

Eyewear for Tradies

Protecting Vision on the Job



Bollé

Even when workers wear approved and recommended eye protection, cases of eye injuries still occur, emphasising a gap between compliance with standards and actual protection.¹⁰

To ensure optimal protection and performance for your patients, it is important to assess various characteristics and standards of available safety lens materials, as well as how the eyewear will be used, before making a recommendation.

Both polycarbonate and Trivex lenses comply with AS/NZS 1337.6 standards for medium impact resistance, making them suitable choices for safety eyewear.¹¹ However, there are notable differences between the two materials. Polycarbonate lenses have a higher impact resistance, withstanding higher velocities before breaking compared with Trivex. On the other hand, Trivex lenses offer less aberrations and clearer vision, due to a higher Abbe value. Additionally, Trivex is the lightest lens material commonly available, while polycarbonate lenses are approximately 10% thinner due to their higher refractive index. Trivex is twice as scratch resistant and demonstrates superior ability to withstand solvents and highly corrosive liquids compared to polycarbonate. Polycarbonate lenses are slightly cheaper, making them a cost-effective option for safety eyewear. Ultimately, the choice between polycarbonate and Trivex depends on specific requirements such as impact resistance, visual clarity, scratch resistance, and budget constraints.¹²

For tradies, also consider the abrasive environment of the worker. Those on the ground, working around a lot of projectiles, should not have laminates on their lenses because laminates reduce impact resistance. Although the reduction is insufficient to change the lens' classification as a safety lens, it remains a factor for consideration. Laminated lenses are also less chemical resistant. Ideally, all safety spectacles used on the ground should be uncoated, and the wearer should have a separate, coated pair for walking around or office use.

DISPENSING MEASUREMENTS

Dispensing measurements, including monocular pupil distances and monocular heights for all safety eyewear, cannot be



stressed enough. Inducing unwanted prism as a result of inaccurate binocular or missing measurements can alter the performance of the spectacles, potentially eliminating the 'safety' factor.

It's also important to remember that safety frames often sit closer to the eye than regular frames. This changes the vertex distance which can negatively affect the wearer's prescription, unless compensated for. Optometrists can play a pivotal role in overcoming this problem by including the vertex distance on all prescriptions.

FRAME CHOICES

Most safety spectacles are made from polyamide/nylon materials due to their chemical-resistant properties. These frame materials cannot be adjusted. While this is a benefit, as it stops customers from adjusting their frame and potentially losing the safety certification, it does mean that advice on frame selection is critical to ensure a secure fit. Without it, there will be problems down the track.¹³

Some safety frames are made from metal alloys, however these are not as common due to their conductive abilities. Often, the coverage of metal alloy is more limited than a thicker polyamide plastic, however, metal alloy can come less wrapped than polyamide.

Often, when safety spectacles need to be remade, it is due to dispensing a higher wrapped plastic frame. Therefore, there is a fine line between providing adequate protection and compromising visual outcomes.

BEYOND HAZARDOUS OCCUPATIONS

While impact resistance of lenses remains a primary focus of 'safety spectacles', it's essential to also consider the broader context of vision protection in everyday life.

Australia's harsh climate and outdoor lifestyle expose individuals to various environmental hazards, including UV radiation and bushfire smoke, which can pose significant risks to eye health. Protective measures include wearing goggles, which can act as a barrier against air pollutants that can cause severe eye conditions.¹⁴

While the damage of long exposure to sunlight is well known due to public health initiatives and sun awareness programs, 76% of Australians still don't believe it is necessary to wear UV protective sunglasses in the winter months.⁵ This misconception contradicts the reality of UVB radiation being present throughout the year. Side effects of limited UV protection can include mild photokeratitis and damage to corneal epithelial cells.¹⁵ (As an aside, studies show most people accumulate over 50% of their lifetime exposure to solar UVB before reaching 20 years of age,¹⁶ indicating a great need to protect children from UV radiation with sunglasses). Workers who are regularly outdoors should be encouraged to mitigate the risks caused by sun exposure by including UV protection in clear spectacles¹⁷

"defending the eyes of workers is a concern, given the frequency of eye injuries in various industries"

as well as ensuring full protection up to 400 nm in everyday sunglasses.

It is important to note that contact lenses should not be regarded as a form of eye protection.¹⁸

SAFETY OUTSIDE OF WORK

Accidents can happen in or out of work,⁵ but the concern for eye health doesn't change. I discussed this with Zoran Pajkovski, owner of optical wholesaler, Cerium Optical Australia. A keen basketball player in his spare time, Mr Pajkovski was pushed to the ground from a finger to the eye, resulting in a torn retina. Despite undergoing surgery, he developed band keratopathy and lost vision in his left eye.

Mr Pajkovski's story serves as a reminder that, in an ideal world, safety spectacles should be worn more regularly. However, due to the refractive index and Abbe values of polycarbonate and Trivex lenses, this may never become a reality. At the end of the day, all we can do is provide recommendations so that individuals can make informed decisions on their visual appliances.¹⁹

CONCLUSION

Workers exposed to hazardous and outdoor environments face unique challenges related to eye protection. Understanding the specific job roles of trade workers, including their visual requirements, is essential for recommending appropriate eyewear solutions.

Issues, such as reduced visual acuity, inappropriate eyewear selection, and lack of awareness about safety standards, can contribute to eye injuries in these environments. Safeguarding tradies' vision requires a comprehensive approach that encompasses onsite protection, oculo-visual assessments, hazard assessments, safety eyewear dispensing, and risk management beyond hazardous occupations.

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Tradie

Innovative
dual-zone
near vision
design.

Near Focus Segment

- › \varnothing 30mm
- › 5mm above the pupil



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Personalised freeform progressive lens with two zones for near vision.

