Petroleum and related products - Determination of anti-wear properties of hydraulic fluids - Vane pump method

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 20763:2004 sisaldab Euroopa standardi EN ISO 20763:2004 ingliskeelset teksti. Käesolev dokument on jõustatud 26.10.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 20763:2004 consists of the English text of the European standard EN ISO 20763:2004. This document is endorsed on 26.10.2004 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This International Standard specifies procedures for the determination of steel-on-steel anti-wear properties of hydraulic fluids by means of performance in a vane-type hydraulic pump. It covers a range of hydraulic fluids, both anhydrous and aqueous, intended for applications where high-speed sliding contacts, such as those found in a vane pump, are encountered.	**Scope:** This International Standard specifies procedures for the determination of steel-on-steel anti-wear properties of hydraulic fluids by means of performance in a vane-type hydraulic pump. It covers a range of hydraulic fluids, both anhydrous and aqueous, intended for applications where high-speed sliding contacts, such as those found in a vane pump, are encountered.

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English version

Petroleum and related products

Determination of anti-wear properties of hydraulic fluids

Vane pump method
(ISO 20763 : 2004)

Pétrole et produits connexes – Détermination des propriétés anti-usure des fluides hydrauliques – Méthode de la pompe à palettes (ISO 20763 : 2004)

Mineralölerzeugnisse und verwandte Produkte – Bestimmung des Verschleißschutzvermögens von Druckflüssigkeiten – Prüfung in der Flügelzellenpumpe (ISO 20763 : 2004)

This European Standard was approved by CEN on 2004-02-09.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Management Centre: rue de Stassart 36, B-1050 Brussels

Ref. No. EN ISO 20763 : 2004 E

Foreword

International Standard

ISO 20763 : 2004 Petroleum and related products – Determination of anti-wear properties of hydraulic fluids – Vane pump method,

which was prepared by ISO/TC 28 'Petroleum products and lubricants' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 19 'Petroleum products, lubricants and related products', the Secretariat of which is held by NEN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by January 2005 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 20763 : 2004 was approved by CEN as a European Standard without any modification.

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WARNING — The use of this International Standard may involve hazardous materials, operations and equipment. This International Standard does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this International Standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This International Standard specifies procedures for the determination of steel-on-steel anti-wear properties of hydraulic fluids by means of performance in a vane-type hydraulic pump. It covers a range of hydraulic fluids, both anhydrous and aqueous, intended for applications where high-speed sliding contacts, such as those found in a vane pump, are encountered.

For mineral oils of categories HM and HV, and fire-resistant fluids of category HFD, the method is applicable to viscosity classes ISO VG 32, ISO VG 46 and ISO VG 68, as specified in ISO 3448[1]. Under different specified conditions, the method is applicable to aqueous fire-resistant hydraulic fluids in categories HFA, HFB and HFC, as specified in ISO 12922[2], within the same viscosity classes.

NOTE Viscosity classes below ISO VG 32 and above ISO VG 68 can be tested by this technique, but require different conditions of pump inlet viscosity, and have not been widely assessed. This International Standard is confined to the specified limiting values defined.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3104:1994, *Petroleum products — Transparent and opaque liquids — Determination of kinematic viscosity and calculation of dynamic viscosity*

ISO 3170:2004, *Petroleum liquids — Manual sampling*

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*

ISO 4406:1999, *Hydraulic fluid power — Fluids — Method for coding the level of contamination by solid particles*

3 Principle

Approximately 70 litres of the fluid under test is circulated for 250 h by a vane pump under conditions of output flow, operational pressure and fluid temperature related to the type and viscosity grade of the fluid. At the end of the test period, the mass loss of the 12 vanes and the ring on the test cartridge are determined. Measurement of decrease in output flow during the test run, and mass loss of the two side bushings and the rotor are also taken as control measures within the limiting test conditions, but the mass losses do not constitute a requirement of method conformance.