

# EYE PROTECTION

Your eyes are your most important tools. And we at WORKSafe are committed to their protection. Our extensive range of eyewear can carry you from the workplace to the street. Dedicated to your eye protection needs, we spare no expenses and efforts to deliver the solid products you deserve.

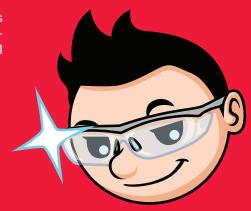
#### **ASIAN FIT DESIGN**

We understand the unique needs of workers in the region. That's why our eyewear is specially adapted for Asian Facial Structures. This ensures a secure fit every time you put them on, for uncompromised comfort and protection.

#### **SETTING THE STANDARD**

All our WORKSafe eyewear comply with these two standards: Singapore's SS473:2011 and the American USA ANSI/ISEA Z87.1-2015, ANSI Z87.1-2010 or ANSI Z87.1-2003. Select models also comply with EN166:2001 and AS/NZS 1337.6:2007.

- · Safety Glasses (Plano)
- · Prescription Safety Glasses
- Safety Goggles
- · Cleaning Solution



# WE PROVIDE A COMPLETE SERVICE

We value your time, and believe that your eyewear hunt should be as hassle-free as possible. Enjoy a seamless and customised experience when you choose WORKSafe eyewear.





#### **One Stop Solution**

These opticians also man our fully equipped laboratory. Here, we can complete the whole process, from fabrication to delivery.

#### **Mobility**

Our in-house licensed opticians are happy to come to you, providing onsite sight tests.

#### **Convenience**

We have an expansive network of authorised optical retail outlets across Singapore. Order and collect with ease! Save time and unnecessary fees.









#### **IN-HOUSE OPTICAL SERVICE**

#### PDS Safety Prescription (SRX) Eyewear Services

The concept of PDS Safety Prescription (SRX) Eyewear Services is based on a system of convenience, whereby we provide a complete service comprising refraction, edging, fitting and dispensing of SRX eyewear. Our in-house licensed opticians are certified by the Optometrists & Opticians Board (OOB) and Ministry of Health (MOH) Singapore.

#### **MOBILE OPTICAL SERVICES**

Our opticians are happy to travel to your workplace to conduct the necessary optical tests. We provide a professional-grade eye screening at your convenience. Enquire today!







<sup>\*</sup> Our Safety Prescription Lab: Our frames and lenses are tested twice. First at third-party testing labs, then once more in-house.











#### **STRYX E3069**

The WORKSafe® Stryx is a plano safety eyewear that blends sporty looks with safety support. Its polycarbonate construction is lightweight yet resistant. Choose from three kinds of swappable lenses to suit your style!

- · Dual density injected anti-slip skull-grip temples
- · Adjustable bridge width
- · Complies with ANSI/ISEA Z87.1-2015 and SS473:2011 standards
- · Additional prescription lens inserts available as a top-up

| BRAND                 | PRODUCT CODE   | DESCRIPTION                                            |
|-----------------------|----------------|--------------------------------------------------------|
| WORKSafe <sup>®</sup> | 300WSE3069-C1  | Satin Black Frame with<br>Grey tips,<br>Clear lens HC  |
|                       | 300WSE3069-C2  | Satin Black Frame with<br>Green tips,<br>Clear lens HC |
|                       | 330WSE3069-L01 | Indoor/Outdoor Lens with<br>Nose Bridge                |
|                       | 330WSE3069-L02 | Smoke Grey Lens<br>with Nose Bridge                    |
|                       | 330WSE3069-L03 | Green Revo Lens<br>with Nose Bridge                    |



#### **AERO E3058**

The WORKSafe® Aero is the lighter stronger and more comfortable successor to our popular A-Wing.

- · Lightweight impact-resistant polycarbonate (PC) frame
- · Dual density injected anti-slip skull-grip temples
- Integrated universal-fit nose pads
- · Complies with ANZI/ISEA Z87.1-2015 and SS473:2011 standards



| BRAND     | PRODUCT CODE  | DESCRIPTION                                   |
|-----------|---------------|-----------------------------------------------|
| MODKO-E-® | 300WSE3058-C1 | Glossy Black frame,<br>Clear lens HC          |
| WORKSafe® | 300WSE3058-C2 | Glossy Black frame,<br>Indoor/Outdoor lens HC |

#### **GLINDER E3048**

The WORKSafe® Glinder features extendable temple length and temple inclination for a better fit.

- Wraparound frame maximises peripheral vision and protection
- · Dual density injected anti-slip skull-grip temples
- · Soft rubber universal-fit nose pads
- 3-stage extendable temple length with 3-point adjustable inclination
- Vented soft-cushioned browguard and temple increase aeration and minimise fogging
- · Complies with ANSI Z87-2020 and SS473:2011 standards





| BRAND                 | PRODUCT CODE   | DESCRIPTION                                 |
|-----------------------|----------------|---------------------------------------------|
| WORKSafe <sup>®</sup> | 300WSE3048-C1  | Black/Red frame,<br>Clear lens AF           |
|                       | 300WSE3048-C2  | Black/Red frame,<br>Grey lens AF            |
|                       | 300WSE3048-C3  | Black/Red frame,<br>Indoor/Outdoor lens HC  |
|                       | 300WSE3048M220 | Matt Black frame,<br>Indoor/Outdoor lens HC |

#### **WIDER E3050**

The WORKSafe® Wider. Features a side-way 3-stage extendable self-locking tri-flex frontal frame that provides a better fit for both Asian and Western facial profiles.

- Wraparound frame maximises peripheral vision and protection
- Side-way 3-stage extendable self-locking tri-flex frontal frame
- Dual density injected anti-slip skull-grip temples
- · Soft rubber universal-fit nose pads
- Complies with ANSI Z87-2020 and SS473:2011 standards





| BRAND                 | PRODUCT CODE  | DESCRIPTION                                |
|-----------------------|---------------|--------------------------------------------|
| WORKSafe <sup>®</sup> | 300WSE3050601 | White/Green frame,<br>Clear lens HC/AF     |
|                       | 300WSE3050311 | Grey/Blue frame,<br>Grey lens HC/AF        |
|                       | 300WSE3050320 | Grey/Blue frame,<br>Indoor/Outdoor lens HC |

#### **ALCOR E3029**

The WORKSafe® Alcor is designed to provide peripheral vision with a secure wraparound frame. The Alcor boasts an integrated brow guard to keep sweat and dirt away from your eyes.

- · Wraparound frame maximises peripheral vision and protection
- · Soft rubber universal-fit nose pads
- · Complies with ANSI Z87-2020 and SS473:2011 standards





| BRAND     | PRODUCT CODE   | DESCRIPTION                                                |
|-----------|----------------|------------------------------------------------------------|
| WORKSafe® | 300WSE3029000  | Clear frame, Grey<br>Translucent Temples,<br>Clear lens HC |
|           | 300WSE3029A610 | Grey frame,<br>Grey lens HC                                |
|           | 300WSE3029A720 | Brown translucent frame,<br>Indoor/Outdoor lens HC         |

#### RAIDER E3011

The WORKSafe® Raider has opaque integrated side shields to block out glare and maximise protection. Lightweight Nylon frame available for Shiny Black frames.

- · Wraparound frame maximises peripheral vision and protection
- · Dual density injected anti-slip skull-grip temples
- · Soft rubber universal-fit nose pads
- Complies with ANSI/ISEA Z87.1-2010 and SS473:2011 standards





| BRAND     | PRODUCT CODE   | DESCRIPTION                                        |
|-----------|----------------|----------------------------------------------------|
| WORKSafe® | 300WSE3011S201 | Black frame,<br>Clear lens HC/AF                   |
|           | 300WSE3011S211 | Black frame,<br>Grey lens HC/AF                    |
|           | 300WSE3011A722 | Translucent Brown frame,<br>Indoor/Outdoor lens HC |

#### **ASTRIDER-E E3033**

The WORKSafe® Astrider-E is an improved version of the popular Astrider. Featuring integrated cheek and side protectors, Astrider-E provides maximum protection for the user.

- · Wraparound frame maximises peripheral vision and protection
- · 3-stage extendable self-locking tri-flex temples with 3-point adjustable inclination
- · Soft universal-fit nose pads
- · Complies with ANSI/ISEA Z87.1-2010 and SS473:2011 standards





| BRAND     | PRODUCT CODE  | DESCRIPTION                          |
|-----------|---------------|--------------------------------------|
| MODKO-f-® | 300WSE3033101 | Navy Blue frame,<br>Clear lens HC/AF |
| W0RKSafe® | 300WSE3033111 | Navy Blue frame,<br>Grey lens HC/AF  |

#### **SKYV0 E197**

The WORKSafe® Skyvo's unique curved lens lines your facial contours, giving you complete protection.

