INTERNATIONAL STANDARD

ISO 3601-5

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Fluid power systems — O-rings —

Part 5: Suitability of elastomeric materials for industrial applications

Transmissions hydrauliques et pneumatiques — Joints toriques —

Partie 5: Matériaux élastomères convenant pour applications industrielles

Reference number
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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.

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 part of ISO 3601 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 3601-5 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 7, *Sealing devices*.

ISO 3601 consists of the following parts, under the general title *Fluid power systems — O-rings*:

— *Part 1: Inside diameters, cross-sections, tolerances and size identification code*

— *Part 2: Housing dimensions for general applications*

— *Part 3: Quality acceptance criteria*

— *Part 4: Anti-extrusion devices (back-up rings)*

— *Part 5: Suitability of elastomeric materials for industrial applications*

Introduction

In fluid power systems, power is transmitted and controlled through a fluid (liquid or gas) under pressure within an enclosed circuit. One component of such a system can be a toroidal sealing ring, an O-ring. This part of ISO 3601 evaluates the suitability of a number of elastomeric materials (rubber) which may be used for O-rings in industrial applications.

Fluid power systems — O-rings —

Part 5:
Suitability of elastomeric materials for industrial applications

1 Scope

This part of ISO 3601 evaluates the suitability of a number of elastomeric materials (rubber) which may be used for O-rings in industrial applications. It also indicates the ability of the materials to satisfy many of the requirements associated with fluid power components and systems and includes temperatures and fluid compatibility. Only materials which are in universal usage are specified, other compounds are available and can be specified. The required physical properties should be agreed upon between equipment manufacturer/user and O-ring manufacturer/supplier.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 3601. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 3601 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, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

ISO 2230, *Rubber products — Guidelines for storage*

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

ISO 6743-4, *Lubricants, industrial oils and related products (class L) — Classification — Part 4: Family H (Hydraulic systems)*

3 Terms and definitions

For the purposes of this part of ISO 3601, the terms and definitions given in ISO 5598 and the following apply.

3.1
rubber compound
homogenous mix of all the constituents of a rubber formulation

EXAMPLES Rubber gumstock, curing agents, accelerators, fillers, reinforcing agents.