
**Rubber or plastics hoses and hose
assemblies — Hydraulic impulse test
with flexing**

*Tuyaux et flexibles en caoutchouc et en plastique renforcés par des fils
métalliques — Essai d'impulsions hydrauliques avec flexions*



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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).

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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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Rubber and plastics hoses and hose assemblies*.

This fourth edition cancels and replaces the third edition (ISO 6802:2005), which has been technically revised.

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

- new [Clause 6](#) on test fluid has been added;
- [Clause 8](#) on procedure has been updated to include an option for a cool down test and leakage classification as defined in ISO/TR 11340;
- new [Clause 9](#) on expression of results has been added;
- new [Annex A](#) describing optional cool down leakage test has been incorporated.

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.

Introduction

Hydraulic hoses and hose assemblies are frequently flexed in service. As there is a possibility that this needs to be taken into account during testing, this document provides a standard method of flexing during impulse testing.

Rubber or plastics hoses and hose assemblies — Hydraulic impulse test with flexing

1 Scope

This document describes hose impulse testing, with flexing, of rubber or plastics hydraulic hose assemblies at both high and low impulse pressures. The high-pressure testing is carried out at pressures greater than 3 MPa and the low-pressure testing at pressures from 1,5 MPa to 3 MPa. The test procedure is applicable to hydraulic hose assemblies that are subject to pulsating pressures in service which are included in the product requirements.

NOTE Impulse test procedures without flexing can be found in ISO 6803.

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 3448, *Industrial liquid lubricants — ISO viscosity classification*

ISO 6803, *Rubber or plastics hoses and hose assemblies — Hydraulic-pressure impulse test without flexing*

ISO 8330, *Rubber and plastics hoses and hose assemblies — Vocabulary*

ISO/TR 11340, *Rubber and rubber products — Hydraulic hose assemblies — External leakage classification for hydraulic systems*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8330 apply.

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

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Test methods

There are two methods of flexing; Method 1 by the use of a revolving manifold as shown in [Figure 1](#), and Method 2, by the use of a horizontally sliding manifold as shown in [Figure 2](#).

Both Method 1 and Method 2 shall follow requirements related to pressure and temperature as specified in ISO 6803.

The above test methods shall have the option to be also run with cool down leakage test (see [Clause 8](#)).

5 Apparatus

The apparatus consists of a flex test rig, on which the test pieces can be installed, capable of producing flexing as shown in [Figures 1](#) and [2](#). The rig comprises a movable manifold and a stationary manifold, and the centreline of the stationary manifold shall be adjusted to the centre of rotation of the revolving