- · Wraparound frame maximises peripheral vision and protection
- · Integrated cheek guard for complete protection
- · 3-stage extendable self-locking tri-flex temples with 3-point adjustable inclination
- Complies with ANSI Z87.1-2003 and SS473:2011 standards





| BRAND     | PRODUCT CODE | DESCRIPTION                                |
|-----------|--------------|--------------------------------------------|
| WORKSafe® | 300WSE197101 | Navy Blue frame,<br>Clear lens HC/AF       |
|           | 300WSE197111 | Navy Blue frame,<br>Grey lens HC/AF        |
|           | 300WSE197120 | Navy Blue frame,<br>Indoor/Outdoor lens HC |

#### **CHASER E190**

The WORKSafe® Chaser features flexible corrugated skullgrip temple tips for a more comfortable and secure fit.

- · Lightweight impact-resistant polycarbonate frame
- Wraparound frame maximises peripheral vision and protection
- · Soft rubber universal-fit nose pads
- · Complies with ANSI Z87-2020 and SS473:2011 standards







| BRAND     | PRODUCT CODE | DESCRIPTION                           |
|-----------|--------------|---------------------------------------|
| WORKSafe® | 300WSE19000  | Frosted Clear frame,<br>Clear lens HC |
|           | 300WSE19010  | Frosted Grey frame,<br>Grey lens HC   |

#### **FIREFLY E622**

The WORKSafe® Firefly's unique curved lens provides maximum protection along your facial profile.

- Lightweight impact-resistant polycarbonate frame
- · Integrated cheek guard for complete protection
- · Soft rubber universal-fit nose pads
- Complies with ANSI Z87.1-2003 and SS473:2011 standards





| BRAND                 | PRODUCT CODE | DESCRIPTION                                |
|-----------------------|--------------|--------------------------------------------|
| WORKSafe <sup>®</sup> | 300WSE62201  | Frosted frame,<br>Clear lens AF            |
|                       | 300WSE62211  | Frosted Grey frame,<br>Grey lens AF        |
|                       | 300WSE62220  | Frosted frame,<br>Indoor/Outdoor HC        |
|                       | 300WSE62230  | Frosted Grey frame,<br>Grey Mirror lens HC |

#### **MANTIS E122**

WORKSafe® Mantis' lightweight wraparound lens maximises both peripheral vision and protection.

- · Lightweight impact-resistant polycarbonate frame
- · Wraparound frame maximises peripheral vision and protection
- · Integrated cheek guard for complete protection
- · Integrated universal-fit nose pads
- Complies with ANSI Z87.1-2003 and SS473:2011 standards



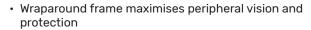




| BRAND     | PRODUCT CODE | DESCRIPTION                                   |
|-----------|--------------|-----------------------------------------------|
| WORKSafe® | 300WSE12200  | Frosted frame,<br>Clear lens HC               |
|           | 300WSE12201  | Frosted frame,<br>Clear lens AF               |
|           | 300WSE12210  | Frosted Grey frame,<br>Grey lens HC           |
|           | 300WSE12220  | Frosted Grey frame,<br>Indoor/Outdoor lens HC |

#### STRIDER I E261

WORKSafe® Strider I's integrated side shields maximise peripheral vision.



- · 4-stage temple extension for perfect fit
- · Integrated universal-fit nose pads
- Complies with ANSI Z87.1-2003 and SS473:2011 standards







| BRAND     | PRODUCT CODE | DESCRIPTION                       |
|-----------|--------------|-----------------------------------|
| WORKSafe® | 300WSE26100  | Navy Blue frame,<br>Clear lens HC |
|           | 300WSE26110  | Navy Blue frame,<br>Grev lens HC  |

#### **SABRE E3049**

The WORKSafe® Sabre possesses thin rubberized temples, making it light, comfortable and grippy.

- Wraparound frame maximises peripheral vision and protection
- 3-point adjustable temple inclination
- Dual density injected anti-slip skull-grip temples
- Soft rubber universal-fit nose pads
- Complies with EN166:2001 and SS473:2011 standards





| BRAND                 | PRODUCT CODE  | DESCRIPTION                             |
|-----------------------|---------------|-----------------------------------------|
| WORKSafe <sup>®</sup> | 300WSE3049000 | Clear frame, Clear lens HC              |
|                       | 300WSE3049020 | Clear frame, Indoor/<br>Outdoor lens HC |



# **SAFETY GLASSES (OVERSPECS)**

#### **RAZOR E3067**

The WORKSafe® Razor eyewear combines sharp looks with great protection. These stylish glasses can be worn over prescription eyewear to provide great protection from impact forces. These extreme overspecs even provide protection against high speed particles at extreme temperature conditions. (between -5°C and 55°C)

- · Wraparound frame maximises peripheral vision and protection
- · Lightweight impact-resistant polycarbonate frame
- · Integrated universal-fit nose pads
- · Complies with EN166:2001 and SS473:2011 standards



| BRAND                 | PRODUCT CODE  | DESCRIPTION                        |
|-----------------------|---------------|------------------------------------|
| WORKSafe <sup>®</sup> | 300WSE3067-C1 | Matt black frame,<br>Clear lens HC |

#### **AIRSPEX E3032**

Bid goodbye to boring overspecs design with the arrival of WORKSafe® Airspex. A fashionable piece with bold, sleekly designed ventilated temples and red rubber temple tips add a tinge of style and excitement to the user. Airspex can be worn over prescription glasses or on its own as safety spectaclesor sunglasses.

- · Ventilated temples increase aeration and minimise fogging while upping the fashion quotient
- · Dual density injected anti-slip skull-grip temples
- Complies with ANSI/ISEA Z87.1-2010 and SS473:2011 standards





| BRAND     | PRODUCT CODE  | DESCRIPTION                                                |
|-----------|---------------|------------------------------------------------------------|
| WORKSafe® | 300WSE3032301 | Graphite frame,<br>Clear lens AF                           |
|           | 300WSE3032311 | Graphite frame,<br>Grey lens AF                            |
|           | 300WSE3032-C3 | Transparent Clear frame<br>with Red Tips,<br>Clear lens HC |

# **SAFETY GLASSES (OVERSPECS)**

#### **LESPEX E3030**

The WORKSafe® Lespex can be worn over prescription eyewear or simply on its own. It is lightweight at 30g and built for comfortable wear.

- · Wraparound frame maximises peripheral vision and protection
- · Integrated universal-fit nose pads.
- Complies with ANSI Z87-2020 and SS473:2011 standards





| BRAND                 | PRODUCT CODE   | DESCRIPTION                                        |
|-----------------------|----------------|----------------------------------------------------|
| WORKSafe <sup>®</sup> | 300WSE3030000  | Frosted clear frame,<br>Clear lens HC              |
|                       | 300WSE3030A610 | Graphite translucent frame,<br>Grey lens HC        |
|                       | 300WSE3030A720 | Brown translucent frame,<br>Indoor/Outdoor lens HC |

#### **DUOSPEX E387**

A classic piece - unisex and sophisticated. Can be worn over prescription glasses or on its own as safety spectacles or sunglasses.

- · Fits Western and Asian profiles
- · Dual density injected anti-slip skull grip temples for
- Complies with ANSI Z87.1-2003 and SS473:2011 standards





| BRAND                               | PRODUCT CODE                       | DESCRIPTION                       |
|-------------------------------------|------------------------------------|-----------------------------------|
| 300WSE387201 WORKSafe® 300WSE387211 | Matt Black frame,<br>Clear lens AF |                                   |
|                                     | 300WSE387211                       | Matt Black frame,<br>Grey lens AF |



387201

# **SAFETY GLASSES (OVERSPECS)**

#### V-SPEX EDK1

WORKSafe® V-Spex can be worn over prescription eyewear or simply on its own.

