
**Petroleum and related products —
Determination of the corrosion resistance
of fire-resistant hydraulic fluids —**

**Part 1:
Water-containing fluids**

*Pétrole et produits connexes — Détermination de la résistance
à la corrosion de fluides hydrauliques difficilement inflammables —*

Partie 1: Fluides contenant de l'eau





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Published in Switzerland

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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 2.

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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 4404-1 was prepared by Technical Committee ISO/TC 28, *Petroleum products and lubricants*.

This second edition cancels and replaces the first edition (ISO 4404-1:2001), which has been technically revised.

ISO 4404 consists of the following parts, under the general title *Petroleum and related products — Determination of the corrosion resistance of fire-resistant hydraulic fluids*:

- *Part 1: Water-containing fluids*
- *Part 2: Non-aqueous fluids*

Introduction

Water-containing hydraulic fluids are used in systems where fire resistance is required due to operating conditions. The corrosion resistance of such fluids has to be assessed in order to choose a suitable system design and prepare maintenance instructions.

Petroleum and related products — Determination of the corrosion resistance of fire-resistant hydraulic fluids —

Part 1: Water-containing fluids

WARNING — The use of this part of ISO 4404 may involve hazardous materials, operations and equipment. This part of ISO 4404 does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this part of ISO 4404 to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This part of ISO 4404 specifies a test method to determine the influence on metals of fire-resistant fluids in categories HFA, HFB and HFC, as classified in ISO 6743-4. It evaluates the corrosion protection provided by these fluids towards metal components used in hydraulic systems and installations.

A similar technique for fluids in category HFD is described in ISO 4404-2.

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 648: 2008, *Laboratory glassware — Single-volume pipettes*

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

ISO 3819: 1985, *Laboratory glassware — Beakers*

ISO 5598: 2008, *Fluid power systems and components — Vocabulary*

ISO 6344-1: 1998, *Coated abrasives — Grain size analysis — Part 1: Grain size distribution test*

ISO 20783-1: 2011, *Petroleum and related products — Determination of emulsion stability of fire-resistant fluids — Part 1: Fluids in category HFAE*

DIN 12331: 1988, *Laboratory glassware; beakers*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5598:2008 apply.