

Testing earth-moving machinery —

Part 7: Specification for units of measurement and tolerances

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee B/513, Construction equipment and plant, and site safety, to Subcommittee B/513/1, Earth-moving machinery, upon which the following bodies were represented:

Associated Offices Technical Committee
 British Coal Corporation
 Construction Plant (Hire Association)
 Federation of Civil Engineering Contractors
 Federation of Manufacturers of Construction Equipment and Cranes
 Health and Safety Executive
 Institution of Civil Engineers
 Institution of Highways and Transportation
 Ministry of Defence
 Silsoe Research Institute

This British Standard, having been prepared under the direction of the Technical Committee B/513, was published under the authority of the Standards Board and comes into effect on 15 August 1992

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National foreword

This Part of BS 6911 has been prepared under the direction of Technical Committee B/513, Construction equipment and plant, and site safety, and is identical with ISO 9248:1992 *Earth-moving machinery — Units for dimensions, performance and capacities, and their measurement accuracies*, published by the International Organization for Standardization (ISO).

ISO 9248 was prepared by Subcommittee 1, Test methods relating to machine performance, of ISO Technical Committee 127, Earth-moving machinery, with the active participation and approval of the UK.

Cross-references

International Standard	Corresponding British Standard
ISO 6165:1987	BS 6914 <i>Terminology (including definitions of dimensions and symbols) for earth-moving machinery. Part 1:1988 Glossary of terms for basic types of earth-moving machinery</i> (Identical)

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This International Standard specifies basic units, symbols and tolerances for the measurements of general machine dimensions, performance and capacities of earth-moving machinery as defined in ISO 6165.

It does not cover methods and instrumentation to be used.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was 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 edition of the standard indicated below.

Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6165:1987, *Earth-moving machinery — Basic types — Vocabulary*.

3 Units

Basic and derived units for earth-moving machinery shall be as specified in Table 1.

4 Accuracy

The accuracy of measurements shall be within the tolerances specified in Table 1.

5 Rounding off

The rounding off of measurement results shall be done by adding or subtracting numerical values compatible with the specified tolerance.

Table 1 — Measurement accuracy

NOTE 1 Basic and derived units and symbols in Table 1 have been taken from ISO 1000:1981, *SI units and recommendations for the use of their multiples and of certain other units*.

Quantity	Unit	Symbol	Tolerance ^a
Basic units			
Linear dimension	metre	m	± 0,5 %
Mass	kilogram	kg	± 2 %
Time	second	s	± 1 %
Celsius temperature	degree Celsius	°C	$\left\{ \begin{array}{l} \leq 200 \text{ °C: } \pm 11 \text{ °C} \\ > 200 \text{ °C: } \pm 2 \text{ %} \end{array} \right.$
Angle	radian	rad	± 0,02 rad
Frequency	hertz	Hz	± 1 %
Derived units			
Area	square metre	m ²	± 2 %
Volume	cubic metre	m ³	± 3 %
	litre ^b	l, L	
Force	newton	N	± 1 %
Pressure	pascal	Pa	± 2 %
Power	watt	W	± 2 %
Angular velocity	radian per second	rad/s	± 2 %
Speed	metre per second	m/s	± 2 %
Acceleration	metre per second squared	m/s ²	± 2 %
Torque	newton metre	N m	± 2 %
Energy	joule	J	± 2 %
Volumetric rate	cubic metre per second	m ³ /s	± 2 %
Sound pressure level	decibel (ref. 20 µPa)	dB	± 1 dB
^a These tolerances also apply to other units used for the same quantity. Tolerances for specific quantities not covered in this International Standard, on a larger or a smaller scale, or for precision measurements, shall be specified in the individual International Standards which require them.			
^b 1 l = 1 dm ³			

List of references

See national foreword.

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