
**Road vehicles — Elastomeric seals for
hydraulic disc brake cylinders using a
non-petroleum base hydraulic brake fluid
(Service temperature 150 °C max.)**

*Véhicules routiers — Joints en caoutchouc pour cylindres de freins
hydrauliques à disque utilisant un liquide de frein à base non pétrolière
(Température maximale d'utilisation 150 °C)*



Reference number
ISO 4930:2006(E)

AVA Documents
Document Sharing Hub
© ISO 2006

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2006

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
1 Scope	1
2 Normative references	1
3 Product requirements.....	1
4 Brake test fluid	1
5 Apparatus	2
5.1 Apparatus for test of resistance to fluid at elevated temperature, physical stability and precipitation characteristics	2
5.2 Apparatus for high-temperature stroking test (see Figure 1)	2
5.3 Apparatus for low-temperature leakage test (see Figure 2).....	3
6 Test requirements.....	3
7 Preparation of test specimens	4
8 Resistance to fluid at elevated temperature	4
8.1 Test specimens	4
8.2 Test procedure	5
9 Resistance to fluid at elevated temperature – Precipitation characteristics.....	5
9.1 Test specimens	5
9.2 Test procedure	5
10 Resistance to elevated temperature in dry air	6
10.1 Test specimens	6
10.2 Test procedure	6
11 Ambient-temperature stroking test.....	6
11.1 Test specimens	6
11.2 Test procedure	6
12 High-temperature stroking test	7
12.1 Test specimens	7
12.2 Test procedure	7
13 Low-temperature leakage test	8
13.1 Test specimens	8
13.2 Test procedure	8
13.3 Bent test procedure	9
14 Cycling humidity storage corrosion test.....	9
14.1 Test specimens	9
14.2 Test procedure	9

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 4930 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 2, *Braking systems and equipment*.

This second edition cancels and replaces the first edition (ISO 4930:1978), which has been technically revised.

Road vehicles — Elastomeric seals for hydraulic disc brake cylinders using a non-petroleum base hydraulic brake fluid (Service temperature 150 °C max.)

1 Scope

This International Standard specifies the performance test methods and requirements for elastomeric seals used in road vehicle disc brake cylinders.

It is applicable to solid section type seals (square, rectangular, “O”-ring), mounted stationary in the cylinder bore or on the movable piston of disc brakes.

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 48, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 1817, *Rubber, vulcanized — Determination of the effect of liquids*

ISO 4926, *Road vehicles — Hydraulic brake systems — Non-petroleum base reference fluids*

ISO 4928, *Road vehicles — Elastomeric cups and seals for cylinders for hydraulic braking systems using a non-petroleum base hydraulic brake fluid (Service temperature 120 °C max.)*

3 Product requirements

Seals shall conform to the pertinent drawing in all respects, and shall be free from blisters, pin-holes, cracks, protuberances, embedded foreign material, or other physical defects which can be detected by thorough inspection.

These elastomeric seals shall be suitable for operation in a temperature range of –40 °C to +150 °C.

4 Brake test fluid

The test fluid for all tests except the test specified in Clause 14 shall be compatibility fluid as defined in ISO 4926. The fluid specified in Clause 14 shall be ISO fluid for storage corrosion test as defined in ISO 4926 or the fluid agreed by the parties concerned.