

INTERNATIONAL
STANDARD

ISO
8528-9

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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



Reference number
ISO 8528-9:1995(E)

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.

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.

International Standard ISO 8528-9 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*, Subcommittee SC 2, *Performance and tests*.

ISO 8528 consists of the following parts, under the general title *Reciprocating internal combustion engine driven alternating current generating sets*:

- *Part 1: Application, ratings and performance*
- *Part 2: Engines*
- *Part 3: Alternating current generators for generating sets*
- *Part 4: Controlgear and switchgear*
- *Part 5: Generating sets*
- *Part 6: Test methods*
- *Part 7: Technical declarations for specification and design*
- *Part 8: Requirements and tests for low-power generating sets*
- *Part 9: Measurement and evaluation of mechanical vibrations*

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- *Part 10: Measurement of airborne noise by the enveloping surface method*
- *Part 11: Dynamic uninterruptible power supply systems*
- *Part 12: Emergency power supply to safety services*

Annexes A, B, C, D and E of this part of ISO 8528 are for information only.

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Reciprocating internal combustion engine driven alternating current generating sets —

Part 9:

Measurement and evaluation of mechanical vibrations

1 Scope

This part of ISO 8528 describes a procedure for measuring and evaluating the external mechanical vibration behaviour of generating sets at the measuring points stated in that International Standard.

It applies to RIC engine driven AC 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 part of ISO 8528 should be regarded as a basis.

For generating sets driven by other reciprocating-type prime movers (e.g. sewage gas engines, steam engines), the provisions of this part of ISO 8528 should be regarded as a basis.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8528. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8528 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2041:1990, *Vibration and shock — Vocabulary.*

ISO 5348:1987, *Mechanical vibration and shock — Mechanical mounting of accelerometers.*

ISO 8528-5:1993, *Reciprocating internal combustion engine driven alternating current generating sets — Part 5: Generating sets.*

IEC 34-7:1992, *Rotating electrical machines — Part 7: Classification of types of constructions and mounting arrangements (IM Code).*

3 Definitions

For the purposes of this part of ISO 8528, the definitions given in ISO 2041 and the following definition apply.

3.1 vibration severity: A 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.

NOTES

- 1 It may refer to instantaneous values or average values.
- 2 ISO 2041 includes two notes in the definition. These notes do not apply in this part of ISO 8528.

4 Symbols and abbreviations

For the purposes of this part of ISO 8528 the following symbols apply.