

INTERNATIONAL
STANDARD

ISO
3046-1

Fourth edition
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**Reciprocating internal combustion
engines — Performance —**

Part 1:

Standard reference conditions, declarations of power, fuel and lubricating oil consumptions, and test methods

Moteurs alternatifs à combustion interne — Performances —

Partie 1: Conditions normales de référence, déclaration de la puissance et de la consommation de carburant et d'huile de lubrification, méthodes d'essai



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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.

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 3046-1 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*, Subcommittee SC 2, *Performance and tests*.

This fourth edition cancels and replaces the third edition (ISO 3046-1:1986), ISO 3046-2:1987 and ISO 3046-1:1986/Amd. 1:1987. A method of power correction (see clause 14) and test methods (see clause 15) have been added.

ISO 3046 consists of the following parts, under the general title *Reciprocating internal combustion engines — Performance*:

- *Part 1: Standard reference conditions, declarations of power, fuel and lubricating oil consumptions, and test methods*
- *Part 3: Test measurements*
- *Part 4: Speed governing*
- *Part 5: Torsional vibrations*
- *Part 6: Overspeed protection*
- *Part 7: Codes for engine power*

Annex A forms an integral part of this part of ISO 3046. Annexes B, C, D, E and F are for information only.

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Introduction

The standard reference conditions defined in this edition of ISO 3046-1 were first introduced in the third edition (ISO 3046-1:1986). The 5 year transition period, which permitted the use of ISO 3046-1:1981 conditions, expired at the end of 1991. Users of this part of ISO 3046 are therefore now required to adopt the values quoted in clause 6.

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Reciprocating internal combustion engines — Performance —

Part 1:

Standard reference conditions, declarations of power, fuel and lubricating oil consumptions, and test methods

1 Scope

This part of ISO 3046 specifies standard reference conditions and methods of declaring the power, fuel consumption, lubricating oil consumption and test methods for reciprocating internal combustion (RIC) engines in commercial production using liquid or gaseous fuels. Where necessary, individual requirements are given for particular engine applications.

This part of ISO 3046 covers RIC engines for land, rail-traction and marine use, excluding engines used to propel agricultural tractors, road vehicles and aircraft.

This part of ISO 3046 may be applied to engines used to propel road construction and earth-moving machines, industrial trucks, and for other applications where no suitable International Standard for these engines exists.

This part of ISO 3046 may be applied to tests on a test bed at the manufacturer's works and to tests on site (see 15.4.4).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 3046. 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 3046 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 1204:1990, *Reciprocating internal combustion engines — Designation of the direction of rotation and of cylinders and valves in cylinder heads, and definition of right-hand and left-hand in-line engines and locations on an engine.*

ISO 3046-3:1989, *Reciprocating internal combustion engines — Performance — Part 3: Test measurements.*

ISO 3046-4:—¹⁾, *Reciprocating internal combustion engines — Performance — Part 4: Speed governing.*

ISO 3046-5:1978, *Reciprocating internal combustion engines — Performance — Part 5: Torsional vibrations.*

ISO 3046-6:1990, *Reciprocating internal combustion engines — Performance — Part 6: Overspeed protection.*

ISO 3046-7:1995, *Reciprocating internal combustion engines — Performance — Part 7: Codes for engine power.*

ISO 8528-1:1993, *Reciprocating internal combustion engine driven alternating current generating sets — Part 1: Application, ratings and performance.*

1) To be published. (Revision of ISO 3046-4:1978)