

# EYE PROTECTION EXPLANATION OF STANDARDS

OUR EYES ARE OUR MOST IMPORTANT SENSORY ORGANS. PERSONAL EYE PROTECTION SHIELDS THEM FROM A WIDE RANGE OF HAZARDS SUCH AS MECHANICAL OR OPTICAL EFFECTS, CHEMICAL AND THERMAL HAZARDS AND EVEN SPECIAL RISKS SUCH AS X-RAYS. **THE REGULATIONS ARE AS VARIED AS THE APPLICATIONS AND HAZARDS. HOWEVER, ALL PERSONAL EYE PROTECTION MUST ALWAYS COMPLY WITH THE REQUIREMENTS OF THE EUROPEAN STANDARD EN 166. FURTHER STANDARDS MUST ALSO BE OBSERVED DEPENDING ON THE SAFETY GLASSES AND GOGGLES AND THE FIELD OF APPLICATION.**



**The standards for safety glasses and goggles**

- **EN 166** Personal eye protection: Requirements (general basic requirements)
- **EN 169** Personal eye protection: Filters for welding and related techniques
- **EN 170** Personal eye protection: Ultraviolet protection filter
- **EN 171** Personal eye protection: Infrared protection filter
- **EN 172** Personal eye protection: Sunglare filters for industrial use

3M EN 166 3 4 5 BT C€

**FRAME MARKING AS SPECIFIED IN DIN EN 166**

**Certifikation mark**

**Mechanical strength**

- S Increased robustness
- F Low energy impact (up to 45 m/s)
- B Medium energy impact (up to 120 m/s)
- A High energy impact (up to 190 m/s)
- T Protection against high-velocity particles at extreme temperatures (- 5 °C and + 55 °C)

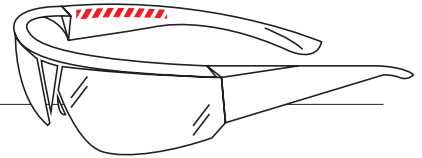
**Field of use**

- 3 Liquids (drops or splashes)
- 4 Large dust particles (dust with a particle size of > 5 µm)
- 5 Gas und Feinstaub (Gase, Dämpfe, Rauch und Staub mit einer Korngrösse < 5 µm)
- 8 Gas and fine dust particles (gases, vapours, smoke and dust with a particle size of < 5 µm)
- 9 Protection against high-velocity particles at extreme temperatures (- 5 °C and + 55 °C)

**EN mark**

**Identification mark of the manufacturer**

AH = ARTILUX G = Guardio 3M = 3M U = Univet



2-1.2 U 1 FT 4 KNR C€

**LENS MARKING AS SPECIFIED IN DIN EN 166**

**Certifikation mark**

- K Resistance to surface damage by small particles\*
- N Resistance to fogging\*
- R Enhanced infrared reflectance\* **Field**

**of use (see above) Mechanical**

**strength (see above)**

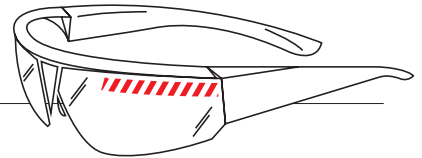
**Optical class (except for front shields)**

- 1 For work with particularly high demands on visual performance and for continuous use
- 2 For work with average demands on visual performance
- 3 Only in exceptional cases for rough work without major demands on visual performance and not for continuous use

**Manufacturer's identification mark (see above)**

**Protection level (only for filters)\***

Prefix protection level			Norm
None	Ultraviolet protection	1,7-7	DIN EN 169
2-3	Ultraviolet protection	1,2-5	DIN EN 170
4	Infrared protection	1,7-7	DIN EN 171
5-6	Sun protection filter	1,7-4	DIN EN 172



\* Optional marking



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