INTERNATIONAL STANDARD

ISO 6194-4

Second edition
1999-05-01

Rotary shaft lip type seals —

Part 4:
Performance test procedures

Bagues d'étanchéité à lèvre pour arbres tournants —

Partie 4: Méthodes d'essai de performance

Reference number
ISO 6194-4:1999(E)

Contents

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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 3.

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.

International Standard ISO 6194-4 was prepared by Technical Committee ISO/TC 131, *Fluid power systems,* Subcommittee SC 7, *Sealing devices*.

This second edition cancels and replaces the first edition (ISO 6194-4:1988), which has been technically revised.

ISO 6194 consists of the following parts, under the general title *Rotary shaft lip type seals*:

— *Part 1: Nominal dimensions and tolerances*

— *Part 2: Vocabulary*

— *Part 3: Storage, handling and installation*

— *Part 4: Performance test procedures*

— *Part 5: Identification of visual imperfections*

Annexes A, B and C of this part of ISO 6194 are for information only.

Introduction

Lip type seals are used for retaining fluid or grease in equipment employing rotating shafts. In some instances, the shaft is stationary and the housing rotates. Sealing of a lip type seal with a low differential pressure is normally a result of a designed interference fit between the shaft and the flexible sealing element, which is usually fitted with a garter spring. An interference fit between the outside surface of the seal and the housing bore surface retains the seal in the housing and prevents leakage at the outer diameter.

Rotary shaft lip type seals —

Part 4:
Performance test procedures

1 Scope

This part of ISO 6194 specifies test requirements for rotary shaft lip type seals. The tests may be used for qualification purposes. Materials quality control, dynamic testing and supplementary low temperature testing requirements are also covered.

2 Normative references

The following normative documents contains provisions which, through reference in this text, constitute provisions of this part of ISO 6194. For dated references, subsequent amendments to, or revisions of, these publication do not apply. However, parties to agreements based on this part of ISO 6194 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 48:1994, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD).*

ISO 188:1998, *Rubber, vulcanized — Accelerated ageing and heat resistance tests.*

ISO 815:1991, *Rubber, vulcanized or thermoplastic — Determination of compression set at ambient, elevated or low temperatures.*

ISO 1432:1988, *Rubber, vulcanized or thermoplastic — Determination of low temperature stiffening (Gehman test).*

ISO 1817:1998, *Rubber, vulcanized — Determination of the effect of liquids.*

ISO 2781:1988, *Rubber, vulcanized — Determination of density.*

ISO 2921:1997, *Rubber, vulcanized — Determination of low-temperature characteristics — Temperature-retraction procedure (TR test).*

ISO 5598:1985, *Fluid power systems and components — Vocabulary.*

ISO 6194-1:1982, *Rotary shaft lip type seals — Part 1: Nominal dimensions and tolerances.*

ISO 6194-2:1991, *Rotary shaft lip type seals — Part 2: Vocabulary.*