Australian Standard®

EARTH-MOVING MACHINERY—RATED LOADS AND VOLUMETRIC RATINGS

Part 4—TRACTOR-SCRAPER—VOLUMETRIC RATING

(ISO Title: Earth-moving machinery—Tractor-scraper—Volumetric rating)

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Bureau of Steel Manufacturers of Australia
Construction Equipment Importers and Manufacturers of Australia
Department of Administrative Services
Department of Conservation, Forests and Lands, Vic.
Department of Defence
Department of Forestry, Qld.
Department of Industrial Relations and Employment, N.S.W.
Department of Labour, Vic.
Department of Mines, Qld.
Earth-movers and Road Contractors Association of Australia
Forestry Commission of New South Wales
Local Government Engineers Association of New South Wales
Metal Trades Industry Association of Australia
National Association of Australian State Road Authorities
Rural Water Commission, Vic.
Safety Institute of Australia
Telecom Australia
Tractor and Machinery Association of Australia
Water Board, Sydney

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FOREWORD

1. This Australian Standard corresponds with ISO 6485—1980, *Earth-moving machinery — Tractor-scraper — Volumetric rating*.
2. Introduction to and complete listing of the SAA series of earth-moving machinery Standards (AS 2951 to AS 2958) is available on request.
3. For the purpose of this Australian Standard the words 'International Standard' should be replaced by 'Australian Standard'.
4. ISO Standard referred to in this Standard corresponds with the following Australian Standard:

ISO Standard	Australian Standard
ISO 7133	AS 2951.6

Earth-moving machinery—Rated loads and volumetric ratings Part 4—Tractor-scraper—Volumetric rating

1 Scope and field of application

This International Standard specifies a procedure for approximating the volume of typical materials contained in the bowl of open bowl scrapers. The volumes are based on the inside dimensions of the bowl and representative volumes on top of the bowl. This rating method is intended to provide a consistent means of comparing capacities; it is not intended to define actual capacities that might be observed in any specific application.

2 Reference

ISO 7133, *Earth-moving machinery — Tractor-scrapers — Terminology and commercial specifications*.

3 Definitions

3.1 open bowl scraper: Scrapers which require the application of tractive effort to load material into the bowl. This tractive effort may be developed by the tractor-scraper itself, by another tractor-scraper temporarily or permanently connected, or by a pushing tractor.

3.2 components of open bowl scrapers: See figures 1 and 2.

4 Volumetric ratings

4.1 Positioning of the bowl.

4.1.1 The bowl shall be positioned so that the lowest flat surface of the floor is horizontal or as close to horizontal as possible.

4.1.2 The ejector shall be fully retracted.

4.1.3 The apron shall be fully closed. Any adjustment of apron closure shall be such as to minimize any opening between the apron and cutting edge.

4.2 Boundaries of the struck volume.

4.2.1 The interior surface of the apron.

4.2.2 When the top of the apron in the closed position is below the plane of the bowl mean sides, a plane of 1:1 (45°) slope, up and rearward, from the top edge of the apron to the plane of the bowl mean sides is added. See figure 3.

4.2.3 If in the position of 4.1.3, the apron does not contact the cutting edge, the opening shall be closed by the plane defined by the line of intersection of the cutting edge and the bowl floor and the line defined by the outermost points of the apron lip.

4.2.4 The interior surfaces of the cutting edge, bowl floor, ejector and bowl sides.

4.2.5 The plane defined by the mean lines. Mean lines are horizontal lines above which, in a side view of the bowl, there is an area of bowl side equal to the non-bowl side area under the lines. See figure 4.

4.3 Boundaries of the top (heaped) volume.

4.3.1 Any load-carrying extension of the ejector above the upper plane of the struck volume. See figure 5.

4.3.2 Planes of 1:1 (45°) slope, up and in, from the upper edges of the struck volume and surfaces of 4.3.1. See figure 5. It does not mean that the material will form this angle but this angle of repose generally expresses best the angle of repose of the usual soils.

4.4 Rated volume is the sum of the struck and top (heaped) volumes.

4.5 The effect of local discontinuities — gussets, apron arms, etc. on the volumes shall be ignored.