

Eye protection from ultraviolet radiation when driving

QFleet driver safety fact sheet

Ultraviolet radiation (UVR) is a form of radiation emitted by the sun. Unlike other forms of solar radiation such as light and heat, UVR cannot be seen or felt.

UVR exposure is a risk because it can cause lasting damage to the skin and the eyes. This may result in premature skin ageing, skin cancer and eye disorders. The effects of UVR are cumulative, so damage builds up even without burning, and like skin, the eyes never recover from excessive UVR exposure.

Exposing the eyes to too much UVR can cause short-term complaints such as:

- mild irritation
- excessive blinking
- swelling
- difficulty looking at strong light
- acute photo keratopathy (also known as sunburn of the cornea).

Vehicle glass

Vehicle glass does not have to be dark to provide UVR protection. The level of protection against UVR in new vehicles has improved greatly in recent years and nearly all new vehicles are now fitted with windscreens which are manufactured using laminated glass. Laminated glass windscreens are made of a tough plastic layer bonded between two thin sheets of glass, giving the windscreen properties which absorb 97% or more UVR.

The plain glass used in vehicle side windows usually has the ability to absorb approximately

90% UVR. The amount of UVR protection varies between different brands of vehicles.

Some of the factors affecting the UVR protective properties of glass are the glass type, the glass colour, the laminate between the glass and the glass coating.

The levels of UVR inside a vehicle also vary, depending on whether the side windows are open or closed and the orientation of the vehicle in relation to the sun.

Advice should be sought from the vehicle manufacturer about the actual levels of UVR absorption provided.

An occupant in a vehicle can still receive significant exposure to UVR, particularly if the side windows are open. People who spend long periods of time in a vehicle when UVR levels are high should use sun protection. This will provide additional protection when they are in the vehicle as well as when they leave it.



Protecting eyes with sunglasses

Eye protection factor (EPF) is a measure of the protection provided by sunglasses and other eyewear. EPF is indicated by a number from one to 10 representing the level of protection offered by the sunglasses against UVR. Sunglasses with an EPF rating of nine or 10 provide the most protection against the risk of eye damage from UVR.

The most appropriate sunglasses will have:

- lenses which comply with Australian Standard (AS) 1067:2003 Sunglasses and Fashion Spectacles
- a high EPF rating of 9 or 10 (EPF 10 exceeds the requirements of the Australian Standard)
- lenses that decrease visible light to a comfortable level while still allowing adequate vision
- frames and lenses that fit closely to the face, e.g. a wraparound style frame to minimise the amount of UVR entering the eyes from the sides
- comfortable frames which do not move when the head is tilted forward
- lenses that do not distort colours.

More eye safety tips

- Avoid wearing sunglasses while driving at night.
- Poor quality 'fashion' sunglasses may not provide the required level of eye protection against UVR.
- Sunglasses with coloured lenses may reduce the ability to see road traffic signals e.g. green lenses absorb red light, making red traffic lights difficult to see.
- Price is not necessarily a good guide of the quality or effectiveness of sunglasses. Expensive fashion sunglasses may not offer the best protection.
- Lens darkness is not necessarily a reliable guide to UVR protection qualities. Extremely dark lenses may reduce vision and impair safe driving.



Polarised lenses

Sunglasses with polarised lenses have become more popular as they provide superior control of reflected glare. However, the lenses may also prevent the driver from being able to see the liquid crystal displays (LCDs) found on the dashboards of some cars. This may inhibit a driver's ability to read some digital gauges e.g. a digital speedometer.

For more information on the health effects of Solar UV Radiation and tips on buying sun-safe sunglasses, visit the Australian Government's Australian Radiation Protection and Nuclear Safety Agency [website](#).

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