

Second edition 2016-12-01

Internal combustion engines — Determination and method for the measurement of engine power — General requirements

Moteurs à combustion interne — Détermination et méthode de mesure de la puissance du moteur — Exigences générales



Reference number ISO 15550:2016(E)

ISO 15550:2016(E)

This is a preview of "ISO 15550:2016". Click here to purchase the full version from the ANSI store.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office Ch. de Blandonnet 8 • CP 401 CH-1214 Vernier, Geneva, Switzerland Tel. +41 22 749 01 11 Fax +41 22 749 09 47 copyright@iso.org www.iso.org

Contents			Page
Fore	eword		iv
Intr	oductio	on	v
1	Scop	oe	1
2	-	mative references	
3		ns and definitions	
3			
4	Sym	bols	11
5	Stan	dard reference conditions	17
6	Tests	S	
	6.1	General	
	6.2	Test method 1	
		6.2.1 Preamble	
		6.2.2 Test designation	
		6.2.3 Extent of tests	
		6.2.4 Measurement techniques	
		6.2.5 Test conditions	
	6.0	6.2.6 Test procedures	
	6.3	Test method 2	
		6.3.1 General	
		6.3.2 Measuring equipment and instrument accuracy	
		6.3.3 Setting conditions 6.3.4 Test conditions	
		6.3.5 Test procedure	
		6.3.6 Data to be recorded	
7			
		hod of power correction	
	7.1	General	
	7.2	Test atmospheric conditions	27
	7.3	Correction factor α_a for naturally aspirated and pressure-charged spark-ignition engines (with or without charge air cooling)	20
	7.4	Correction factor α_c for compression-ignition (diesel) engines	20 20
	7.4	7.4.1 General	
		7.4.2 Atmospheric factor f_a	
		7.4.3 Engine factor, $f_{\rm m}$	
		7.4.4 Limitation in use of correction factor equation	30
	7.5	Other types of engine	
8	Mea	surement and correction of smoke value for compression-ignition (diesel) engine	
	8.1	GeneralGeneral	
	8.2	Correction factor for the smoke light absorption coefficient	
	8.3	Determination of the correction factor for the smoke light absorption coefficient	
	8.4	Limits of application	
9	Tost	report	
9	9.1	Test method 1	
	7.1	9.1.1 General	
		9.1.2 Type test report	
	9.2	Test method 2	
		9.2.1 General	
		9.2.2 Type test report	32
Ribl	lingrank	hy	43
וטויי	gr abi	-J	

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).

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).

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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 70, *Internal combustion engines*.

This second edition cancels and replaces the first edition (ISO 15550:2002), of which it constitutes a minor revision.

Introduction

This document establishes the framework for ISO engine power measurement standards. By applying this framework, the disadvantages of the existence of many similar, but different, ISO standards for the definition and determination of engine power can be avoided.

This framework uses the "Core" and "Satellite" approach. The "Core" standard contains the requirements that are common to all engine applications described in the scope and the "Satellite" standard contains those requirements that are necessary to tailor power measurement and declaration to suit a particular engine application.

This document is only applicable in conjunction with a particular "Satellite" standard in order to completely specify the requirements for the particular engine application. The "Core" standard, therefore, is not a document that can stand alone, but only represents addenda to a particular "Satellite" standard used to create a complete standard together with the said "Satellite" standard.

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.

This document is the "Core" standard.

This document was prepared in order to serve as the "Core" standard for making engine power measurements. It was drafted in close co-operation with technical committees ISO/TC 22 *Road vehicles*, ISO/TC 23 *Machinery for forestry and agriculture*, ISO/TC 127 *Earth moving machinery* and ISO/TC 188 *Small craft*. The prerequisite for any future modification of this document will be the formal approval of all the above technical committees. Together with the "Satellite" standard for each engine application, the "Core" standard serves as the basis for engine power declaration and measurement. Each technical committee is fully responsible for the administration of its own "Satellite" standard(s).

Any further requirements are subject to agreement between the manufacturer and customer.