



## Eye Protection

To help choose safety eyewear best suited to your needs the following information may be useful. Whilst every effort should be made to remove hazards as the result of a Workplace Risk Assessment, if safety eyewear is necessary as a last resort, the following section criteria should be considered:

- Type of Hazard
- Type of Protection
- Type of Lens

### Safety Eyewear Anti-Fog and Anti-scratch coatings

Until recently, anti-fog and anti-scratch coatings were added as to safety eyewear with no requirements for the performance of these coatings to be tested. They often worked well and many are still used today.

However, as user needs became more extreme and coatings became more technically advanced, the standard for this type of product, EN166, added further, optional, tests within it to check the performance of these coatings.

They are tough tests to pass, but if a product passes the anti-scratch test it can be marked with a 'K' and an 'N' if it passes the anti-fog test.

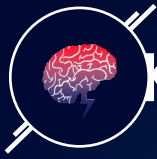
The safety of the lenses is not altered by the coatings, but if you want the clearest vision at all times, without fogged-up or scratched lenses, look for the 'K' or 'N' symbol, preferably both together.

Even better, look for a product which has both markings but the coating doing the work is on both sides of the lens, the perfect solution.

### European Standards EN 166

To assist you in your understanding of markings on Eye Protection Products covered by this Standard you should note:

Optical	Standard	Frame	Lens	
Class 1:	For continuous work	-	1	<a href="#">EN167</a> Optical test methods for protective eyewear
Class 2:	For intermittent work	-	2	<a href="#">EN168</a> Non-optical test methods for protective eyewear – for example, requirements related to strength, durability, resistance to ignition, resistance to chemicals and resistance to impact
Class 3	For occasional work, but must not be worn continuously	-	3	
<b>Mechanical Properties:</b>				
Increased Robustness (general purpose)		-	S	<a href="#">EN 169</a> Welding Filters
High energy impact (190m/sec)		A	A	
Medium Energy Impact (120m/sec) Grade 1		B	B	
Low Energy Impact (45m/sec) Grade 2		F	F	
Increased Robustness - General Purpose Impact - Performance at extremes of temperature		T	T	<a href="#">EN 170</a> Ultra-Violet Filters
<b>Areas of Use:</b>				
Liquids (chemical)		3	-	<a href="#">EN 171</a> Infra-red Filters
Large Dust Particles		4	-	<a href="#">EN 172</a> Solar Protection Filters for Industrial Use
Gas and Fine Dust Particles		5	-	
Short Circuit Electric Arc		8	-	<a href="#">EN 175</a> Welding Work Equipment
Molten Metals and Hot Solids		9	9	
<b>Optional:</b>				
Resistance to Misting/Fogging		-	N	<a href="#">EN 207</a> Laser Protection Eyewear
Resistance to Mechanical Damage (anti-scratch)		-	K	
				<a href="#">EN 208</a> Laser Adjustment Eyewear



## Hazards to be aware of

Hazards fall into 4 main categories:

1. Mechanical – Flying Debris, Dust or Molten Metal
2. Chemical – Fumes, Gases or Liquid Splash
3. Radiation – Heat (Infra-red), Ultraviolet light or Glare
4. Laser Light – Over a wide spectrum of wavelengths from Ultraviolet to Infra-red

## Types of Eye Protection

### Safety Spectacles

Comfortable and available in a variety of styles. Will not keep out Dust, Gas or Molten Metal. We also offer a complete prescription safety eyewear service.

### Safety Goggles

Provide protection for all types of hazards. May be worn over spectacles.

### Safety Faceshield

Protects the face as well as the eyes but does not keep out dust or gas. Comfortable to use for long periods.

## Types of Lenses

### Clear lens

General indoor applications that require impact protection. Provides 99% protection from harmful UV-B rays.

### Smoke

Protection from sunlight, excessive glare and high levels of hazardous light. Full colour recognition.

### Indoor/Outdoor

Reduces sun glare and intense sunlight, mirror coating reflects glare. Full colour recognition.

### Amber

Ideal for low-light environments, artificially lit areas, dawn & dusk. Provides high definition visibility and good contrast in low light.

**Mirror** - Safety glasses with gold, silver or other mirror lenses have similar visible light transmission to grey lenses but are better at reducing glare

**Blue** - The light blue colour reduces eye-strain caused by high levels of yellow from sodium vapour lighting.

**Green** - Green lenses are available in various shade levels for welding, torch brazing or cutting.

**Grey** - These lenses reduce general brightness and glare in sunny outdoor situations.

### CSP (Comfort Sensory Perception)

Lens coating that provides 100% protection against UVA & UVB rays and blue light. This innovative coating is an effective solution for all activities that alternate exposures to bright light and low light. Suitable for extreme hot and cold temperature environments. CSP is also a combination of the platinum double sided anti-scratch and anti-mist fog coating.

### ESP (Extra Sensory Perception)

ESP provides 100% protection against UVA & UVB rays, filtering filters out 70% of blue light. Transmits over 60% of visible light.

### Twilight

Twilight offers the advantages of ESP but with a double anti-mist coating on both sides. This prevents fogging in the most challenging of conditions. Twilight are designed to be used in low light conditions, it improves contrast. It's light transmission rate is perfect for indoors or outdoor. It filters 76% of blue light.

### Anti-Mist

Many products on this website feature anti-mist coatings and are marked with this icon:



### Anti-Scratch

High impact but scratch resistant optically correct material based on polycarbonate with a quartz crystal coating on the front of the lens. This lens absorbs UVA and UVB light up to a wavelength of 400 nanometres. Many products in this catalogue have anti-scratch properties and are marked with this icon:

