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# International Standard



# 6485

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Earth-moving machinery — Tractor-scraper volumetric rating

*Engins de terrassement — Décapeuse — Évaluation volumétrique*

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Descriptors : earth handling equipment, tractors, scrapers, bowls, volumetric measurement, determination, volume.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (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 set up 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 6485 was developed by Technical Committee ISO/TC 127, *Earth moving machinery*, and was circulated to the member bodies in August 1979.

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

Australia	France	Spain
Austria	Italy	Sweden
Belgium	Japan	United Kingdom
Bulgaria	Libyan Arab Jamahiriya	USA
Czechoslovakia	Poland	USSR
Egypt, Arab Rep. of	Romania	
Finland	South Africa, Rep. of	

No member body expressed disapproval of the document.

# Earth-moving machinery — 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*.<sup>1)</sup>

## 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.

<sup>1)</sup> At present at the stage of draft.

## 5 Expression of ratings

5.1 Any published ratings must be within  $\pm 3\%$  of the volume determined by this procedure.

5.2 Ratings for volumes less than  $10\text{ m}^3$  should be expressed to the nearest  $0,1\text{ m}^3$  while those larger should be expressed to the nearest  $0,5\text{ m}^3$ .

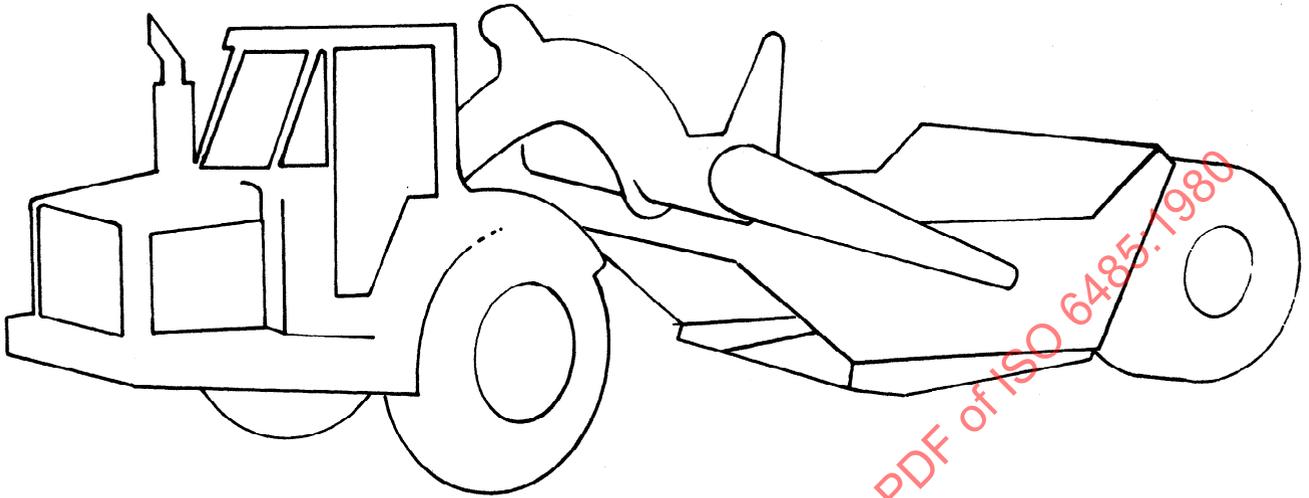


Figure 1 — Rubber tyred tractor-scraper

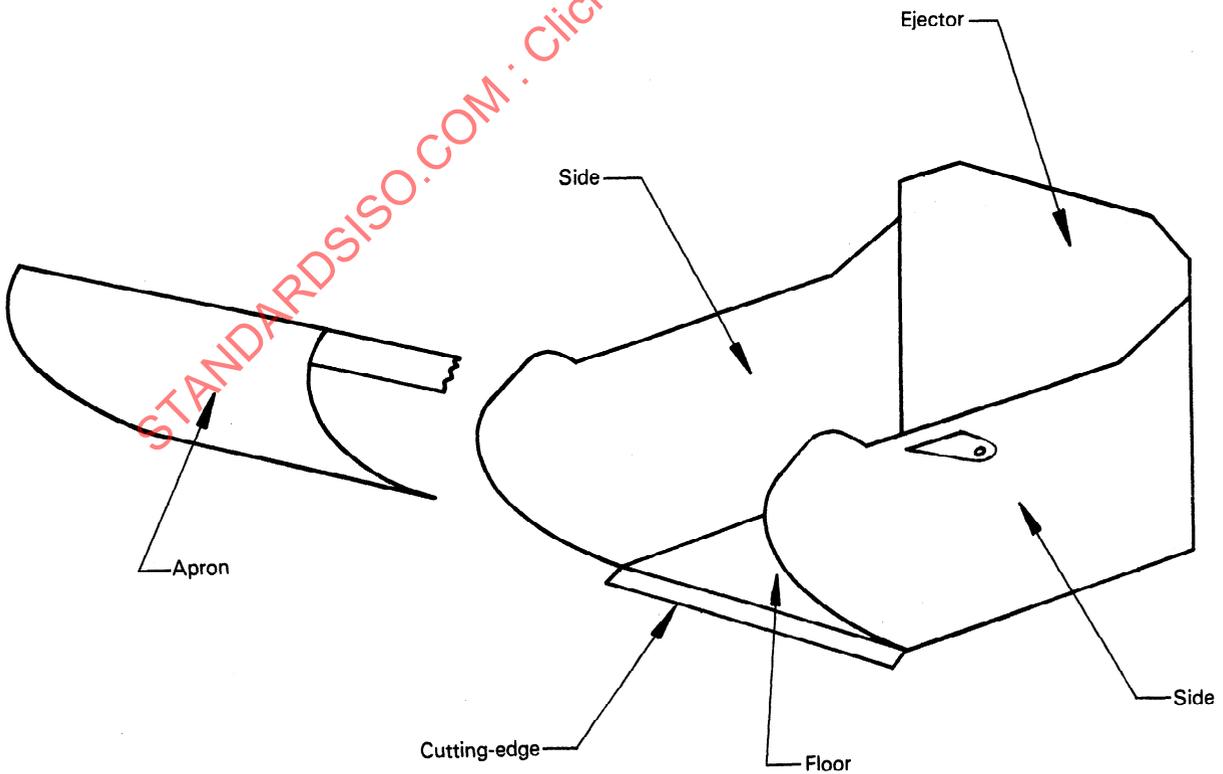


Figure 2 — Components of scraper bowls

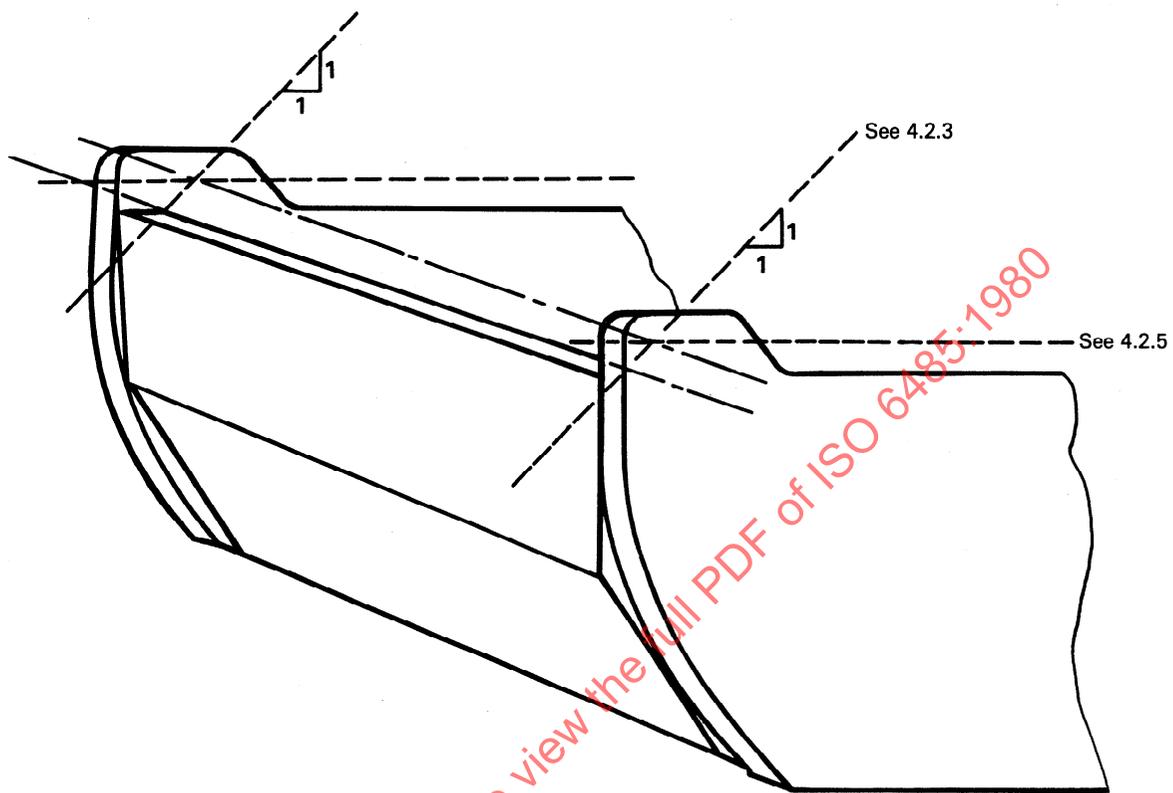


Figure 3 — Boundaries of struck volume; plane of 1 : 1 (45°)

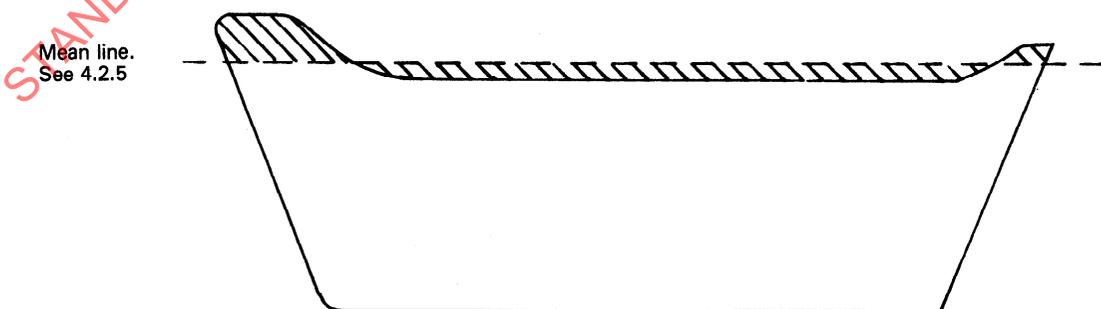


Figure 4 — Boundaries of struck volume; plane defined by mean line

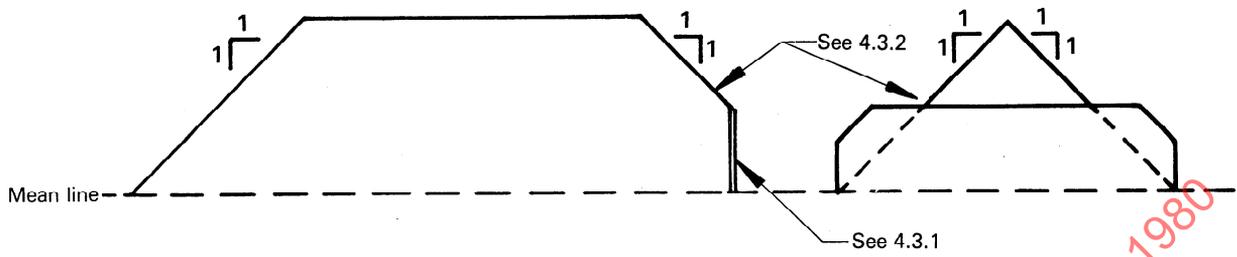


Figure 5 — Boundaries of top (heaped) volume; planes of 1 : 1 (45°)

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