

Australian Standard™

**Earth-moving machinery—Tip-over
protection structure (TOPS) for compact
excavators—Laboratory tests and
performance requirements**

This Australian Standard was prepared by Committee ME-063, Earthmoving Equipment. It was approved on behalf of the Council of Standards Australia on 15 April 2002 and published on 15 May 2002.

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Department of Mineral Resources, N.S.W.
Department of Natural Resources and Mines, Qld
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PREFACE

This Standard was prepared by the Standards Australia Committee ME-063, Earthmoving Equipment. The objective of this Standard is to assist designers and manufacturers of tip-over protection structures for excavators in reducing the risks to health and safety of those persons who operate excavators.

This Standard is identical with and has been reproduced from ISO 12117:1997, *Earth-moving machinery—Tip-over protection structures (TOPS) for compact excavators—Laboratory tests and performance requirements*.

Statements expressed in mandatory terms in notes to text and tables are deemed to be requirements of this Standard.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
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<i>Reference to International Standard</i>	<i>Australian Standard</i>
ISO	AS
148 Steel—Charpy impact test (V-notch)	1544 Method of impact tests on metals 1544.2 Part 2: Charpy V-notch
898 Mechanical properties of fasteners	4291 Mechanical properties of fasteners made of carbon steel and alloy steel
898-1 Part 1: Bolts, screws and studs	4291.1 Part 1: Bolts, screws and studs
898-2 Part 2: Nuts with specified proof load values—Coarse thread	4291.2 Part 2: Nuts with specified proof load values—Coarse thread
3164 Earth-moving machinery—Laboratory evaluation of protective structures— specifications for deflection-limiting volume	2294 Earth-moving machinery—Protective structures 2294.4 Part 4: Specifications for deflection- limiting volume
6165 Earth-moving machinery—Basic types— Vocabulary	2951 Earth-moving machinery—Nomenclature 2951.1 Part 1: Basic types
6683 Earth-moving machinery—Seat belts and seat belt anchorages	2664 Earth-moving machinery—Seat belts and seat belt anchorages
7135 Earth-moving machinery—Hydraulic excavators—Terminology and commercial specifications	—
9248 Earth-moving machinery—Units for dimensions, performance and capacities and their measurement accuracies	—
10262 Earth-moving machinery—Hydraulic excavators—Laboratory tests and performance requirements for falling object guards	—

AUSTRALIAN STANDARD

Earth-moving machinery — Tip-over protection structure (TOPS) for compact excavators — Laboratory tests and performance requirements

1 Scope

This International Standard establishes a consistent and reproducible means of evaluating the load-carrying characteristics of tip-over protective structures (TOPS) under static loading, and prescribes performance requirements of a representative specimen under such loading.

It applies to TOPS of compact excavators (as defined in ISO 6165) with swing type boom, having an operating mass of 1 000 kg to 6 000 kg.

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 148:1983, *Steel — Charpy impact test (V-notch)*.

ISO 898-1:1988, *Mechanical properties of fasteners — Part 1: Bolts, screws, and studs*.

ISO 898-2:1992, *Mechanical properties of fasteners — Part 2: Nuts with specified proof load values — Coarse thread*.

ISO 3164:1995, *Earth-moving machinery — Laboratory evaluations of protective structures — Specifications for deflection-limiting volume*.

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

ISO 6683:1981, *Earth-moving machinery — Seat belts and seat belt anchorages*.

ISO 7135:1993, *Earth-moving machinery — Hydraulic excavators — Terminology and commercial specifications*.

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

ISO 10262: —²⁾, *Earth-moving machinery — Hydraulic excavators — Laboratory tests and performance requirements for falling-object guards*.

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

2) To be published.