This is a preview of "ISO 5165:2017". Click here to purchase the full version from the ANSI store.

Fourth edition 2017-12

Petroleum products — Determination of the ignition quality of diesel fuels — Cetane engine method

Produits pétroliers — Détermination de la qualité d'inflammabilité des carburants pour moteurs diesel — Méthode cétane



ISO 5165:2017(E)

This is a preview of "ISO 5165:2017". Click here to purchase the full version from the ANSI store.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, 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 This is a preview of "ISO 5165:2017". Click here to purchase the full version from the ANSI store.

Cor	Lontents				
Fore	Forewordv				
1	Scope		1		
2	Norma	ative references	1		
3		and definitions			
4		ple			
5		nts and reference materials			
_	_				
6		atus			
7	=	ing and sample preparation			
8		engine and instrument settings and standard operating conditions	8		
	8.1	Installation of engine equipment and instrumentation			
	8.2 8.3	Engine speedValve timing			
	8.4	Valve lift			
	8.5	Fuel pump timing			
	8.6	Fuel pump inlet pressure			
	8.7	Direction of engine rotation			
	8.8	Injection timing			
	8.9	Injector nozzle opening pressure	9		
	8.10	Injection flow rate			
	8.11	Injector coolant passage temperature			
	8.12	Valve clearances			
	8.13	Oil pressure			
	8.14 8.15	Oil temperature			
	8.16	Cylinder jacket coolant temperature Intake air temperature			
	8.17	Basic ignition delay			
	8.18	Cylinder jacket coolant level			
	8.19	Engine-crankcase lubricating oil level			
	8.20	Crankcase internal pressure			
	8.21	Exhaust back-pressure			
	8.22	Exhaust and crankcase breather system resonance			
	8.23	Piston over-travel	11		
	8.24	Belt tension			
	8.25	Injector opening or release pressure			
	8.26	Injector spray pattern			
	8.27	Indexing handwheel reading			
		8.27.1 General Basic setting of variable compression plug			
		8.27.3 Setting handwheel micrometer drum and scale			
		8.27.4 Setting handwheel reading			
	8.28	Basic compression pressure			
	8.29	Fuel pump lubricating oil level			
	8.30	Fuel pump timing gear-box oil level			
	8.31	Setting instrumentation reference pickups			
	8.32	Setting injector pickup gap			
9	Engine	e qualification			
	9.1	Engine conformity			
	9.2	Checking performance on check fuels			
	9.3	Check in the case of nonconformity	14		
10	Procedure				
	10.1	General	14		

ISO 5165:2017(E)

This is a preview of "ISO 5165:2017". Click here to purchase the full version from the ANSI store.

	10.2	Sample introduction	14
	10.3	Fuel flow rate	14
	10.4	Fuel injection timingIgnition delay	14
	10.5	Ignition delay	14
	10.6	Equilibration	1.5
	10.7	Handwheel reading	15
	10.8	Handwheel reading Reference fuel no. 1	15
	10.9	Reference fuel no. 2	15
	10.10	Number of blends of reference fuels	16
	10.11	Repeat readings.	16
11	Calcu	lation	17
12	Expre	ession of results	18
13	Precision		18
	13.1	General	18
	13.2	Repeatability, r	18
	13.3	Repeatability, rReproducibility, R.	18
	13.4	Precision basis	19
14	Test r	eport	19
Bibliography			
	~ D ~ W P 11.		

This is a preview of "ISO 5165:2017". Click here to purchase the full version from the ANSI store.

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 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.

This document was prepared by Technical Committee ISO/TC 28, *Petroleum products and related products of synthetic or biological origin*.

This fourth edition cancels and replaces the third edition (ISO 5165:1998), which has been technically revised. It has been aligned with ASTM D613-15ae1.

The main changes compared to the previous edition are as follows:

- the Scope has been extended to paraffinic diesel from synthesis or hydrotreatment, in line with the outcome of the interlaboratory study organized by CEN/TC 19 in 2013[1];
- the possibility to use, as an alternative, the new digital (XCP) cetane panel has been added;
- the possibility to rate a sample with primary reference fuels (hexadecane and heptamethylnonane) has been added;
- a determinability limit has been introduced;
- a new procedure for measuring samples having cetane numbers expected to be greater than "T" secondary reference fuel has been introduced;
- cross-references to annexes that have been deleted in ASTM D613-15ae1 have been removed.