

Third edition
2023-10

Lubricants, industrial oils and related products (class L) — Family H (hydraulic systems) — Specifications for categories HH, HL, HM, HV and HG

Lubrifiants, huiles industrielles et produits connexes (classe L) — Famille H (systèmes hydrauliques) — Spécifications pour les catégories HH, HL, HM, HV et HG



Reference number
ISO 11158:2023(E)

© ISO 2023



COPYRIGHT PROTECTED DOCUMENT

© ISO 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, 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
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

This is a preview of ISO 11158:2023. [Click here to purchase the full version from the ANSI store.](#)

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	3
4 Sampling	3
5 Specifications	3
5.1 General.....	3
5.2 Specifications for hydraulic oils, categories HH, HL, HM, HV and HG.....	3
5.2.1 General.....	3
5.2.2 Specifications of ISO-L-HH hydraulic oils.....	3
5.2.3 Specifications of ISO-L-HL hydraulic oils.....	3
5.2.4 Specifications of ISO-L-HM hydraulic oils.....	3
5.2.5 Specifications of ISO-L-HV hydraulic oils.....	4
5.2.6 Specifications of ISO-L-HG hydraulic and slide-ways oils.....	4
Annex A (normative) Specification tables	5
Bibliography	21

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 28, *Petroleum and related products, fuels and lubricants from natural or synthetic sources*, Subcommittee SC 4, *Classifications and specifications*.

This third edition cancels and replaces the second edition (ISO 11158:2009), which has been technically revised.

The main changes are as follows:

- introduction of new anti-wear test VICKERS 35VQ25, hydrolytic stability and high temperature requirements.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

This is a preview of ISO 11158:2023. [Click here to purchase the full version from the ANSI store.](#)

Introduction

Fluids for hydraulic systems are used in a wide variety of hydraulic pumps, motors and circuits.

Hydraulic fluids are selected depending upon the anti-wear requirements of the equipment and the operating temperature range (temperature at cold starting and running temperature in stabilized conditions) to ensure the optimum mechanical and volumetric yield of the circuit and to protect pumps and motors against wear.

Mineral hydraulic fluids are formulated with mineral base stocks, from either groups I, II or III and various additives to provide the necessary oxidation stability, wear, rust, corrosion and foaming protection properties. To improve the operating temperature range, viscosity modifier polymers are added.