
**Reciprocating internal combustion
engines — Performance —**

Part 1:

**Declarations of power, fuel and lubricating
oil consumptions, and test methods —
Additional requirements for engines for
general use**

Moteurs alternatifs à combustion interne — Performances —

*Partie 1: Déclaration de la puissance et de la consommation de carburant
et d'huile de lubrification, et méthodes d'essai — Exigences
supplémentaires pour les moteurs d'usage général*



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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.

The main task of technical committees is to prepare International Standards. 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 3046 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 3046-1 was prepared by Technical Committee ISO/TC 70, *Internal combustion engines*.

This part of ISO 3046 cancels and replaces ISO 3046-1:1995, ISO 3046-2:1987 and ISO 3046-7:1995, which have been technically revised and their technical content combined.

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

- *Part 1: Declarations of power, fuel and lubricating oil consumptions, and test methods — Additional requirements for engines for general use*
- *Part 3: Test measurements*
- *Part 4: Speed governing*
- *Part 5: Torsional vibrations*
- *Part 6: Overspeed protection*

Annex A forms a normative part of this part of ISO 3046. Annexes B, C and D are for information only.

Introduction

This part of ISO 3046 establishes one "Satellite" standard of the ISO engine power measurement standards, the use of which enables one to avoid the disadvantages due to the existence of many similar, but different, ISO standards for the definition and determination of engine power. It uses the "Core" and "Satellite" approach.

The "Core" standard, ISO 15550, contains the requirements that are common to all engine applications whereas this part of ISO 3046 contains as a "Satellite" standard those requirements that are necessary to tailor power measurement and declaration to suit the particular engine application as defined in clause 1.

This part of ISO 3046 is intended to be applied in conjunction with the "Core" standard ISO 15550 in order to completely specify the requirements for the particular engine application. The "Satellite" standard therefore is not a document that can stand alone standard but is intended to be accomplished by the requirements laid down in the "Core" standard ISO 15550 in order to become a complete standard.

The structures of both, the "Core" and the "Satellite" standard have been drafted in a very similar way in order to ensure easy use.

The advantage of this approach is that the use of standards for the same or similar engines used in different applications will be rationalized and the harmonization of standards in the course of revision or development will be ensured.

For engines used on board ships and offshore installations which have to comply with the rules of a classification society, it is recommended that the additional requirements of the classification society be observed. It is recommended that the relevant classification society be stated by the customer prior to placing the order.

For non-classed engines, any additional requirements are subject to agreement between the manufacturer and customer.

If requirements from the regulations of any other authority (e. g. inspecting and/or legislative authority) have to be met, it is recommended that the relevant authority be stated by the customer prior to placing the order.

It is recommended that any further requirements be subject to agreement between the manufacturer and customer.

Reciprocating internal combustion engines — Performance —

Part 1:

Declarations of power, fuel and lubricating oil consumptions, and test methods — Additional requirements for engines for general use

1 Scope

This part of ISO 3046 specifies the requirements for the declaration of power, fuel consumption, lubricating oil consumption and the test method in addition to the basic requirements defined in “Core” standard ISO 15550.

This part of ISO 3046 defines codes for engine brake power in accordance with “Core” standard ISO 15550, in order, where necessary, to simplify the application of the statements of power and to facilitate communication. This applies, e.g., to statements of power used on engine data plates.

It applies to Reciprocating Internal Combustion (RIC) engines for land, rail-traction and marine use.

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.

It is a “Satellite” standard and is intended to be applied in conjunction with “Core” standard ISO 15550 only, in order to completely specify the requirements for the particular engine application.

NOTE In addition to the terms used in the three official ISO languages (English, French and Russian), this International Standard gives, in Table 3, the equivalent terms in German; these have been included at the request of Technical Committee ISO/TC 70 and are published under the responsibility of the member body for Germany (DIN). However, only the terms given in the official languages can be considered as ISO terms.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 3046. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 3046 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC 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 3046-4:1997, *Reciprocating internal combustion engines — Performance — Part 4: Speed governing*

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

ISO 15550:2002, *Internal combustion engines — Determination and method for the measurement of engine power — General requirements*