The design architecture of the Australis Tradie lens is unique. In addition to a standard progressive configuration, it offers an extra segment for near vision at the top, to assist those trades where the wearer needs to focus on near objects not only at the bottom but through the upper part of the lens too.



OnGuard Industrial Safety

For over two decades, OnGuard Industrial Safety eyewear has been among the most trusted and reliable names in safety eyewear. With steadfast commitment to safeguarding your patients' vision, OnGuard Industrial Safety is dedicated to creating eyewear that not only meets tough industry standards, but sets new benchmarks in quality, performance, and style.

Contact: Hilco (AUS) 1800 217 651



Wiley X

range comply with the Australian Safety Standard AS/NZS 1337.1 for medium impact.

Great value safety frame and lens packages are available to order through lab partners PSG, RX Safety, and HOYA.

Contact: Piranha Eyewear (AUS) 1300 369 574

Wiley X

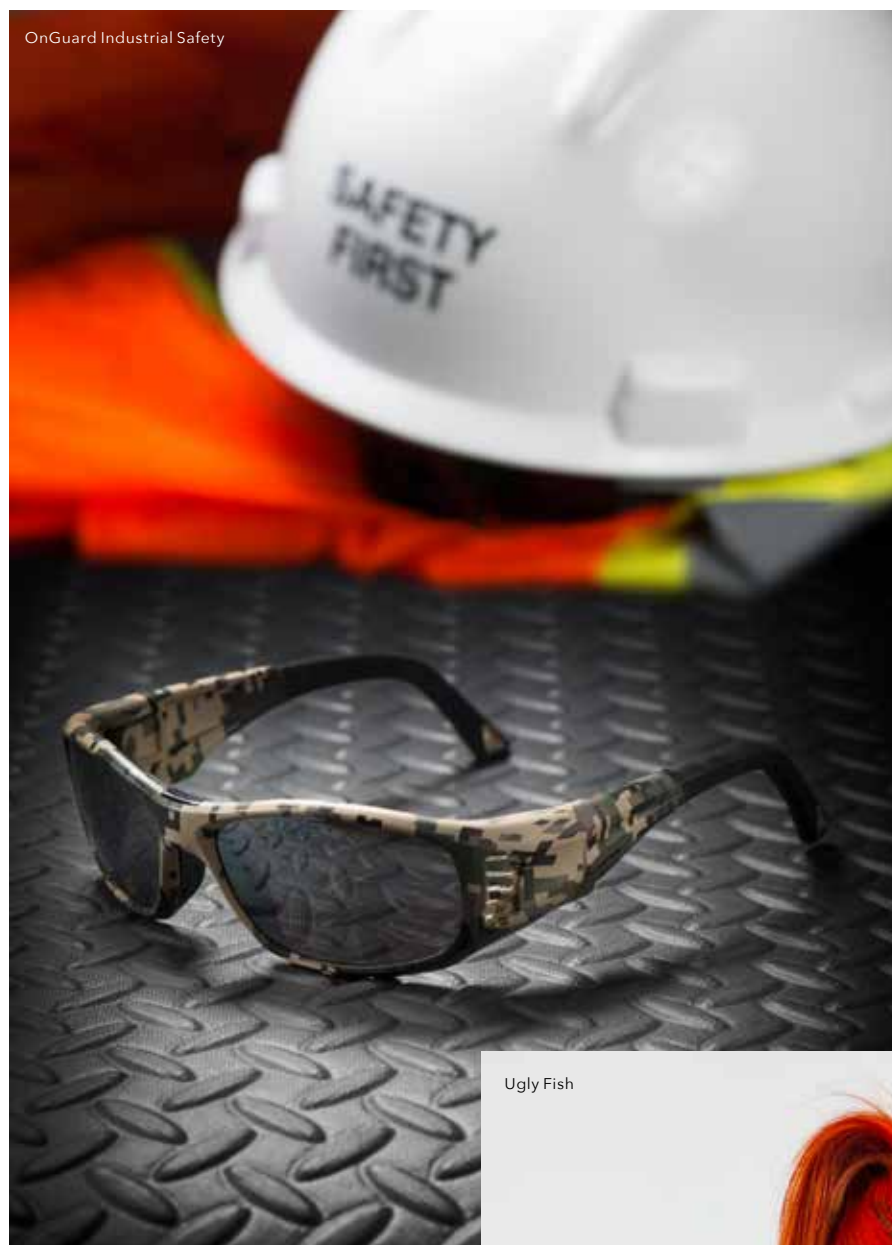
With 30 years in the safety eyewear industry, Wiley X has a strong track record, combining premium optics, durability, and fit with the highest level of protection against eye injuries, eye strain, and the elements.

All Wiley X models meet ANSI Z87.1 and are prescription ready. Twenty-four models are fully certified for both plano and prescription under AS/NZS 1337.1 and AS/NZS 1337.6 safety standards.

The popular models, WX Gravity and WX Boss, are part of Wiley's Climate Control Series and feature protective eyewear frames with a facial cavity seal. WX Valor (pictured), a semi-frameless flexible frame, is also very popular for work, cycling, and sports.

Wiley X prescription lenses are available in single vision or progressive options and are 100% impact and UV resistant. Clear, tinted and polarised lenses, in a range of colours, are available to be ordered.

Contact: Wiley X (AUS) 1300 945 399 



Ugly Fish

Tough jobs require trusted eye protection. Ugly Fish is a proven supplier of prescription safety frames and ready-to-wear safety sunglasses that are designed for all-day comfort and superior protection.

The Ugly Fish safety range offers tough, lightweight TR-90 frames with wrap around side protection in a range of fresh styles and colours. All models in the Ugly Fish safety

Ugly Fish



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