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Earth-moving machinery — Loader and front loading excavator buckets — Volumetric ratings

AS ISO 7546:2021

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Australian Industry Group
Better Regulation Division – SafeWork NSW
Construction and Mining Equipment Industry Group
Department of Natural Resources, Mines and Energy, Qld
Department of Regional NSW
Engineers Australia
Institute of Instrumentation, Control & Automation Australia
Minerals Council of Australia
Mining Electrical and Mining Mechanical Engineering Society
University of Queensland

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Earth-moving machinery — Loader and front loading excavator buckets — Volumetric ratings

First published as AS ISO 7546:2021.

Preface

This Standard was prepared by the Standards Australia Committee ME-063, Earthmoving Equipment.

The objective of this document is to specify a method for approximating the volume of typical materials contained in the bucket of front end loaders and excavators with front loading buckets. The volume ratings are based on the inside dimensions of the bucket and representative volumes on top of the bucket.

The method employs the technique of dividing the complex shape of the material in the bucket into simple geometric forms to allow volume calculations of different bucket configurations.

The rating method is intended to provide a consistent means of comparing bucket capacities. It is not intended to define actual capacities that might be observed in any specific application.

This document is identical with, and has been reproduced from, ISO 7546:1983, *Earth-moving machinery — Loader and front loading excavator buckets — Volumetric ratings*.

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text "this International Standard" should read "this document".

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 7546 was developed by Technical Committee ISO/TC 127, *Earth moving machinery*, and was circulated to the member bodies in December 1981.

It has been approved by the member bodies of the following countries:

Australia	France	Spain
Austria	Germany, F.R.	Sweden
Belgium	Italy	United Kingdom
Brazil	Mexico	USA
Bulgaria	Poland	USSR
Czechoslovakia	Romania	
Egypt, Arab Rep. of	South Africa, Rep. of	

The member body of the following country expressed disapproval of the document on technical grounds:

Japan

Australian Standard®

Earth-moving machinery — Loader and front loading excavator buckets — Volumetric ratings

1 Scope and field of application

1.1 This International Standard specifies a procedure for approximating the volume of typical materials contained in the bucket of front end loaders and excavators with front loading bucket. The volume ratings are based on the inside dimensions of the bucket and representative volumes on top of the bucket.

1.2 The method employs the technique of dividing the complex shape of the material in the bucket into simple geometric forms to allow volume calculations of different bucket configurations.

1.3 The rating method is intended to provide a consistent means of comparing bucket capacities. It is not intended to define actual capacities that might be observed in any specific application.

2 References

ISO 7131, *Earth-moving machinery — Loaders — Terminology.*[1)]

ISO 7135, *Earth-moving machinery — Excavators — Terminology.*[1)]

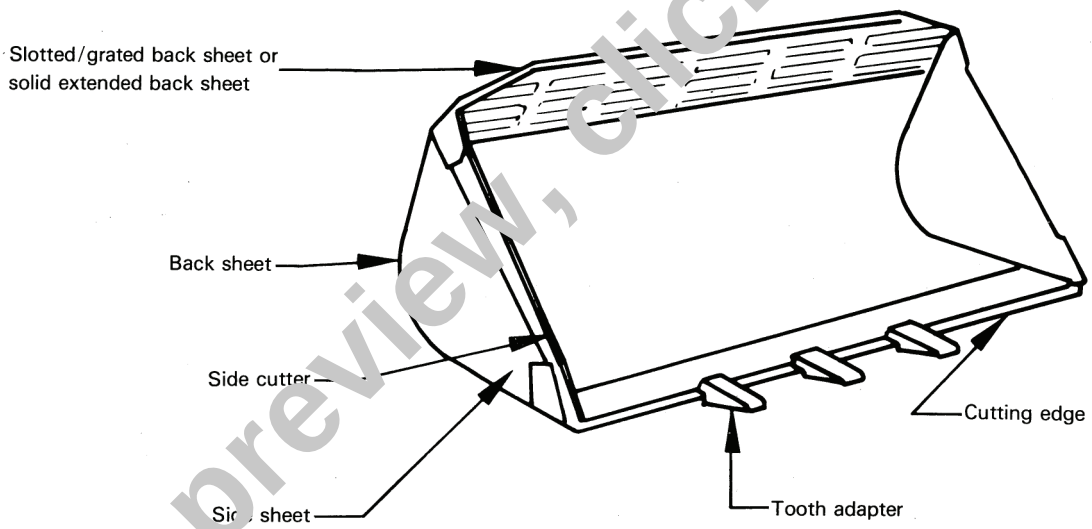

Figure 1 — Bucket

3 Restrictions and limitations

3.1 The effect on volumes of local discontinuities such as bucket teeth, tooth adapters, and gussets shall be ignored.

3.2 Grated or slotted back sheets attached to the bucket to protect the machine or operator from material that might spill over the back of the bucket shall not be included in the capacity calculations.

1) At present at the Stage of draft.