- Wraparound frame maximises peripheral vision and protection
- · Lightweight impact-resistant polycarbonate frame
- Vented side shields increase aeration and minimise fogging
- Integrated universal-fit nose pads
- Complies with ANSI Z87.1-2003 and SS473:2011 standards

EDK100



EDK1-C3

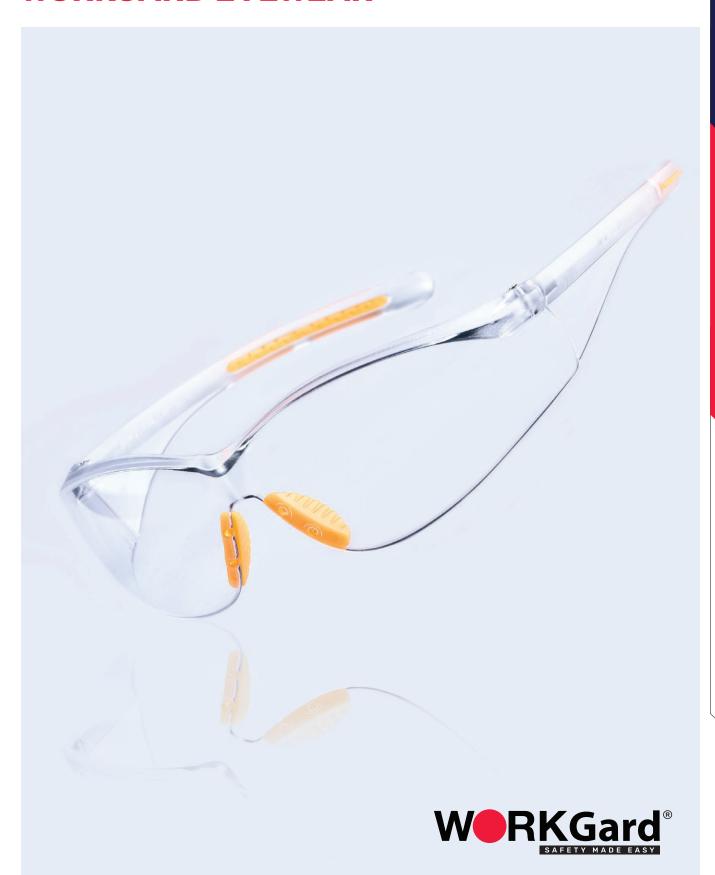








# **WORKGARD EYEWEAR**



13

#### **WORKGARD® FIREWING**

Tastefully accented with a splash of colour, these futuristic frames offer no-nonsense protection at your workplace. Comfortable and light, you can wear these for hours on end!

- · Clear and light translucent frame
- · Durable hard coated lenses
- · Integrated TPR nosepad
- Tested to ANZI/ISEA Z87.1-2015 and SS473:2011 standards



| BRAND     | PRODUCT CODE  | DESCRIPTION                               |
|-----------|---------------|-------------------------------------------|
| WORKSafe® | 300WGE3064-C1 | Translucent clear frame,<br>Clear lens HC |



15

# **SAFETY GLASSES (PLANO)**

#### **WORKGARD® E3068**

This essential pair of polycarbonate eyewear offers great value, durability and defense in a low-profile form factor.

- · Clear and light translucent frame
- · Durable anti-fog lenses
- Complies with ANZI/ISEA Z87.1-2020 and SS473:2011 standards





| BRAND                 | PRODUCT CODE  | DESCRIPTION                                           |
|-----------------------|---------------|-------------------------------------------------------|
|                       | 300WGE3068-C1 | Translucent clear temple,<br>Black tip, Clear lens AF |
| WORKSafe <sup>®</sup> | 300WGE3068-C2 | Translucent grey temple,<br>black tip, Grey AF Lens   |

#### **WORKGARD® E3037**

The WORKGard® E3037 safety glasses is a wraparound nylon frame with integrated side shields to maximise peripheral vision and protection.

- · 3-stage extendable temple length for perfect fit
- · Integrated universal-fit nose pads
- Complies with ANSI/ISEA Z87.1-2010 and SS473:2011 standards



| BRAND     | PRODUCT CODE   | DESCRIPTION                |
|-----------|----------------|----------------------------|
| WORKSafe® | 300WGE3037S200 | Black frame, Clear lens HC |



#### **OTUS E3065**

The WORKSafe® Otus takes its name from a small, agile owl. In the same way, expect this polycarbonate eyewear to be light and easy to wear, while providing good protection from impact!

- · Lightweight hypo-allergenic full nylon frame
- · Anti-slip skull-grip temples
- · Impact-resistant polycarbonate side shields
- · Complies with ANZI/ISEA Z87.1-2015 and SS473:2011 standards





| BRAND                 | PRODUCT CODE  | DESCRIPTION                                                                                       |
|-----------------------|---------------|---------------------------------------------------------------------------------------------------|
| Monko ( ®             | 340WSE3065-C1 | Translucent Teal Blue frame,<br>Pale Violet Red temple,<br>Dark Grey temple tip,<br>Clear lens HC |
| WORKSafe <sup>®</sup> | 340WSE3065-C2 | Translucent Light Grey frame,<br>Light Grey Temple,<br>Cool Grey temple tip,<br>Clear lens HC     |

#### **VECTOR E3062**

VECTOR glasses provide serious protection for serious work. Durable and rugged without sacrificing comfort, these reliable frames offer your eyes the defences they deserve.

- 3-point temple adjustments allow greater face & cheek
- · Lightweight and durable TR90 frame.
- · Impact-resistant polycarbonate side shields with ventilation.
- · Integrated nose pads.
- Tested to ANSI Z87.1-2015 standard and complies with SS473:2011 standards.





| BRAND     | PRODUCT CODE  | DESCRIPTION                        |
|-----------|---------------|------------------------------------|
| WORKSafe® | 340WSE3062-C1 | Matt Black frame,<br>Clear lens HC |

#### **RETRO E3059**

With detachable eye shields that affix onto a sleek frame, these timeless and classy glasses are right at home at the workplace and on the streets.

- Fold the temples and lift and slide side shields outwards to detach them
- · Impact-resistant polycarbonate side shields
- Slender and slim frame fits in most pockets of shirts and pants
- · Durable stainless steel frame with lightweight temples
- · Comfortable silicon nose pads
- · Grippy thermoplastic rubber (TPR) temple tips
- Tested to ANSI Z87.1-2015 standard and complies with SS473:2011 standards





| BRAND                 | PRODUCT CODE  | DESCRIPTION                                    |
|-----------------------|---------------|------------------------------------------------|
| WORKSafe <sup>®</sup> | 340WSE3059-C1 | Matt Black frame,<br>Clear lens HC<br>Size: 58 |

#### **URANUS E3060**

Simplicity isn't a bad thing: these glasses are a no-frills and effective option for defence, comfort and style. They also come with a rounded side shield that fits nicely on your cheek.

- Lightweight impact-resistant polycarbonate (PC) frame
- Broad impact-resistant side shield for side protection
- · Integrated universal-fit nose pads
- Complies with ANSI/ISEA Z87.1-2015 and SS473:2011 standards





| BRAND     | PRODUCT CODE  | DESCRIPTION                        |
|-----------|---------------|------------------------------------|
| WORKSafe® | 340WSE3060-C1 | Matt Black frame,<br>Clear lens HC |

#### STEDA II E3055

Stronger, more durable and extra comfortable. The enhanced design of WORKSafe® Steda II - successor of our popular Steda, is now better with metal-free design.

- · Dual density injected anti-slip skull-grip temples
- · Impact-resistant integrated TR90 side shields
- Comfortable ABS/thermoplastic rubber (TPR) browguard
- 3-point adjustable temple inclination for better fit
- · Integrated universal-fit nose pads
- Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards



SINGAPORE REGISTERED DESIGN: D2009/260/B



| BRAND     | PRODUCT CODE  | DESCRIPTION                        |
|-----------|---------------|------------------------------------|
| WORKSafe® | 340WSE3055-C2 | Matt Black frame,<br>Clear lens HC |

#### **STEED R E3052**

Steed R, the superior successor of our most well-received model, is now enhanced with the addition of adjustable temple inclination.

- · Lightweight impact-resistant TR90 frame
- · Vented TPR browguard
- · Dual density injected anti-slip skull-grip TR90 temples
- · Impact-resistant integrated TR90 side shields
- 7-point adjustable temple inclination for better fit
- · Soft thermoplastic rubber (TPR) universal-fit nose pads
- Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards



| BRAND     | PRODUCT CODE    | DESCRIPTION                         |
|-----------|-----------------|-------------------------------------|
| WORKSafe® | 340WSE3052A4C57 | Grey, Clear frame,<br>Clear lens HC |



#### **KUIPER E3045**

The Kuiper, pronounced "KAI-PER", is capable of being a prescription protective eye glass, or just a simple piece of plano protective eyewear. Grip and comfort are its keypoints. The Kuiper features extra-large super-grippy nose pads and large rubber-tipped temples.

