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Replacing GB 12265.1-1997, GB 12265.2-2000

**Safety of machinery - Safety distances to prevent
hazard zones being reached by upper and lower limbs**

(ISO 13857:2008, IDT)

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Foreword

Clause 4 of this Standard is mandatory; the rest are recommendatory.

This Standard identically uses ISO 13857:2008 *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs* (English version).

This Standard is an identical translation version to ISO 13857:2008. For easy use, this Standard made the following editorial modifications:

- modified “this International Standard” to “this Standard”;
- used “.” to replace “,” that was used as decimal point;
- modified the introduction of normative references according to GB/T 1.1-2000 and modified the international references that have been transferred to Chinese national standards to corresponding national standards;
- deleted the foreword of ISO 13857:2008 and rewrote the foreword;
- deleted “(see Table 4)” in 4.2.3 of ISO 13857:2008 as it is an error.

This Standard merged and revised GB 12265.1-1997 and GB 12265.2-2000.

The differences between this Standard and GB 12265.1-1997, GB 12265.2-2000 are as follows:

- the standard nature is changed from full text mandatory to clause mandatory;
- added the assumption “there is some contact with the reference plane while wearing shoes” in 4.1.1;
- added descriptions of some safety requirements such as 4.2, 4.3;
- added Annex A and Bibliography.

Annex A and Annex B of this Standard are informative.

This Standard was proposed by and shall be under the jurisdiction of National Technical Committee on Machinery of Standardization Administration of China (SAC/TC 208).

The drafting organizations of this Standard: China Machine Productivity Promotion Center, Qingdao City of China Testing Technology Co., Ltd.

Introduction

This document is a type B standard as stated in GB/T 15706.1.

The provisions of this document can be supplemented or modified by a type C standard.

For machines which are covered by the scope of a type C standard and which have been designed and built according to the provisions of that standard, the provisions of that type C standard take precedence over the provisions of this type B standard.

One method of eliminating or reducing risks caused by machinery is to make use of safety distances preventing hazard zones from being reached by the upper and lower limbs.

In specifying safety distances, a number of aspects have to be taken into consideration, such as

- reach situations occurring when machinery is being used,
- reliable surveys of anthropometric data, taking into account population groups likely to be found in the countries concerned,
- biomechanical factors, such as compression and stretching of parts of the body and limits of joint rotation,
- technical and practical aspects, and
- additional measures for particular groups of persons (e.g. persons with special needs), which could be required due to a deviation from the specified body dimensions.

Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs

1 Scope

This Standard establishes values for safety distances in both industrial and non-industrial environments to prevent machinery hazard zones being reached. The safety distances are appropriate for protective structures. It also gives information about distances to impede free access by the lower limbs (see 4.3).

This Standard covers people of 14 years and older (the 5th percentile stature of 14 year olds is approximately 1 400 mm). In addition, for upper limbs only, it provides information for children older than 3 years (5th percentile stature of 3 year olds is approximately 900 mm) where reaching through openings needs to be addressed.

NOTE 1 Data for preventing lower limb access for children is not considered.

The distances apply when adequate safety can be achieved by distance alone. Because safety distances depend on size, there will be some people of extreme dimensions who will be able to reach hazard zones even when the requirements of this Standard are complied with.

NOTE 2 These safety distances will not provide sufficient protection against certain hazards, for example, radiation and emission of substances. For such hazards, additional or other measures need to be taken.

The clauses of the International Standard covering lower limbs apply when access by the upper limbs is not foreseeable according to the risk assessment.

The safety distances are intended to protect those persons trying to reach hazard zones under the conditions specified (see 4.1.1).

NOTE 3 This Standard is not intended to provide measures against reaching a hazard zone by climbing over.

2 Normative references

The following standards contain the provisions which, through reference in

Bibliography

- [1] GB/T 16856.1, Safety of machinery - Risk assessment - Part 1: Principles
- [2] GB/T 19876, Safety of machinery - Positioning of safeguards with respect to the approach speeds of parts of the human body
- [3] ISO 14738, Safety of machinery - Anthropometric requirements for the design of workstations at machinery
- [4] EN 547-3, Safety of machinery - Human body measurements - Part 3: Anthropometric data

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