

## **Comparison of Personal Eye Protector Standards**

Personal eye protectors include various forms and functions of eye and face protection equipment used by personnel in various environments and occupations. The product form and structure mainly include glasses, eye goggles, face shield, etc. In the context of epidemic prevention and control, the product structure forms used are mainly eye goggles and face shields. In China and in Europe, the technical requirements for personal eye protection are mainly composed of two categories of requirements: basic requirements and optional requirements.

The basic requirements mainly include: visible light transmittance and impact resistance. Optional items include high-speed particle impact resistance, etc. Among them, the chemical droplet protection performance is mainly related to the epidemic control, which is called protection against droplets and splashes in the European standard.

For **visible light transmittance**, the visible light transmittance of GB 14866-2006 for colorless and transparent lenses should be  $> 0.89$ , EN 166 requires for lenses that only provide mechanical or chemical

protection, the visible transmittance  $> 0.744$ .

For **impact resistance**, GB 14866-2006 requires that lenses and eye protector can withstand the impact of steel balls with a diameter of 22mm and 45g falling from a height of 1.3m without being damaged.

For **protection against droplets and splashes of liquids**: GB 14866-2006 and EN 166-2001 both require the use of a liquid spray for coloration testing, which requires no staining in the center of the covered area of the eye protector. The EN standard only tests eye goggles, and the coverage of the face shield is evaluated.

Comparison of key requirements from two standards is listed in table 6-1.

**Table 6-1 Comparison of Key Requirements of Personal Eye Protection between Two Standards**

Country	China	European Union
Product	Personal eye-protector: eye goggles, face shields	Personal eye-protector: eye goggles, face shields
Standard	GB 14866-2006 The specifications for personal eye-protectors	EN 166:2001 Personal eye-protection — Specifications
Scope	All kinds of personal eye protectors except those providing protection against nuclear radiation, X-ray, laser, ultraviolet, infrared and other radiation.	Various types of personal eye protection, including eye protection that provides mechanical, optical, and droplet protection.
Visible light transmittance	for colorless and transparent lenses: > 0.89	for lenses that only provide mechanical or chemical protection: > 0.744
Impact resistance	Requires that lenses and eye protector can withstand the impact of steel balls with a diameter of 22mm and 45g falling from a height of 1.3m without being damaged.	Requires that lenses and eye protector can withstand the impact of steel balls with a diameter of 22mm and 45g falling from a height of 1.3m without being damaged.
Protection against droplets and splashes of liquids	Require the use of a liquid spray for coloration testing, which requires no staining in the center of the covered area of the eye protector. The GB standard tests both eye goggles and the face shields.	Require the use of a liquid spray for coloration testing, which requires no staining in the center of the covered area of the eye protector. The EN standard only tests eye goggles, and the coverage of the face shield is evaluated.

**Note: The comparison provided is only technical information based on text comparison and cannot be used as a legal basis for the foreign party to choose Chinese products.**