

INTERNATIONAL
STANDARD

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**Earth-moving machinery — Safety signs
and hazard pictorials — General principles**

*Engins de terrassement — Signaux de sécurité et de danger — Principes
généraux*



Reference number
ISO 9244:1995(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75% of the member bodies casting a vote.

International Standard ISO 9244 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee 2, *Safety requirements and human factors*.

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Introduction

ISO 9244 was developed by TC 127/SC 2 to provide a truly International Standard for safety signs and hazard pictorials used on earth-moving machinery. Safety signs are used internationally to alert the equipment operator to hazards that may be encountered in the use and maintenance of the equipment. These hazards are typically created by functional components, where the hazards cannot be designed out or guarded. These hazards are often machine-dependent and are best by a specific safety sign rather than a general or generic approach.

The provisions of ISO 9244 cover safety signs that satisfy legal requirements in the European Community, in the United States, and in other parts of the world. Two of the formats included in ISO 9244 are consistent with prEN 5099-1 and EC Directive 89/392/EEC. The other two formats in ISO 9244 are consistent with the USA national standard on safety signs (ANSI Z535.4) and meet the requirements of American products liability law.

A selection of hazard pictorials and guidelines for the development of new hazard pictorials are included in informative annexes. Additional hazard pictorials may be added to the annexes at a later date, and other pictorials may be developed and used as appropriate.

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Earth-moving machinery — Safety signs and hazard pictorials — General principles

1 Scope

This International Standard establishes general principles for the design and application of safety signs and hazard pictorials permanently affixed to earth-moving machinery as defined in ISO 6165. This International Standard outlines safety sign objectives, describes the basic safety sign formats, specifies colours for safety signs, and provides guidance on developing the various panels that together constitute a safety sign.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6165:1987, *Earth-moving machinery — Basic types — Vocabulary*.

3 Objectives of safety signs

3.1 The objectives of a safety sign are to

- Alert persons to an existing or potential hazard
- Identify the hazard

- Describe the nature of the hazard
- Explain the consequences of potential injury from the hazard
- Instruct persons about how to avoid the hazard

3.2 In achieving these objectives, a safety sign should be distinctive on the equipment, should be in a clearly visible location, should be protected to the greatest extent practicable from damage and obliteration, and should have a reasonably long life expectancy.

3.3 Safety signs and hazard pictorials can be located on the machine or in operating service instruction manuals. Safety signs and hazard pictorials located on the machine shall be located near the location of the hazard or the control area to prevent the hazard.

3.4 Care shall be taken to prevent excessive need/use of safety signs and hazard pictorials on the machine, because overuse can reduce their effectiveness.

NOTE Experience has indicated that the effectiveness of safety signs and hazard pictorials is reduced when they begin to exceed approximately 7 in number.

3.5 Safety signs and hazard pictorials can be used in operator and service instruction manuals to highlight areas requiring special care. Their use in manuals is not subject to the recommendation in Clause 3.4.