are many ways to ameliorate these hazards. In the context of this chapter, the focus is on the use of PPE for eye protection. The following equipment can be used:

- Safety glasses or goggles and face shields.
- Welding goggles. • Welding helmets

## Who should wear what and when? Safety goggles/spectacles:

- Everybody who goes underground, as there is always dust and other airborne debris that could damage eyes.
- Machinists, during all machining operations, to prevent shavings and filings damaging the eyes.
- All plant operators, where there is moving machinery, as there is dust and debris.
- Maintenance workers.
- Everyone that enters a processing plant, for whatever reason and duration.