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STANDARDS
Australia



Earth-moving machinery — Crawler and wheel tractor dozer blades — Volumetric ratings



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Engineers Australia
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Preface

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

The objective of this document is to specify a procedure for calculating the volume of dozer blades. It is intended to be used for consistent comparisons of dozer blade capacities presented in commercial literature for tractors, as defined in ISO 6165. This document applies to all types of dozers that are mounted on all tractors defined in AS ISO 6747:2021. This includes straight, angling, semi-U-, and U-blade configurations. It is assumed that the blade face is flat and vertical.

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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 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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9246 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Australian Standard[®]

Earth-moving machinery — Crawler and wheel tractor dozer blades — Volumetric ratings

1 Scope and field of application

1.1 This International Standard specifies a procedure for calculating the volume of dozer blades. It is intended to be used for consistent comparisons of dozer blade capacities presented in commercial literature for tractors, as defined in ISO 6165. It is not to be used for predicting productivity of tractor dozers in actual field conditions or that might be observed in any specific applications. Such determinations need to consider other parameters, such as efficiency of the blade, tractor power, tractive effort, soil properties, terrain, operator technique and duty cycle.

1.2 This International Standard applies to all types of dozers that are mounted on all tractors defined in ISO 6747. This includes straight, angling, semi-U-, and U-blade configurations. It is assumed that the blade face is flat and vertical; the blade included volume is not considered (see [figure 1](#)).

2 References

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

ISO 6746-2, *Earth-moving machinery — Definitions of dimensions and symbols — Part 2 : Equipment*.

ISO 6747, *Earth-moving machinery — Tractors — Terminology*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 6746-2 and the following apply.

3.1 Straight blade dozers

3.1.1

blade projected area

A_m

Blade area, in square metres, exclusive of the end bit extensions, projected on a vertical plane parallel to the middle part of the cutting edge of the blade (see [figure 2](#)). The blade is located in the mid-pitch position with the cutting edge on the ground reference plane (GRP).

3.1.2

blade width

W

Distance, in metres, from outside to outside of the blade, exclusive of the end bits (see [figure 3](#)).

3.1.3

effective blade height

H'

Vertical height, in metres, that with W width, produces a projected area equal to A_m : i.e. $H' = A_m/W$ (see [figure 3](#)).

3.1.4

effective blade contour

Simplified representation of the blade face for calculating the blade capacity based on the vertical plane bounded by W and H' (see [figure 3](#)).