SLOVENSKI STANDARD
SIST EN ISO 19879:2005

01-oktober-2005

Kovinski cevni priključ ki za fluidno tehniko in splošno uporabo ï Preskusne metode za hidravlič ne omrežne priključ ke (ISO 19879:2005)

Metallic tube connections for fluid power and general use - Test methods for hydraulic fluid power connections (ISO 19879:2005)

Metallische Rohrverschraubungen für Fluidtechnik und allgemeine Anwendung - Prüfverfahren für hydraulische Rohrverschraubungen in der Fluidtechnik (ISO 19879:2005)

Raccords de tubes métalliques pour transmissions hydrauliques et pneumatiques et applications générales - Méthodes d'essai pour raccords pour transmissions hydrauliques (ISO 19879:2005)

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This European Standard was approved by CEN on 31 July 2005.

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Foreword

This document (EN ISO 19879:2005) has been prepared by Technical Committee ISO/TC 131 "Fluid power systems" in collaboration with Technical Committee ECISS/TC 29 "Steel tubes and fittings for steel tubes", the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2006, and conflicting national standards shall be withdrawn at the latest by February 2006.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 19879:2005 has been approved by CEN as EN ISO 19879:2005 without any modifications.

INTERNATIONAL STANDARD

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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.

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 19879 was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 4, *Connectors and similar products and components*.

This first edition of ISO 19879 cancels and replaces ISO 8434-5:1995, which has been technically revised.

Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. Components must 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 compliance with the stated requirements.

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

1 Scope

This International Standard 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 International Standard does not apply to the testing of hydraulic quick-action couplings, which is covered by ISO 7241-2.

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

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

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 3448, *Industrial liquid lubricants — ISO viscosity classification*

ISO 3601-3, *Fluid power systems — O-rings — Part 3: Quality acceptance criteria*[1)]

ISO 5598, *Fluid power systems and components — Vocabulary*[1)]

ISO 6508 (all parts), *Metallic materials — Rockwell hardness test*

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

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 document, the terms and definitions given in ISO 5598 apply.

1) Under revision.

4 General requirements

WARNING — Some of the tests described in this International Standard are considered hazardous. It is therefore essential that, in conducting these tests, all appropriate safety precautions be strictly adhered to. Attention is drawn to the danger of burst, fine jets (which can penetrate the skin) and energy release of expanding gases. To reduce the hazard of energy release, bleed air out of test specimens prior to pressure testing. Tests shall be set up and performed by properly trained personnel.

4.1 Test assemblies

All components tested shall be in the final form, including annealed nuts, as required for brazed components. Unless otherwise specified in the respective connector standard, Type 1 test assemblies shall be as shown in Figure 1 for tube connections (for repeated assembly, leakage, proof, burst and cyclic endurance tests), and Type 2 test assemblies shall be as shown in Figure 2 for male stud ends (for leakage, proof and, if specified, burst and cyclic endurance tests). Alternatively, in order to test the connector to its full capability, use of the metallic tube may be omitted for burst and cyclic endurance tests, and different configurations with similar capability may be combined in a test assembly Type 3, as shown in Figure 3. Type 4 test assemblies for flange connectors shall be as shown in Figure 4. Test assemblies shall conform to the relevant requirements given in Table 1.

Table 1 — Requirements for test assemblies

Part code	Part name	Description and further information
A	Straight stud connector	The type of stud end, connector end and sealing method is optional but shall be recorded in the test report.
B	Metallic tube	The required tube wall thickness shall be selected according to the working pressure rating of the respective connector. The length of the tube shall be five times the tube outside diameter plus 50 mm.
C	Shaped connector, with swivel, if applicable	—
D	Blanking end (cap or plug)	—
E	Shaped connector with adjustable stud end	—
F	Flange connector	—
G	Sealing	e.g. O-ring.