- · Lightweight hypo-allergenic full nylon frame
- · Anti-slip skull-grip temples
- · Impact-resistant integrated side shields
- Soft grippy thermoplastic rubber (TPR) universal-fit nose pads
- Tested to ANSI Z87.1-2010 standard and complies with EN166:2001 and SS473:2011 standards







**STEED E3041** 

For all-day comfort, the Steed sports a vented frame that helps with fogged lenses and comfy rubber tips on all skincontact points. The Steed is also able to accommodate extremely high prescriptions and high astigmatism.

- · Lightweight impact-resistant TR90 frame
- · Vented thermoplastic rubber (TPR) browguard
- · Impact-resistant integrated TR90 side shields
- Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards





SINGAPORE REGISTERED DESIGN: D2013/600/G

| BRAND                 | PRODUCT CODE   | DESCRIPTION                           |
|-----------------------|----------------|---------------------------------------|
| W0RKSafe <sup>®</sup> | 340WSE30411F57 | Blue, Frosted frame,<br>Clear lens HC |
|                       | 340WSE30413C57 | Grey, Clear frame,<br>Clear lens HC   |
|                       | 340WSE30413F57 | Grey, Frosted frame,<br>Clear lens HC |

#### **PLUTO E3014**

WORKSafe® Pluto has a lightweight polycarbonate frame with tinted side shields moulded directly onto the frame and temples, preventing glare and increasing protection.

- · Lightweight impact-resistant polycarbonate frame
- Formable skull-grip stainless steel temples ensure a better fit
- · Impact-resistant polycarbonate side shields
- · Integrated universal-fit nose pads
- Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards





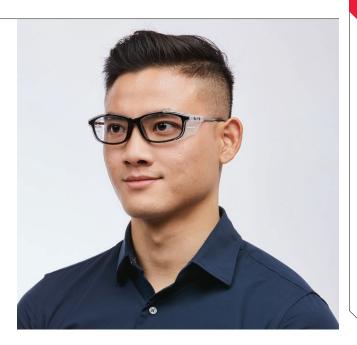


| BRAND     | PRODUCT CODE   | DESCRIPTION                              |
|-----------|----------------|------------------------------------------|
| WORKSafe® | 340WSE3014A654 | Grey Translucent frame,<br>Clear lens HC |

#### **VESTA E3015**

WORKSafe® Vesta combines both the weightlessness of a polycarbonate frame with the comfort of formable stainless steel temples.

- · Lightweight impact-resistant polycarbonate frame
- Formable skull-grip stainless steel temples ensure a better fit
- · Impact-resistant polycarbonate side shields
- · Integrated universal-fit nose pads
- Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards







| BRAND     | PRODUCT CODE   | DESCRIPTION                   |
|-----------|----------------|-------------------------------|
| WORKSafe® | 340WSE3015S254 | Black frame,<br>Clear lens HC |

#### **MERCURY G2 E3013**

The WORKSafe® Mercury G2, the successor of the bestselling Mercury E1140, is now sleeker and stronger than ever before.

- · Corrosion-resistant stainless steel frame
- · Formable rubber skull-grip stainless steel temples ensure a better fit
- · Impact-resistant polycarbonate side shields
- · Fully adjustable soft anti-slip silicone nose pads
- · Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards





| BRAND                 | PRODUCT CODE   | DESCRIPTION                 |
|-----------------------|----------------|-----------------------------|
| WORKSafe <sup>®</sup> | 340WSE3013A054 | Matt Grey frame<br>Size: 54 |

#### **VENUS E4290**

WORKSafe® Venus features strong, super-lightweight, TR90 premier polymer temples suitable for working conditions with vulnerability to corrosion.

- · Corrosion-resistant, hypoallergenic stainless steel frame
- · Formable temples ensure a better fit
- · Impact-resistant polycarbonate side shields
- · Fully adjustable soft anti-slip silicone nose pads
- · Tested to ANSI Z87.1-2003 standard and complies with SS473:2011 standards



SINGAPORE REGISTERED DESIGN: D2011/735/J





4290SGS55



#### SWORKE®RX MAXIMUS X

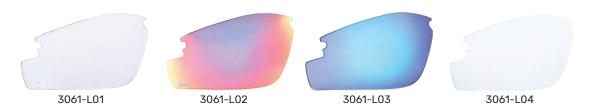
SWORKE® Maximus X provides safety with style! Easily swap between a variety of lens options based on your fit and your needs.

- · Impact-resistant polycarbonate (PC) frame
- Dual density injected anti-slip skull-grip temples
- · Easy quickswap lens design
- Comfortable and exchangeable PC/thermoplastic rubber (TPR) browguard
- Easy adjustable TPR to stainless steel over moulding nose pads









| BRAND     | PRODUCT CODE   | DESCRIPTION                                               |
|-----------|----------------|-----------------------------------------------------------|
|           | 300SWK3061-C1  | Matt Black frame, Clear lens HC/AF                        |
|           | 340SWK3061-C2  | Matt White frame, Clear lens HC/AF                        |
| CHODKE®DA | 330SWK3061-L01 | Maximus X Spare lens, Indoor/Outdoor lens HC              |
| SWORKE®RX | 330SWK3061-L02 | Maximus X Spare lens, Red Revo HC                         |
|           | 330SWK3061-L03 | Maximus X Spare lens, Blue Revo HC                        |
|           | 330SWK3061-L04 | Maximus X Spare lens, Photocromic HC (from Clear to Grey) |

#### **SWORKE®RX COBRA**

Technically majestic, this serpentine masterpiece brings the most versatility, style and safety.

- · 5-point temple inclination allows greater fit
- · Re-engineered enlarged venting ports along the brow of the facepiece aid in air movement and flux in high velocity conditions
- · Tough and durable browguard channels perspiration away from your eyes
- · Adjustable inclining sweat-resistant nose pads
- · Switchable lens system
- · Grippy wraparound temples maximises grip
- · Removeable Rx lens carrier available for corrective vision
- Tested to ANSI Z87.1-2015 standard and complies with SS473:2011 standards



#### FRAME:





|           | 1               |                                            |
|-----------|-----------------|--------------------------------------------|
| BRAND     | PRODUCT CODE    | DESCRIPTION                                |
|           | 300SWK3053M201R | Matte Black frame, Clear lens HC/AF        |
|           | 300SWK3053601R  | Shiny White frame, Clear lens HC/AF        |
| CHODKE®DA | 300SWK3053A601R | Translucent Grey frame, Clear lens HC/AF   |
| SWORKE®RX | 330SWK3053L001S | Cobra Spare lens, Clear lens HC/AF         |
|           | 330SWK3053L592  | Cobra Spare lens, Red Revo HC              |
|           | 330SWK3053LA893 | Cobra Spare lens, Purple Revo Polarized HC |

#### SWORKE®RX PRIMUS

We wanted a bold frame, bold and tough as nails. So we engineered one.

- · Broad frame provides the best molecular circulation designed for ease of air flow
- Switchable lens system choices of polarized lenses available
- · Switch temples to adjustable headband for more vigorous activity
- · Sweat-resistant nose pads and sponge browguard cushions against huge impact
- · Removeable Rx lens carrier available for corrective
- Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards











3002L393



3002L103





3002L001

| BRAND     | PRODUCT CODE    | DESCRIPTION                                 |
|-----------|-----------------|---------------------------------------------|
|           | 300SWK3002A001R | Electric Matte Grey frame, Clear lens HC/AF |
|           | 300SWK3002601R  | Shiny White frame, Clear lens HC/AF         |
|           | 300SWK3002S201R | Shiny Black frame, Clear lens HC/AF         |
|           | 300SWK3002M201R | Matte Black frame, Clear lens HC/AF         |
| SWORKE®RX | 330SWK3002L593  | Primus Spare lens, Red Revo Polarized HC    |
|           | 330SWK3002L393  | Primus Spare lens, Blue Revo Polarized HC   |
|           | 330SWK3002L103  | Primus Spare lens, Grey Polarized HC        |
|           | 330SWK3002L101  | Primus Spare lens, Grey HC/AF               |
|           | 330SWK3002L001  | Primus Spare lens, Clear HC/AF              |

#### **SWORKE®RX CYCLONE-X**

Constructed to complement both the Asian and Western facial anatomies. It is the second version of a hurricanelike technical sports frame.

