



BSI Standards Publication

# Reciprocating internal combustion engine driven alternating current generating sets

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Part 9: Measurement and evaluation of mechanical vibrations

## National foreword

This British Standard is the UK implementation of ISO 8528-9:2017. It supersedes BS 7698-9:1996, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MCE/14, RIC engines.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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2017-07

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**Reciprocating internal combustion  
engine driven alternating current  
generating sets —**

Part 9:  
**Measurement and evaluation of  
mechanical vibrations**

*Groupes électrogènes à courant alternatif entraînés par moteurs  
alternatifs à combustion interne —*

*Partie 9: Mesurage et évaluation des vibrations mécaniques*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by ISO/TC 70, *Internal combustion engines*.

This second edition cancels and replaces the first edition (ISO 8528-9:1995), which has been technically revised.

A list of all parts in the ISO 8528 series can be found on the ISO website

# Reciprocating internal combustion engine driven alternating current generating sets —

## Part 9: Measurement and evaluation of mechanical vibrations

### 1 Scope

This document describes a procedure for measuring and evaluating the external mechanical vibration behaviour of generating sets at the measuring points stated in this document.

It applies to RIC engine driven a.c. generating sets for fixed and mobile installations with rigid and/or resilient mountings. It is applicable for land and marine use, excluding generating sets used on aircraft or those used to propel land vehicles and locomotives.

For some specific applications (essential hospital supplies, high rise buildings, etc.) supplementary requirements may be necessary. The provisions of this document are intended to be regarded as a basis for such applications.

For generating sets driven by other reciprocating-type prime movers (e.g. sewage gas engines, steam engines), the provisions of this document are intended to be regarded as a basis for such applications.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2041, *Mechanical vibration, shock and condition monitoring — Vocabulary*

ISO 8528-5:2013, *Reciprocating internal combustion engine driven alternating current generating sets — Part 5: Generating sets*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 2041 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at <http://www.electropedia.org/>

— ISO Online browsing platform: available at <http://www.iso.org/obp>

#### 3.1

##### **vibration severity**

generic term that designates a value or set of values, such as a maximum value, average value or rms value, or other parameter that is descriptive of the vibration

Note 1 to entry: It may refer to instantaneous values or average values.

### 4 Symbols and abbreviated terms

For the purposes of this document the following symbols apply.