

INTERNATIONAL  
STANDARD

**ISO**  
**3450**

Third edition  
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**Earth-moving machinery — Braking  
systems of rubber-tyred machines —  
Systems and performance requirements  
and test procedures**

*Engins de terrassement — Dispositifs de freinage des engins sur roues  
équipés de pneumatiques — Exigences relatives aux dispositifs et à leurs  
performances, et méthodes d'essai*



Reference number  
ISO 3450:1996(E)

**ISO 3450:1996(E)****Foreword**

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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 3450 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety requirements and human factors*.

This third edition cancels and replaces the second edition (ISO 3450:1985), of which it constitutes a technical revision.

Annex A of this International Standard is for information only.

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# Earth-moving machinery — Braking systems of rubber-tyred machines — Systems and performance requirements and test procedures

## 1 Scope

This International Standard specifies minimum performance and test criteria for brake systems to enable uniform assessment of the braking capability of earth-moving machinery which operates on work sites or travels on public roads. Service secondary, and parking brake systems, and retarders are covered by this International Standard.

This International Standard applies to self-propelled, rubber-tyred loaders, tractors, graders, backhoe loaders, tractor-scrappers, excavators and dumpers as defined in ISO 6165.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were 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 editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6014:1986, *Earth-moving machinery — Determination of ground speed.*

ISO 6016:1982, *Earth-moving machinery — Methods of measuring the masses of whole machines, their equipment and components.*

ISO 6165:—<sup>1)</sup>, *Earth-moving machinery — Basic types — Vocabulary.*

1) To be published. (Revision of ISO 6165:1987)

ISO 7132:1990, *Earth-moving machinery — Dumpers — Terminology and commercial specifications.*

ISO 9248:1992, *Earth-moving machinery — Units for dimensions, performance and capacities, and their measurement accuracies.*

## 3 Definitions

For the purposes of this International Standard, the following definitions apply.

**3.1 earth-moving machine:** Rubber-tyred machine as defined in ISO 6165 which operates on work sites or travels on public roads.

**3.2 brake system:** All the components which combine together to stop and/or hold the machine, consisting of a control, means of brake actuation, the brake(s) and, if the machine is so equipped, the retarder.

**3.2.1 service brake system:** Primary system used for stopping and holding the machine.

**3.2.2 secondary brake system:** System used for stopping the machine in the event of any single failure in the service brake system.

**3.2.3 parking brake system:** System used to hold a stopped machine in a stationary position.

### 3.2.4 Brake system components

**3.2.4.1 brake control:** Component directly activated by the operator to cause a force to be transmitted to the brake(s).