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**GB**

NATIONAL STANDARD OF THE  
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**Safety of Machinery - Assessment and Reduction of Risks  
Arising from Radiation Emitted by Machinery - Part 1:  
General Principles**

机械安全 机械辐射产生的风险的评价与减小

第 1 部分：通则

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## Foreword

GB/T 26118 *Safety of Machinery - Assessment and Reduction of Risks Arising from Radiation Emitted by Machinery* consists of the following three parts:

- Part 1: General Principles;
- Part 2: Radiation Emission Measurement Procedure;
- Part 3: Reduction of Radiation by Attenuation or Screening.

This is Part 1 of GB/T 26118.

This Part was drafted in accordance with the rules provided in GB/T 1.1-2009.

This Part identically adopts the European Standard EN 12198-1:2000 *Safety of Machinery - Assessment and Reduction of Risks Arising from Radiation Emitted by Machinery - Part 1: General Principles* (English version).

This Part identically translates EN 12198-1:2000. For ease of use, this Part makes the following editorial modifications:

- “this Part” is used to replace “this European Standard”;
- The EN Foreword is deleted, and the Foreword is re-written;
- In accordance with the requirements of GB/T 1.1-2009, the order of expression of the clauses in the Scope is modified;
- The introduction of Normative References is modified in accordance with GB/T 1.1-2009, and the standards cited in EN 12198-1:2000 are modified into the corresponding national standards;
- The normative reference EN 1070 is deleted;
- IEC 61000-6-1 is used to replace the normative reference EN 50082-1;
- Informative appendix ZA is deleted.

In this Part, Appendix A and Appendix B are normative, and Appendix C is informative.

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

The drafting organizations of this Part: Rugao Packaging Food Machinery Co., Ltd.; Shenzhen Center Testing International Group Co., Ltd.; China Machinery Productivity Promotion Center; Optomechanical and Electrical Engineering Research Institute of Nanjing Forestry University.

# Safety of Machinery - Assessment and Reduction of Risks

## Arising from Radiation Emitted by Machinery - Part 1:

### General Principles

## 1 Scope

This Part of GB/T 26118 is applicable to the emission of radiation from machinery. This radiation emission may be functional for processing or may be undesirable.

This Part gives advice to manufacturers for the construction of safe machinery, if no relevant C-type standard exists, and also to C-type standardization groups, on how to identify radiation emissions or fields<sup>1)</sup>, how to determine their significance and intensity, how to assess the possible risks and what means may be used to avoid or reduce radiation emissions.

**NOTE 1:** This advice should be elaborated in C-type standards for specific classes of machines as assessable requirements.

This Part applies to machinery as defined in clause 3.1 of GB/T 15706.1-2007 and the emission of all types of electromagnetic non-ionizing radiation.

**NOTE 2:** Ionizing radiation may be dealt with in other standards or in the future revisions.

This Part does not apply to the emission of laser radiation and the emission of radiation sources fixed to a machine which are used only for lighting. It is also inapplicable to the issues of electromagnetic compatibility.

## 2 Normative References

The following documents are indispensable to the application of this document. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 2900.65-2004 Electrotechnical Terminology - Lighting (IEC 60050-845)

GB/T 15706.1-2007 Safety of Machinery - Basic Concepts, General Principles for Design - Part 1: Basic Terminology, Methodology (ISO 12100-1:2003)

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<sup>1)</sup> In the rest of this Part, the generic term "radiation" covers either the different types of radiation emitted by a machine (i.e. optical radiation), or fields (i.e. electromagnetic and/or magnetic fields) or waves (i.e. electromagnetic waves).

## 10 Information for Use and Maintenance

### 10.1 Information for Use

**10.1.1** The manufacturer shall state in the instructions for use, the intended uses of the machine, the radiation emission category, and the operating procedures. The manufacturer shall specify, if necessary, the level of competence to be achieved by training. Where setting and operating conditions of the machine result in a reduction of the emission the manufacturer shall give appropriate details in the instructions.

If the radiation emission category is 1 or 2, the manufacturer shall additionally state the type and level of radiation which can be emitted by the machine.

**10.1.2** According to the radiation emission category the information shall contain one of the following statements:

- a) the radiation emission category is 0. No further protective measures are needed when using the machine alone (see 8.1). In other cases (if two or more machines irradiate the same point) restrictions and/or additional protective measures may be necessary;
- b) the radiation emission category is 1. No restrictions are necessary when the machine is used alone at the workplace. In other cases (if two or more machines irradiate the same point) restrictions and/or additional protective measures may be necessary;
- c) the radiation emission category is 2. Appropriate protective measures shall be taken.

**10.1.3** When the machine is supplied with the means of reducing the emission, the machinery manufacturer shall supply information on its correct use and factors that may adversely affect its performance.

**10.1.4** When there is no such provision of the means of reducing the emission, such methods of reduction and/or testing which are suitable and proven shall be specified by the manufacturer.

**10.1.5** The manufacturer shall provide information on the necessity of the use of personal protective equipment. If the use of personal protective equipment is necessary, the manufacturer shall give details of the kind of the personal protective equipment.

### 10.2 Information for Maintenance

**10.2.1** The machinery manufacturer shall provide sufficient and adequate instructions for the maintenance of the machine without risk to health.

**10.2.2** Especially in the case of removal of incorporated protective parts of the machine during maintenance (e.g., shields, guards, etc.), instructions for adequate alternative protection measures shall be given.

**10.2.3** The manufacturer shall specify in maintenance instructions when it is necessary to

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