



AMERICAN NATIONAL STANDARD

*Occupational and Educational
Personal Eye and Face
Protection Devices*



AMERICAN SOCIETY OF
SAFETY ENGINEERS

**American National Standard
Occupational and Educational
Personal Eye and Face
Protection Devices**

Secretariat

American Society of Safety Engineers
1800 East Oakton Street
Des Plaines, Illinois 60018-2187

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Foreword

(This Foreword is not a part of American National Standard Z87.1-2003)

The history of Z87 began with the first edition of the Z2 standard for head and eye protection and was developed from a set of safety standards originally prepared cooperatively by the War and Navy Departments and the National Bureau of Standards.

The second edition of Z2 was developed by a standards committee organized under the American Standards Association and was published in 1922 as the National Bureau of Standards Handbook H2.

In 1938, Z2 was revised to include respiratory protection and was published as the National Bureau of Standards Handbook H24.

In 1946, Z2 was revised to include advances in safety equipment technology such as the use of plastics for eye protection. Three subcommittees were organized. A subcommittee on eye protection was organized under the supervision of the National Bureau of Standards. A subcommittee on respiratory protection was organized under the supervision of the U.S. Bureau of Mines and a subcommittee for head protection was organized under the Department of the Navy. In 1959, Z2 was approved as the American Standard Safety Code for Head, Eye and Respiratory Protection, Z2.1-1959.

On November 24, 1961, the Standards Safety Board approved to divide the Z2 project into three separate standards: Z87 - Industrial Eye Protection; Z88 - Industrial Respiratory Protection; Z89 - Industrial Head Protection. The Z87.1 Standards Committee under the procedures of the USA Standards Institute, formally the American Standards Association, revised the 1959 version, which was approved on September 18, 1968 as the USA Standard Z87.1 - 1968. The USA Standards Institute changed its name in October 1969 to the American National Standards Institute and the Z87.1 Standard became the American National Standard for Occupational and Educational Eye and Face Protection, ANSI Z87.1 - 1968.

In the Z87 Standards Committee, membership was reconstituted and broadened in 1973 to include all organizations with a substantial interest in the design or use of eye and face protection. The Committee revised the 1968 version, which was approved on February 27, 1979 as the American National Standard for Occupational and Educational Eye and Face Protection, ANSI Z87.1 - 1979.

In 1980 the Z87 Standards Committee reconvened to begin their update of the 1979 version. In order to better accommodate advancements in safety equipment technology more emphasis was placed on developing performance oriented standards. A Bureau of Labor Statistics study revealed that most eye injuries to those wearing protectors were caused by insufficient angular protection. Therefore, angular impact testing requirements were included. In 1983, an American Welding Society study was used to update and improve the transmittance requirements for filter lenses. The standard was approved on February 2, 1989 as the American National Standard Practice for Occupational and Educational Eye and Face Protection, ANSI Z87.1-1989. The standard was subsequently reaffirmed by the Z87 Committee per ANSI procedure in 1998 and is still cited by reference by the U.S. Occupational Safety and Health Administration, (OSHA).

This newest edition of the Z87 Standard is considered by the committee members to be significant, as it will strengthen the impact resistance requirements of the standard while still allowing for future technologies and science. This standard once again while voluntary also offers an enhanced user selection chart, which indicates a system of selecting eyewear appropriate to identified hazards. Of importance to users is the knowledge that different types of products, (spectacles, goggles, and face shields) are tested to different levels of impact resistance, thus, it is incumbent upon the user to select a product being tested to the hazard being exposed to.

Suggestions for improvement of this standard are welcome. They should be sent to the American Society of Safety Engineers, 1800 East Oakton Street, Des Plaines, IL 60018 - 2187.

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Safety Standards for Eye Protection, Z87. Committee approval of the standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the Z87 Committee had the following members:

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 Daniel Torgersen, Vice-Chairman
 Timothy R. Fisher, CSP, ARM, CPEA, Secretary
 Patrick Arkins, Assistant Secretary

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Explanation of Standard

American National Standard Z87.1-2003 uses a column format to provide both specific requirements and supporting information.

Operating rules (safe practices) are not included, unless they are of such a nature as to be vital safety requirements, equal in weight to other requirements, or guides to assist in compliance with the standard.

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