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# Metallic tube connections for fluid power and general use — Test methods for hydraulic fluid power connections

*Raccords de tubes métalliques pour transmissions hydrauliques et pneumatiques et applications générales — Méthodes d'essai pour raccords pour transmissions hydrauliques*

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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.

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 documents 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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 131, *Fluid power systems*, Subcommittee SC 4, *Connectors and similar products and components,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 459/SC 10, *Steel tubes, and iron and steel fittings,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 19879:2010), which has been technically revised.

The main changes compared to the previous edition are as follows:

— clarification of the language used to describe the connector end, and of the proper method for selecting tubes for test assemblies;

— minor changes to 10.1, 10.2 (Table 7) and 12.2.2.

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.

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# Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. It is suggested that components be designed to meet these requirements under varying conditions. Testing of components to meet performance requirements provides a basis of assurance for determining design application and for checking component conformance with the stated requirements.


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# Metallic tube connections for fluid power and general use — Test methods for hydraulic fluid power connections

## 1 Scope

This document specifies uniform methods for the testing and performance evaluation of metallic tube connections, stud ends for ports and flange connections for use in hydraulic fluid power applications. This document does not apply to the testing of hydraulic quick-action couplings, which is covered by ISO 18869.

Tests outlined in this document are independent of each other and document the method to follow for each test. See the appropriate component International Standard for indications of which tests to conduct and for performance criteria.

For qualification of the connector, the minimum number of samples specified in this document is tested, unless otherwise specified in the relevant connector standard or as agreed upon by the manufacturer and the user.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 48-2, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 2: Hardness between 10 IRHD and 100 IRHD*

ISO 3448, *Industrial liquid lubricants — ISO viscosity classification*

ISO 3601-3, *Fluid power systems — O-rings — Part 3: Quality acceptance criteria*

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

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 6605, *Hydraulic fluid power — Test methods for hoses and hose assemblies*

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

ISO 10763, *Hydraulic fluid power — Plain-end, seamless and welded precision steel tubes — Dimensions and nominal working pressures*

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

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