

Eye Protection

INTRODUCTION

Welcome to our eye protection selection guide.

This guide helps you select the most appropriate protective eyewear for you and your business.

The guide includes a details of the risk types you may be subject to. It gives an overview of lens and frame markings and covers the European safety standards to be aware of when choosing. Selection tables provide all of the information you need to make a buying decision.



WHY BUY FROM RS?

As industry experts we offer a wide range of protective eyewear for many environments and risk types. We stock professionally-approved RS products and many from market leading brands. This means you can find all the products you need from one source, with next day delivery, competitive pricing and bulk discounts.

LENS MATERIALS

Polycarbonate lenses provide the highest impact level tested under EN166.

Acetate and CR39 lenses still give general impact protection but are geared more for longer duration against liquid and chemical splash situations.

Ventilated versions give an **extra aeration** to the anti-fog lens but still conform to the liquid and chemical splash requirements.

Non Ventilated (or sealed) also conform to the liquid and chemical splash requirements but in addition provide dust protection conformity.

WHAT TYPE OF PROTECTION SHOULD YOU CHOOSE?

Protecting yourself from MECHANICAL risks

Grinding work, particle projections, projections of metal filings or debris from tools.

Risks or Use	Symbol*	Safety Spectacles	Safety Goggles	Standard
Low energy impact 45 m/s	F			EN166
Medium energy impact 120 m/s	B	-		EN166
High energy impact 190 m/s	A	-	-	EN166

The F, B or A symbol must be indicated on the lens and the frame to guarantee protection from mechanical risks. If the symbols differ, the symbol representing the lowest resistance is applied to the protection as a whole.

Protecting yourself from ELECTRIC risks

Protection from live contact and short circuit electric arcs.

Risks or Use	Symbol*	Safety Spectacles	Safety Goggles	Standard
Short-circuit electric arc	8	-	-	EN166

The 8 symbol must be indicated on the lens and the frame to guarantee protection from electrical risks.

Protecting yourself from THERMAL risks

Sprays of hot liquids or solids, intense heat radiation, radiating heat from furnaces.

Risks or Use	Symbol*	Safety Spectacles	Safety Goggles	Standard
Spray of molten metals and hot solids	9	-		EN166

The 9 symbol must be indicated on the lens and the frame to guarantee protection from thermal risks.

Protecting yourself from RADIATION risks

Exposure of the eyes to high intensity, ultra violet, infra-red and visible light sources, welding activities, steelworks, surgery.

Risks or Use	Symbol*	Safety Spectacles	Safety Goggles	Standard
Ultraviolet radiation	2			EN166 EN170
Infra-red radiation	4			EN166 EN171
Solar radiation for industrial use	5 or 6			EN166 EN172
Electric welding	EN175 for the hood EN379 for the filter	-	-	EN166-169 EN175 EN379
Gas welding	1.7/3/5			EN166 EN169
Laser radiation	R1 to R5 LB1 to LB10			EN207 EN208

The standard is identified on the lens markings.

Protecting yourself from CHEMICAL risks

Protection from toxic dust, aerosols, dangerous liquids, gas or toxic vapours.

Risks or Use	Symbol*	Safety Spectacles	Safety Goggles	Standard
Liquid droplets	3	-		EN166
Liquid splashes	3	-		EN166
Large dust particles > 5 microns	4	-		EN166
Gas and fine dust particles < 5 microns	5	-		EN166

The 3, 4 and 5 symbol or symbols must be indicated on the frame. If none of these symbols is indicated in the markings, then the equipment is not suitable for chemical risks.

MANDATORY MARKINGS

Lens and frame marking is specific to each product

Each marking corresponds to a very specific use. Certified by independent laboratories, this information guarantees protective eyewear quality and resistance.

EN Standard
EN166 FT CE

Manufacturer logo

Lens technology

European standard
2C-1.2 1 FT CE

Code (field of use)
2 or 3: UV filter (EN170)
4: IR filter (EN171)
5 or 6: solar filter (EN172)

Protection class
1.2 to 6: degree of visible light filtration

Mechanical strength
Mandatory marking on frame and lens
S Extra strong, resists a 22 mm 43 g ball falling 1.30 m at 5.1 m/s.
F Low energy impact, resists a 6 mm, 0.86 g ball at 45 m/s.
B Medium energy impact, resists a 6 mm, 0.86 g ball at 120 m/s.
A High energy impact, resists a 6 mm, 0.86 g ball at 190 m/s.
T The letter T, immediately after the mechanical strength symbol, authorises use in an environment in which high speed particles at extreme temperatures are present.
Marking on the lenses only
K Resistance to surface damage by fine particles (optional).
N Resistance to fogging (optional).

Colour perception
C: unimpaired colour perception

Crown
Manufacturer identification
Bollé Safety

Optical class
1: high optical quality
No optical distortion (suitable for permanent wear)

bolle SAFETY

EUROPEAN STANDARDS

Basic Standards

- EN166** Guarantee of minimum protection against everyday risks (dropping, sun-ageing, heat exposure, corrosion, etc.)
EN167 Optical test methods.
EN168 Test methods other than optical.

Standards by type of application

Identified by a code (field of use) which is on the lens marking.

- EN169** Welding filters.
EN170 Ultra-violet filters (code 2 or 3).
EN171 Infra-red filters (code 4).
EN172 Industrial use solar protection filters (code 5 or 6).
EN175 Equipment for welding (presence of the EN175 on the product).
EN207 Laser protection glasses (code LB1 to LB10).
EN208 Laser adjustment glasses (code R1 to R5).
EN379 Specification covering welding filters

Frame Marking

The frame must include:

- CE symbol • Manufacturer • Use & strength symbols
- EN standard (if applicable)

Symbols explained:

Only on the frame (chemical protection)

- 3** Liquid droplets or splashes.
4 Large dust particles > 5 microns.
5 Gas and fine dust particles < 5 microns.

Mandatory marking on frame and lens

- 8** Electrical short circuit arc.
9 Molten metal and hot solids.

Lens Markings

Lens marking must include:

- The scale number for filtering lenses (code).
- The manufacturer's name (logo or brand recommended by the manufacturer).

Symbols explained:

- 1** Continuous work - Worn permanently
2 Non-continuous work - Worn intermittently
3 Occasional work, must not be worn permanently.
8 Electrical short circuit arc.
9 Molten metal and hot solids.

WARNING

- F. Maximum protection for glasses**
B. Maximum protection for goggles
A. Maximum protection for face shields

If the S, F, B, A and T symbols do not apply to both the lens and frame, then the lowest level must be assigned to the complete protective eyewear

WHY USE OVER SPECTACLES?



Overspectacles are designed to fit over most users' prescription spectacles with minimal interference.

They offer an excellent coverage and field of vision, combined with a high level of protection against impacts.