- 3-point temple adjustments allow greater face & cheek coverage
- · Switchable lens system choices of polarized and photochromic lenses available
- Vented frame
- Grooved and rubber tipped wraparound temples maximise grip
- · Removeable, sweat-resistant padded browguard
- · Burly rubber nose pads cusions impact
- · Removeable Rx lens carrier available for corrective vision
- Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards



#### FRAME:





#### **SPARE LENS:**





| BRAND     | PRODUCT CODE    | DESCRIPTION                                                |
|-----------|-----------------|------------------------------------------------------------|
|           | 300SWK3003S201R | Shiny Black frame, Clear lens HC/AF                        |
|           | 300SWK3003601R  | Shiny White frame, Clear lens HC/AF                        |
|           | 300SWK3003D401R | Shiny Olive frame, Clear lens HC/AF                        |
|           | 300SWK3003-C4   | Translucent Grey frame, Clear lens HC/AF                   |
| CHODKE®DA | 330SWK3003L103  | Cyclone-X Spare Lens, Grey Polarized HC                    |
| SWORKE®RX | 330SWK3003L007  | Cyclone-X Spare Lens, Photochromic HC (from Clear to Grey) |
|           | 330SWK3003L592  | Cyclone-X Spare Lens, Red Revo HC                          |
|           | 330SWK3003L292  | Cyclone-X Spare Lens, Versa-Lens HC                        |
|           | 330SWK3003L192  | Cyclone-X Spare Lens, Blue Revo HC                         |
|           | 330SWK3003L001  | Cyclone-X Spare Lens, Clear HC/AF                          |



27

#### SWORKE®RX OPTIMUS 2

An evil twin. More hardcore, more extreme, enhanced technical frame. Optimus' bad-ass brother.

- · 3-point temple inclination provides versatile fit
- · Switchable lens system
- Lined with numerous venting ports for ease of air flow and enhanced circulation
- High density sweat-resistant closed-cell foam browguard cushions high strength impact
- Tough sweat-resistant nose pads enhance grip in motion and cushions against impact
- Motion stable frame with anti-slip wraparound frame resists shaking
- Removeable Rx lens carrier available for corrective vision
- Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards



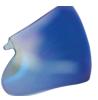
#### FRAME:



3012301R







207L392



207L592



207L101

| BRAND     | PRODUCT CODE   | DESCRIPTION                            |
|-----------|----------------|----------------------------------------|
|           | 300SWK3012301R | Pearl Graphite frame, Clear lens HC/AF |
|           | 330SWK207L292  | Optimus 2 Spare Lens, Versa-lens HC    |
| SWORKE®RX | 330SWK207L392  | Optimus 2 Spare Lens, Blue Revo HC     |
|           | 330SWK207L592  | Optimus 2 Spare Lens, Red Revo HC      |
|           | 330SWK207L101  | Optimus 2 Spare Lens, Grey HC/AF       |

#### **SWORKE®RX OPTIMUS**

Our very first model. The Optimus, a pioneer technical frame featuring our signature Rx Carrier.

- · Switchable lens system
- · Lined with numerous venting ports for ease of air flow and enhanced circulation
- · High density sweat-resistant closed-cell foam browguard cushions high strength impact
- · Tough sweat-resistant nose pads enhance grip in motion and cushions against impact
- · Anti-slip, moisture-resisting, wraparound temples provides motion stabiltiy
- · Removeable Rx lens carrier available for corrective
- · Tested to ANSI Z87.1-2010 standard and complies with SS473:2011 standards

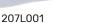


#### FRAME:



#### **SPARE LENS:**



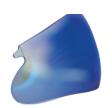




207L292



207L101



207L392

| BRAND     | PRODUCT CODE  | DESCRIPTION                            |
|-----------|---------------|----------------------------------------|
|           | 300SWK207301R | Pearl Graphite frame, Clear lens HC/AF |
|           | 330SWK207L001 | Optimus Spare Lens, Clear HC/AF        |
| SWORKE®RX | 330SWK207L292 | Optimus Spare Lens, Versa-lens HC      |
|           | 330SWK207L101 | Optimus Spare Lens, Grey HC/AF         |
|           | 330SWK207L392 | Optimus Spare Lens, Blue Revo HC       |



# **SAFETY GOGGLES**



#### **STINGER E3031**

WORKSafe® Stinger - an acetate anti-fog lens goggle that offers good protection. Its chemical-resistant lens is paired with a soft rubber nose that accommodates most Western and Asian facial profiles.

- · Cellulose acetate anti-fog lens by Jebsen-Mazzucchelli, Italy
- 180° panoramic lens
- · Integrated air ventilation system and cheek protector
- · Can be worn over prescription eyewear
- · Suitable for use with half-masks and filtering face masks
- · Complies with ANSI/ISEA Z87.1-2015, EN166:2001 F and SS473:2011 standards





worksafe.com.sg

| SIRIM | DOSH              |
|-------|-------------------|
|       | 166:2002<br>11436 |

| SINGAPORE REGISTERED |
|----------------------|
| DESIGN: D2013/439/B  |

| BRAND                 | PRODUCT CODE  | DESCRIPTION                                                                         |
|-----------------------|---------------|-------------------------------------------------------------------------------------|
| WORKSafe <sup>®</sup> | 310WSE3031-C2 | Translucent clear frame,<br>Clear AF lens with<br>Black WORKSafe®<br>woven headband |

<sup>\*</sup>Passed splash test with D3 marking.



# **SAFETY GOGGLES**

#### **BLUESTEEL E304**

The WORKSafe® Bluesteel safety goggles is built with an integrated ventilation system for people who wear prescription eyewear. Bluesteel goggles also offer unparalleled visibility with its anti-fog coating.

- Flexible body and anatomical nose cushioning adapts to face for snug fit
- · Fully adjustable headband
- Integrated cheek protector
- · Suitable for use with half-masks and filtering face masks
- Complies with ANSI Z87.1-2003 and SS473:2011 standards





| BRAND     | PRODUCT CODE | DESCRIPTION                                                   |
|-----------|--------------|---------------------------------------------------------------|
| WORKSafe® | 310WSE304901 | Grey frame, Clear lens AF,<br>Dark Grey WORKSafe®<br>headband |

#### **ASTRONIX E302**

The WORKSafe® Astronix provides unfettered side visibility with 180°-panoramic lens. Scratch-resistant and affordable, they can even be worn over prescription eyewear.

- Flexible body and anatomical nose cushioning adapts to face for snug fit
- · Fits over most prescription eyewear
- · Fully adjustable headband
- · Integrated ventilation system and cheek protector
- Suitable for use with half-masks and filtering face masks
- Complies with ANSI Z87.1-2003 and SS473:2011 standards



| BRAND     | PRODUCT CODE | DESCRIPTION                                                   |
|-----------|--------------|---------------------------------------------------------------|
| WORKSafe® | 310WSE302101 | Grey frame, Clear lens AF,<br>Dark Grey<br>WORKSafe® headband |

# **SAFETY GOGGLES**

#### **BIONIX E303**

WORKSafe® Bionix is a wraparound panavision goggles with integrated ventilation system, dual density rubber body and soft rubber nose cushioning to provide total eye protection in optimal comfort, even in extreme situations.

- · Can be worn over prescription eyewear
- · Fully adjustable headband
- · Integrated cheek protector
- · Suitable for use with half-masks and filtering face
- Complies with ANSI Z87.1-2003 and SS473:2011 standards



| BRAND     | PRODUCT CODE | DESCRIPTION                                                     |
|-----------|--------------|-----------------------------------------------------------------|
| WORKSafe® | 310WSE303501 | Orange frame, Clear lens AF,<br>Dark Grey WORKSafe®<br>headband |

#### STRIKE E301

WORKSafe® Strike safety goggles is designed for comfort. The upper and lower parts of the body are frosted to protect against light reflection and glare.

- · Flexible body adapts to face for snug fit
- · Fully adjustable headband
- Integrated ventilation system and cheek protector
- · Suitable for use with half-masks and filtering face masks
- Complies with ANSI Z87:2015 and SS473:2011 standards



| BRAND     | PRODUCT CODE | DESCRIPTION                                                             |
|-----------|--------------|-------------------------------------------------------------------------|
| WORKSafe® | 310WSE301101 | Frosted Clear frame,<br>Clear lens AF, Light Grey<br>WORKSafe® headband |

<sup>\*</sup>Passed splash test with D3 marking.

# **WORKGARD® SAFETY GOGGLES**

#### **BASIC E3066**

This WORKGard® Basic goggle combines an anti-fog polycarbonate lens with a clear PVC frame. It's the crystal-clear choice for general-use eye protection!

- · Clear and light translucent frame
- · Anti-fog (AF) coated lenses
- · Tested to EN166 and SS473:2011 standards



| BRAND            | PRODUCT CODE  | DESCRIPTION                      |
|------------------|---------------|----------------------------------|
| <b>WORKGard®</b> | 310WGE3066-C1 | Clear frame, Clear lens<br>HC/AF |

#### **WORKGARD® E3070**

The WORKGard® E3070 provides unfettered side visibility with 180°-panoramic lens. Scratch resistant and affordable, they are great plano safety goggles for workers who do not wear prescription glasses.

- Flexible body and anatomical nose cushioning adapts to face for snug fit
- · Fully adjustable headband
- Integrated ventilation system and cheek protector
- Suitable for use with half-masks and filtering face masks



| BRAND     | PRODUCT CODE  | DESCRIPTION                                                  |
|-----------|---------------|--------------------------------------------------------------|
| WORKGard® | 310WGE3070-C1 | Black Frame, Clear AF<br>Lens with Black Non-<br>Woven Strap |

# **CLEANING SOLUTION**



# **CLEANING SOLUTION**

#### **KLEANLENS® FIXED LENS CLEANING STATION KL461**

- · For use on plastic, polycarbonate and glass lenses
- Ideal for spectacles, goggles, faceshields and computer screens
- · Safe and effective with all types of lens coatings
- Content: 1 bottle of Kleanlens® 500ml lens cleaning solution-biodegradable and non-toxic; 4 boxes of Kleanlens® tissue-non-abrasive and low lint tissue

| BRAND     | PRODUCT CODE | DESCRIPTION                                                                     |
|-----------|--------------|---------------------------------------------------------------------------------|
| WORKSafe® | 350WSEKL461  | Kleanlens fixed lens cleaning<br>station c/w 500ml fluid and<br>4 boxes tissues |



#### **KLEANLENS® LENS DISPOSABLE STATION KL467**

- · For use on plastic, polycarbonate and glass lenses
- Ideal for spectacles, goggles, faceshields and computer screens
- · Safe and effective with all types of lens coatings
- Content: 1 bottle of Kleanlens® 250ml lens cleaning solution – biodegradable and non-toxic; 2 boxes of Kleanlens® tissue – non-abrasive and low lint tissue



| BRAND            | PRODUCT CODE | DESCRIPTION                                                                 |
|------------------|--------------|-----------------------------------------------------------------------------|
| <b>WORKSafe®</b> | 350WSEKL467  | Kleanlens lens disposable<br>station c/w 250ml fluid and<br>2 boxes tissues |



### KLEANLENS® KLEANLENS CLEANING SOLUTION KL463 (500ML)

Protect your lenses and keep them clear with Kleanlens! This lens cleaning solution can be used on optical devices like eyewear, face shield, mobile phones and computer screens. Simply wipe your lenses with this solution to keep them in tip-top condition!

- Keeps your eyewear clean
- Suitable for plastic, polycarbonate and glass lenses

| BRAND                 | PRODUCT CODE                       | DESCRIPTION                           |
|-----------------------|------------------------------------|---------------------------------------|
| Mobito t a            | 350WSEKL463                        | Kleanlens cleaning solution,<br>500ml |
| WORKSafe® 350WSEKL466 | Kleanlens cleaning fluid,<br>250ml |                                       |



### **CLEANING SOLUTION**

#### **KLEANLENS® KLEANLENS CLEANING TISSUES KL462**

Protect your lenses and keep them clear with Kleanlens Lens Cleaning Tissues. This lens cleaning wipes can be used on optical devices like eyewear, face shield, mobile phones and computer screens. Use these wipes by themselves or with a cleaning solution to keep your lenses in tip-top condition!

- · Keeps vour evewear clean
- · Non-abrasive and lint-free
- · Suitable for plastic, polycarbonate and glass lenses

| BRAND     | PRODUCT CODE | DESCRIPTION                                |
|-----------|--------------|--------------------------------------------|
| WORKSafe® | 350WSEKL462  | Kleanlens cleaning tissues,<br>300 pcs/box |



#### KLEANLENS® KLEANLENS ANTI-FOG WET WIPES KL480

Keep your eyewear clean with our Kleanlens Anti-Fog Wet Wipes. Made of non-abrasive lint-free material, these wipes effectively cleans eyewear lenses and other optical devices like mobile phones and computer screens.

These pre-moistened wipes are sealed in individual disposable packets, small enough to be stored in a bag, pocket or lens case.

- Non-abrasive and lint-free, suitable for cleaning eyewear lenses, mobile phones and computer screens.
- · Small and compact, convenient for use on the go
- · Anti-fog agent to keep your eyewear lenses clear

| BRAND     | PRODUCT CODE | DESCRIPTION                                            |
|-----------|--------------|--------------------------------------------------------|
| WORKSafe® |              | Kleanlens anti-fog wet wipes, size:12x15cm, 100pcs/box |



#### KLEANLENS® ANTI-FOG SOLUTION KL481

WORKSafe Kleanlens Anti-Fog Solution helps keep your lenses and clear surfaces clean. Contained in a convenient spray bottle for easy application, simply spray and wipe to keep your glasses fog-free!

This lens cleaning solution can be used on optical devices like eyewear, face shield, mobile phones and computer screens.

- · Keeps your eyewear clean
- · Suitable for plastic, polycarbonate and glass lenses

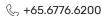
| BRAND     | PRODUCT CODE | DESCRIPTION                           |
|-----------|--------------|---------------------------------------|
| WORKSafe® | 350WSEKL481  | Kleanlens anti-fog solution,<br>100ml |











# SAFETY EYEWEAR GUIDE



#### **Step 1: Identify Hazards**

Protectors should be mandatory where there is a reasonable probability of an eye or face injury that can be reduced or prevented with the use of protectors. A hazard assessment should be conducted to decide the risk of exposure in order to select the appropriate protectors needed. The safety officer or other responsible parties should pay attention to the different types of hazards and identify the sources of the hazards as stated below. After evaluating the information gathered, suitable protectors should be selected and used.

#### **Eye and Face Protection Selection Chart**

|                         | Impact                                                                                                                                                                                         | Heat                                                                                                                                                             | Chemical                                                                                                                                                                                      | Dust                                                                | Light/ Radiation                                                                                                                                                                                                                |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Source                  | Chipping Grinding Machining Masonrywork Woodworking Sawing Drilling Chiselling Powered fastening Sanding                                                                                       | Furnace operation     Pouring     Casting     Hot dipping     Gas cutting     Welding                                                                            | Liquids     Acid/Chemical handling     Degreasing     Plating                                                                                                                                 | Woodworking     Buffing     General dusty conditions                | Infrared radiation Ultraviolet radiation (UV) Lasers Welding: electric arc Welding: gas Cutting Torch brazing Torch soldering Visible light (Glare)                                                                             |
| Assessment<br>of Hazard | Flying fragments:     e.g. objects like     particles, sand, dirt     etc.                                                                                                                     | Hot sparks     Splash from     molten metals     High temperature     exposure                                                                                   | Chemical splash,<br>droplets and<br>sprays     Irritating mists                                                                                                                               | Nuisance<br>dusts     Fine dusts                                    | Optical radiation     Poor vision                                                                                                                                                                                               |
| Eye Protection          | Spectacles with side shields     Goggles     Faceshields worn over spectacles or goggles     Welding helmet/ Loosefitting respirator worn over spectacles or goggles     Full face respirators | Spectacles with side shield     Goggles     Faceshields worn over goggles     Loose-fitting respirator worn over spectacles or goggles     Full face respirators | Goggles,     eyecups and     cover types     Faceshields     worn over     goggles     Loose fitting     respirator worn     over spectacles     or     goggles     Full face     respirators | Goggles,<br>eyecaps and<br>cover types     Full face<br>respirators | Welding helmets, welding shields or welding respirator (arc)     Welding goggles, welding helmets or welding faceshield (gas, cutting, brazing)     Spectacles or welding faceshield (soldering)     Typical shades -arc: 10-14 |

#### **Step 2: Selection of Safety Eyewear**

#### 2.1 Minimum Requirements

Meets International Safety Standards, e.g. ANSI Z87.1-2015/2010, SS473:2011, EN166:2001, GB, JIS, AAS, AS/NZS 1337.6:2007 and CSA Z94.3-1988

