



# MALAYSIAN STANDARD

MS ISO 13856-1:2003

## SAFETY OF MACHINERY – PRESSURE-SENSITIVE PROTECTIVE DEVICES – PART 1: GENERAL PRINCIPLES FOR DESIGN AND TESTING OF PRESSURE-SENSITIVE MATS AND PRESSURE-SENSITIVE FLOORS (ISO 13856-1:2001, IDT)

ICS: 13.110

Descriptors: safety of machines, pressure-sensitive mats, pressure-sensitive floors, design, testing, protective devices

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62502 Putrajaya  
MALAYSIA

Tel: 60 3 88858000  
Fax: 60 3 88885060

<http://www.dsm.gov.my>

E-mail: [central@dsm.gov.my](mailto:central@dsm.gov.my)

OR **SIRIM Berhad**  
(Company No. 367474 - V)  
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40911 Shah Alam  
Selangor D.E.

Tel: 60 3 5544 6000  
Fax: 60 3 5510 8095

<http://www.sirim.my>

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Chemical Industries Council of Malaysia  
Construction Industry Development Board Malaysia  
Department of Agriculture  
Department of Chemistry Malaysia  
Department of Environment, Malaysia  
Department of Mineral and Geoscience  
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Small and Medium Industries Development Corporation  
Suruhanjaya Tenaga  
The Institution of Engineers, Malaysia  
Universiti Kebangsaan Malaysia

The Technical Committee on Safety of Machinery which developed this Malaysian Standard consists of representatives from the following organisations:

Department of Occupational Safety and Health  
Federation of Malaysian Manufacturers  
Malaysian Employers Federation  
Malaysian Society of Occupational Safety and Health  
Malaysian Trade Union Congress  
National Institute of Occupational Safety and Health  
SIRIM Berhad (Secretariat)  
The Institution of Engineers, Malaysia  
Universiti Kebangsaan Malaysia

## **NATIONAL FOREWORD**

This Malaysian Standard was developed by the Technical Committee on Safety of Machinery under the authority of the Occupational Health and Safety Industry Standards Committee.

This Malaysian Standard is identical with ISO 13856-1:2001, *Safety of machinery - Pressure-sensitive protective devices - Part 1: General principles for design and testing of pressure-sensitive mats and pressure-sensitive floors*, published by the International Organization for Standardization (ISO). However, for the purposes of this Malaysian Standard, the following apply:

- a) in the source text, "this International Standard" should read "this Malaysian Standard";
- b) the comma which is used as a decimal sign (if any), to read as a point; and
- c) references to International Standards should be replaced by equivalent Malaysian Standards as follows:

### Referenced International Standards

### Corresponding Malaysian Standards

ISO 13855, *Safety of machinery - Positioning of protective equipment with respect to the approach speeds parts of the human body*

MS ISO 13855:XXXX, *Safety of machinery - Positioning of protective equipment with respect to the approach speeds parts of the human body*

IEC 60529, *Degrees of protection provided provided by enclosures (IP code)*

MS IEC 60529, *Degrees of protection provided by enclosures (IP code)*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 2: Electrostatic discharge immunity test - Basic EMC publication*

MS IEC 61000-4-2, *Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 2: Electrostatic discharge immunity test - Basic EMC publication*

IEC 61000-4-3, *Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 3: Radiated, radio-frequency, electromagnetic field immunity test*

MS IEC 61000-4-3, *Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 3: Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-4, *Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 4: Electrical fast transient/burst immunity test - Basic EMC publication*

MS IEC 61000-4-4, *Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 4: Electrical fast transient/burst immunity test - Basic EMC publication*

IEC 61000-4-5, *Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 5: Surge immunity test*

MS IEC 61000-4-5, *Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 5: Surge immunity test*

**NATIONAL FOREWORD** *(continued)*

IEC 61000-6-2, *Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments*

MS IEC 61000-6-2, *Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments*

IEC 61000-6-3, *Electromagnetic compatibility (EMC) - Part 6: Generic standards - Section 3: Emission standard for residential, commercial and light-industrial environments*

MS IEC 61000-6-3, *Electromagnetic compatibility (EMC) - Part 6: Generic standards - Section 3: Emission standard for residential, commercial and light-industrial environments*

Compliance with a Malaysian Standard does not of itself confer immunity from legal obligations.

NOTE. IDT on the front cover indicates an identical standard i.e. a standard where the technical content, structure, wording and presentation of a Malaysian Standard is exactly the same as in an International Standard or is identical in technical content and it may contain the minimal editorial changes specified in clause 4.2 of ISO/IEC Guide 21.

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**Safety of machinery — Pressure-sensitive  
protective devices —**

Part 1:

**General principles for design and testing  
of pressure-sensitive mats and  
pressure-sensitive floors**

*Sécurité des machines — Dispositifs de protection sensibles à la  
pression —*

*Partie 1: Principes généraux de conception et d'essai des tapis et  
planchers sensibles à la pression*



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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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 13856 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 13856-1 was prepared by Technical Committee ISO/TC 199, *Safety of machinery*.

ISO 13856 consists of the following parts, under the general title *Safety of machinery — Pressure-sensitive protective devices*:

- *Part 1: General principles for design and testing of pressure-sensitive mats and pressure-sensitive floors*
- *Part 2: General principles for the design and testing of edges and bars*
- *Part 3: General principles for the design and testing of bumpers*

Annex A forms a normative part of this part of ISO 13856. Annex B, C and D are for information only.