

Eye Protection

A brief list of the relevant standards for all types of eye protection are summarised below. For most applications the key points are usually impact, dust and liquid protection levels and these are explained in further detail. It should be remembered that the frames and lenses are subject to separate tests and the **lower** of the two values should be used.

EN 166 Basic Standard "Specifications"

EN 167 "Optical test methods"

EN 168 "Test method other than optical" Standards by applications types

EN 169 "Welding filters"

EN 170 "Ultraviolet filters "

EN 171 "Infrared filters"

EN 172 "Solar protection filters for industrial use"

EN 175 "Welding work equipment"

EN 207 "Glasses for laser protection"

EN 208 "Glasses for laser adjustment"

EN 379 "Specification concerning welding filters" FRAME MARKING

Application Symbols

- 3 Liquids droplets or splashes
- 4 Large dust particles > 5 microns
- 5 Gases and small dust particles < 5 microns
- 8 Short circuit electric arc
- 9 Molten metal and hot solids

Mechanical Strength Symbols

- S** Extra strong, resists a 22 mm 43 g ball falling 1.30 m
- F** Low energy impact, resists a 6 mm 0,86 g ball at 45m/s (Maximum protection for spectacles with side arms)
- B** Average energy impact, resists a 6 mm 0,86 g ball at 120m/s (Maximum protection for goggles)
- A** High energy impact, resists a 6 mm 0,86 g ball at 190m/s. (Maximum protection for visors)

Optical Class Symbols

- 1 Suitable for continuous use
- 2 Suitable for intermittent use
- 3 Suitable for occasional use, (must NOT be worn continuously)

Other Symbols (Only used occasionally)

- K** Resistance to surface deterioration by small particles (optional)
- N** Resistance to misting (optional)
- T** Used immediately after impact letter allows use with extreme temperature particles

Respiratory Protection (Particulates)

In order for a mask to be used as a protective device it must be tested to EN149. Masks which are not tested (Moldex 1100) must not be used to protect the wearer from hazards which are in any way harmful. A summary of the protection levels available are summarised below.

| Type (EN149:2001) | Protection against | WEL* |
|-------------------|--|-----------|
| FFP1 | Non toxic dusts, mists and fumes based on water and oil. NOT to be used against cancer causing radioactive substances and air transmitted biological substances including enzymes. | 4 |
| FFP2 | Toxic dusts mists and fumes based on water and oil. | 10 |
| FFP3 | Against all dusts, mists and fumes based on water and oil. | 20 |
| D | When quoted (eg. FFP2D) this indicated that the mask has passed the optional Dolomite clogging test. (This means the mask will generally last longer before the filter media becomes clogged). | |

Respiratory Protection (Gases and Vapours)

Gases and vapours consist of molecules so small that they penetrate particulate filters. EN 141 and EN 405 divide the gases and vapours into different groups to help identify the correct filter. If a mixture of gases or vapours are present then a multi purpose filter should be used. It should be remembered that gas and vapour filters are ineffective at removing particulates and should be used with additional FFP filters where dust, mists or fumes are present.

| Type | Protection against |
|-------------|--|
| A | Organic gases and vapours with boiling point >65°C |
| B | Inorganic gases and vapours with boiling point >65°C |
| E | Acid gases and vapours with boiling point >65 °C |
| K | Ammonia with boiling point >65 °C |
| ABEK | Special combination filter covering all of above. |

Gas and vapour filters are available in various combinations to cover different chemical groups and also different levels of protection. Full information on protection levels is available on request and this information is provided for guidance only.