#### 2.2 Optical Quality

| Optical<br>Class |                |                | Prismatic Refractive Power |  |  |
|------------------|----------------|----------------|----------------------------|--|--|
| 1                | ±0.06 diopters | ±0.06 diopters | ±0.12 diopters             |  |  |
| 2                | ±0.12 diopters | ±0.12 diopters | ±0.12 diopters             |  |  |

#### 2.3 High Impact Rating

#### 2.3.1 American Standards ANSI/ISEA Z87.1

|                                                                 | High Mass Impact,                                                                  | High Velocity Impact Projectile                                                                               |                                                             |                                                                  |                                                                |                            | ings:                   |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------|----------------------------|-------------------------|
| Type of<br>Eye<br>Protectors                                    | Pointed Projectile,<br>Wt.: 500g (17.6oz.)<br>Size: 25mm (1")<br>Ht.: 127 cm (50") | Steel ball 6.35mm (0.25")<br>Wt.: 1.04g (0.037oz.)<br>Velocities: 45.7m/s to 91.4m/s<br>(150 ft/s to 300ft/s) |                                                             | Steel ball 6.0<br>Wt.: 0.86g<br>Velocities: 50.9ı<br>(167 ft/s t | Manufacturer's<br>Identification:<br>WORKSafe®:<br>"W"         |                            |                         |
|                                                                 |                                                                                    |                                                                                                               | Velocity                                                    |                                                                  | Velocity                                                       | Frames                     | Lens                    |
| Spectacles/<br>Readers/<br>Magnifiers<br>Goggles<br>Faceshields | Frame & Lens<br>Frame & Lens<br>Frame/Crown & Lens                                 | Frame & Lens Frame & Lens Frame/Crown & Lens                                                                  | 45.7m/s (150ft/s)<br>76.2m/s (250ft/s)<br>91.4m/s (300ft/s) | Frame & Lens Frame & Lens Frame/Crown & Lens                     | 50.9m/s (167ft/s)<br>84.7m/s (278 ft/s)<br>101.5m/s (333 ft/s) | W Z87+<br>W Z87+<br>W Z87+ | W +<br>W Z87+<br>W Z87+ |

#### 2.3.2 EN166

|                        | Projectile Speed of Steel Ball |                      |                    |  |  |
|------------------------|--------------------------------|----------------------|--------------------|--|--|
| Types of Eye Protector | Low energy impact              | Medium energy impact | High energy impact |  |  |
|                        | 45m/s or 162km/h               | 120m/s or 432km/h    | 190m/s or 984km/h  |  |  |
| Spectacles             | Applicable                     | N.A.                 | N.A.               |  |  |
| Goggles                | Applicable                     | Applicable           | N.A.               |  |  |
| Faceshields            | Applicable                     | Applicable           | Applicable         |  |  |

#### 2.4 Lens Materials

| Generic Materials | Types           | Optical Quality | Minimum Mechanical<br>Strength | Chemical<br>Resistance | Weight   |
|-------------------|-----------------|-----------------|--------------------------------|------------------------|----------|
| Mineral Material  | Hardened Glass  | Excellent       | 12m/s (3mm)                    | Excellent              | Heavy    |
|                   | Laminated Glass | Excellent       | 12m/s (3mm)                    | Excellent              | Heavy    |
| Organic/Synthetic | CR-39 Plastic   | Excellent       | 12m/s (3mm)                    | Good                   | Light    |
|                   | Acetate         | Excellent       | 45m/s                          | Very good              | Lighter  |
|                   | Polycarbonate   | Excellent       | 45m/s                          | Very Good (if coated)  | Lightest |

### **Step 3: Understanding Standard Markings**

#### 3.1 ANSI/ISEA Z87.1 Marking Requirements

| Type of Mark                             | Lenses & Replacement |                      | Frame       | Marking for Complete Device (no replaceable parts) |
|------------------------------------------|----------------------|----------------------|-------------|----------------------------------------------------|
|                                          | Spectacles           | All Other            |             |                                                    |
| All protectors shall bear the markings b | elow.                |                      |             |                                                    |
| Manufacturer's Mark or Logo              | Yes                  | Yes                  | Yes         | Yes                                                |
| Standard(Non-Impact Rated)               |                      |                      |             |                                                    |
| Plano                                    |                      | Z87                  | Z87         | Z87                                                |
| Rx                                       |                      | Z87                  | Z87-2       | Z87-2                                              |
| The following shall be required only who | en claims of impa    | ct rating, a specifi | ic lens typ | e and/or use are made by the manufacturer.         |
| Impact Mark                              |                      |                      |             |                                                    |
| Impact Rated Plano, Readers/Magnifiers   | +                    | Z87+                 | Z87+        | Z87+                                               |
| Impact Rated Rx                          | +                    | Z87+                 | Z87-2+      | Z87-2+                                             |
| Lens type                                |                      |                      |             |                                                    |
| Clear                                    |                      |                      |             |                                                    |
| Welding                                  | W shade              | W shade              |             | W shade                                            |
| UV Filter                                | U scale number       | U scale number       |             | U scale number                                     |
| Visible Light Filter                     | L scale number       | L scale number       |             | L scale number                                     |
| IR Filter                                | R scale number       | R scale number       |             | R scale number                                     |
| Variable Tint                            | V                    | V                    |             | V                                                  |
| Special Purpose                          | S                    | S                    |             | S                                                  |
| Use                                      |                      |                      |             |                                                    |
| Splash/Droplet                           |                      |                      | D3          | D3                                                 |
| Dust                                     |                      |                      | D4          | D4                                                 |
| Fine Dust                                |                      |                      | D5          | D5                                                 |

#### 3.2 **ANSI/ISEA Z87.1 Marking Sequence**

Markings can follow a top to bottom sequence or a left to right sequence.

DISCLAIMER: The information below is provided to demonstrate examples of resulting product markings compliant with ANSI/ISEA Z87.1-2015. Such information is not meant to be all-inclusive and is provided for illustrative purposes only.

| Device                                                   | Manufacturer's<br>Mark Or Logo | Standard<br>Mark | Impact<br>Mark | Lens<br>Type | Use | Resulting<br>Mark |
|----------------------------------------------------------|--------------------------------|------------------|----------------|--------------|-----|-------------------|
| LENSES                                                   |                                |                  |                |              |     |                   |
| Goggle or faceshield, non-impact rated (UV)              | W                              | Z87              |                | U3           |     | W Z78U3           |
| General purpose spectacle, non-impact rated (shade 2.0)  | W                              |                  |                | W2.0         |     | W W2.0            |
| FRAME                                                    |                                |                  |                |              |     |                   |
| Goggle impact rated, fine dust rated                     | W                              | Z87              | +              |              | D5  | W Z87+D5          |
| Goggle, non-impact rated, dust rated                     | W                              | Z87              |                |              | D4  | W Z87D4           |
| Goggle, non-impact rated, splash rated                   | W                              | Z87              |                |              | D3  | W Z87D3           |
| Prescription spectacle w/o side protection               | W                              | Z87-2            |                |              |     | W Z87-2           |
| Prescription spectacle, impact rated                     | W                              | Z87-2            | +              |              |     | W Z87-2+          |
| COMPLETE DEVICE                                          |                                |                  |                |              |     |                   |
| Goggle, faceshield (UV & IR)                             | W                              | Z87              |                | U6 & R2      |     | W Z87U6R2         |
| Goggle, faceshield, impact rated, splash rated (shade 5) | W                              | Z87              | +              | W5           | D3  | W Z87+W5D3        |

#### 3.3 **EN166**

#### **FRAME**

| W                                            | EN STANDARD | F                                  | XXXCE                          |
|----------------------------------------------|-------------|------------------------------------|--------------------------------|
| Identification of the manufacturer WORKSafe® | EN166       | Resistance to high speed particles | Test Laboratory Identification |

#### **LENS**

| 3-1,7                                                         | W                                                  | 1                | F                                        | K                                                    | N                        |
|---------------------------------------------------------------|----------------------------------------------------|------------------|------------------------------------------|------------------------------------------------------|--------------------------|
| Code no. of UV Filter with good colour recognition- Shade no. | Identification of<br>the manufacturer<br>WORKSafe® | Optical<br>Class | Resistance to<br>high speed<br>particles | Resistance to<br>surface damage<br>by fine particles | Resistance<br>to fogging |

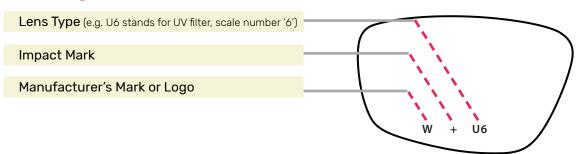
#### 3.4 Wearers' comfort & acceptance in accordance with SS473 standards

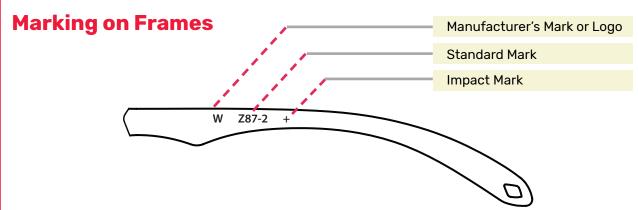
- · Lightweight for prolonged wearing and use
- · Good fitting with temple length adjustment
- Good fitting for different nose bridges with temple inclination height adjustment
- Eye and bridge sizes suitable for Western or Asian people
- · Pressure points reduced by soft, tri-flex or dual density anti-slip temples
- · Well ventilated or with anti-fog features
- · Polycarbonate lens must have durable antiscratch and anti-fog coating for clarity
- · Material should withstand tropical climate, high humidity and temperature

#### 3.5 Additional consideration for goggles in accordance with SS473 standards

- · Wide vision for panoramic view
- · Good face sealing for better protection and comfort
- · Wide headband for increased comfort
- Able to wear over prescription spectacles
- · Choice of lens material such as acetate, propionate or polycarbonate

#### **Marking on Lens**





#### **High Velocity Impact**

New ANSI Z87.1-2015 allows the use of a steel ball of diameter 6mm (0.24"), travelling at 50.9m/s (167 ft/s) or a steel ball with diameter 6.35mm (0.25") travelling at 45.7m/s (150 ft/s) when conducting the high velocity impact test on the complete devices.

#### Safety Prescription (SRX) Lens Material Qualification

Representative SRX lens must be tested to resist high velocity impact using steel ball of either diameter 6mm and 6.35mm as specified in Section 2.3.1.

#### Safety Prescription (SRX) Lens Mounting Qualification

Complete SRX eyewear with representative test lens and retention system shall be capable of resisting high velocity impact using steel ball of either diameter 6mm and 6.35mm as defined in Section 2.3.1.

#### **Protectors Providing Filtration of Optical Radiation**

#### **Special Purpose Filters**

Special purpose filters, both tinted and extra dark, marked "S", may or may not comply to requirements for welding, UV and visible light filters, but shall comply with the transmittance requirements for special purpose lenses.

#### **Visible Light Filters**

Protectors marked L1.3 to L3 must meet transmittance requirements of traffic signal recognition and UV transmittance of ANSI Z80.3-2010, American National Standard for Ophthalmics - Nonprescription Sunglasses and Fashion Eyewear Requirements. While protectors marked L4 to L10 are too dark to be used for driving, they shall meet UV transmittance requirements of ANSI Z80.3-2010.

#### **Transmittance of Non-Lens Components**

If a spectacle claims to meet the transmittance requirements of welding, UV and infrared filter lenses, the side shields of the spectacles shall be tested to the maximum scale number of the lens with which they will be fitted. Wraparound lenses which have the side protection as part of the lenses will be subjected to the same testing.

#### **Angular Dependence of Luminous Transmittance**

Requirements for angular dependence of luminous transmittance for welding filters have also been added to address visual effect that welders can find both dangerous and disturbing.



#### **Droplet and Splash, Dust and Fine Dust Hazard**

In ANSI Z87.1-2015, the tests for droplet and splash, dust, and fine dust hazards are intended to determine the capability of the protector to keep liquid splashes or sprays, large dust and fine dust particles, from reaching the wearer's eyes. Eyewear that pass each test are marked additionally with D3, D4, and D5 respectively. (Refer to table 3.5.1)

#### Important Notes for Safety Prescription (SRX) Eyewear

#### 1. Minimum Lens Thickness of SRX Lens

SRX eyewear must be fitted with impact rated SRX lens with a minimum thickness of 2mm (0.08")

#### SRX Optical Requirements - Refractive Power, Astigmatism, Prism and Prism Imbalance for RX Protectors and Magnifiers

SRX lens must be tested according to and comply with the tolerance on refractive power, astigmatism, prism and prism imbalance as stated in ANSI Z80.1-2010, American National Standard for Ophthalmics - Prescription Ophthalmic Lenses Recommendations.

#### 3. SRX Lens Mounting Qualification

Complete SRX eyewear with representative test lens and retention system shall be capable of resisting high mass and high velocity impact. A new lens retention test is required of prescription safety laboratories fabricating impact rated SRX eyewear to determine their ability to consistently produce lenses that will be retained in the various frame types they choose to sell. SRX frame manufacturers must also test their frames to this lens retention test.

#### 4. SRX Lens Material Qualification

Representative SRX lens must be tested to resist high velocity impact using a steel ball of diameter 6mm (0.24") travelling at 50.9m/s (167 ft/s) or a steel ball with diameter 6.35mm (0.25") travelling at 45.7m/s (150 ft/s).

#### SRX Lens Carrier (RX Insert)/SRX Eyewear with Lift Fronts

The complete device with prescription lenses in +5.0 and -5.0 diopters fitted in the carrier, behind the plano eyewear shall be tested. RX lens carrier used behind plano protectors shall be marked with the manufacturer's mark or logo but not any other Z87 markings. Complete devices with SRX eyewear and lift fronts shall be tested with the lift front in the "up" position.

#### 6. SRX Side Shield Attachment

SRX eyewear must be equipped with side shields that can be securely or permanently attached to pass the side impact test.





#### ANSI/ISEA Z87.1-2015 Standard

The American National Standards Institute (ANSI) has approved and issued the new ANSI/ISEA Z87.1-2015 American National Standard for Occupational and Educational Eye and Face Protection (ANSI Z87.1-2015). This standard went into effect May 28, 2015, and updates the 2010 version. While the scope of the standard remains mostly unchanged, there are a number of modifications that have significant impact. The following outlines these changes and how they impact eye protection and the methods companies use to select safety products.

#### **Important Changes**

ANSI Z87.1-2015 continues to focus on product performance and reflects the need to streamline testing methods to harmonize with global standards to allow new and innovative designs to protect against hazards, meet end-users needs and workplace regulations. This consists of acceptance of protectors known as "magnifiers" and "readers" that have lenses, or portion of lenses that have magnification properties. The new Z87.1-2015 standard fine-tunes the hazard-based structure of choosing protectors, a concept first introduced in 2010. In the revised standard, additional emphasis has been placed on enabling users to select protectors suitable for their working environment and providing end-users with information to facilitate the selection process.

#### **Optical Requirements of Refractive Powers**

ANSI Z87.1-2015 specifies that the telescope and observer shall be qualified by resolving pattern 40 of the test pattern instead of pattern 20. The revised standard states that the average refractive power of lenses with astigmatism is used instead of each meridian.

#### Physical Requirements of Drop Ball Impact Resistance

ANSI Z87.1-2015 elaborates on the specifications of testing apparatus used in the drop ball test. The projectile will be dropped from a height of 127cm (50") through a loose fitting guide tube with a smooth internal diameter ending 10cm (4") above the point of contact. The revised standard eliminates the need to perform drop ball testing for a protector that is first tested to and meet the requirements of impact resistance.

#### SS473:2011 Singapore Standard

According to clause 5.3 of the SS473: Part 2:2011 Singapore Standard, eye protectors (plano and prescription eye protectors) must comply and be marked in accordance with any of the following standards or their equivalent: ISO, EN (Europe), ANSI (USA), CSA (Canada), AS/NZ (Australia/New Zealand) and JIS (Japan). All WORKSafe® eyewear comply with SS473 as well as ANSI/ISEA Z87.1 standards, and, if indicated, EN166 standards.

#### **Purchase Care**

#### Follow these care instructions for long-lasting comfort and protection!

- 1. To avoid breaking or bending your spectacle frame, handle your glasses with both hands. Pull both ear rails simultaneously when putting on or taking off your glasses.
- 2. When not in use, store your glasses in a case like the WORKSafe® SRX
- If you haven't got a case, be sure to place your WORKSafe® safety eyewear upright, so the lenses don't get scratched 3 or scuffed.
- Clean your glasses regularly with microfiber cloths or with WORKSafe® Kleanlens® solution; or by washing them with mild soap and water.
- 5. Avoid exposing your glasses to extreme temperatures, under direct sunlight, or during your bath. Smoke, heat and steam can damage the lens coating.