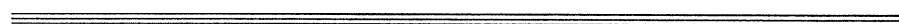


INTERNATIONAL STANDARD

**ISO
6802**

Second edition
1991-02-15



Rubber and plastics hose and hose assemblies with wire reinforcements — Hydraulic impulse test with flexing

iTeh STANDARD PREVIEW

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

ISO 6802:1991

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Reference number
ISO 6802:1991(E)

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.

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 6802 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This second edition cancels and replaces the first edition (ISO 6802:1982), clause 5 of which has been technically revised.

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Introduction

Hydraulic hoses and hose assemblies are frequently flexed in service. As there may be a need to take this into account during testing, this International Standard provides a standard method of flexing during impulse testing.

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Rubber and plastics hose and hose assemblies with wire reinforcements — Hydraulic impulse test with flexing

1 Scope

This International Standard specifies the method of flexing wire-reinforced hydraulic hoses and hose assemblies to a standard cycle during impulse testing by the method of ISO 6803.

2 Normative reference

The following standard contains provisions which through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 6803:1984, *Rubber or plastics hoses and hose assemblies — Hydraulic pressure impulse test without flexing.*

3 Apparatus

The apparatus consists of a flex test rig, on which the test pieces can be installed, capable of producing flexing as shown in figure 1. The rig comprises a manifold mounted between revolving arms and a stationary manifold, the centreline of which is the same as the centre of rotation of the revolving manifold. The revolving manifold is geared so that it stays parallel to the stationary manifold at all times. The number of revolutions per minute of the revolving manifold shall be within the range 34 % to 38 % of the number of impulse cycles per minute; thus, the number of flex cycles is proportional to the number of impulse cycles.

The vertical centreline of the stationary manifold is positioned at a distance l from the centre of rotation

of the revolving manifold. The hose is subjected to a back bending motion with the inside radius being smaller than the minimum bend radius and the radius near each fitting being larger than the minimum bend radius. The distance l shall be calculated using the formula

$$l = 1,75r_{b,\min} + d_{\text{ext}}$$

with a tolerance of ± 2 mm, where

$r_{b,\min}$ is the minimum bend radius;

d_{ext} is the external diameter of the hose.

4 Test piece

The free length of hose, L , measured between the couplings, shall be calculated using the formula

$$L = 4,14r_{b,\min} + 3,57d_{\text{ext}}$$

with a tolerance of ± 15 mm, where $r_{b,\min}$ and d_{ext} are as defined in clause 3.

A minimum of four test pieces shall be tested. The minimum bend radius will be specified in the International Standard appropriate to the product concerned.

5 Procedure

Attach one end of the test piece assembly to the manifold on the revolving arm of the apparatus and attach the other end to the stationary manifold. Carry out the pressure impulse test by the method described in ISO 6803.

Start the test and continue until failure or until the number of cycles specified in the relevant product standard has been completed.

If a failure occurs within 25 mm of one of the end fittings it shall be regarded as a fitting failure and recorded as such.

6 Test report

The test report shall include the following information:

- a) a reference to this International Standard;
- b) a full description of the hose or hose assembly tested;
- c) the test temperature;
- d) the test pressure;
- e) the test fluid;
- f) the rate of pressure rise;
- g) the impulse cycle rate;
- h) the flexing frequency;
- i) the number of impulse cycles to failure or the number of cycles completed for each test piece;
- j) the position and mode of failure of each test piece, or the condition of each test piece on completion of the test;
- k) the date of test.

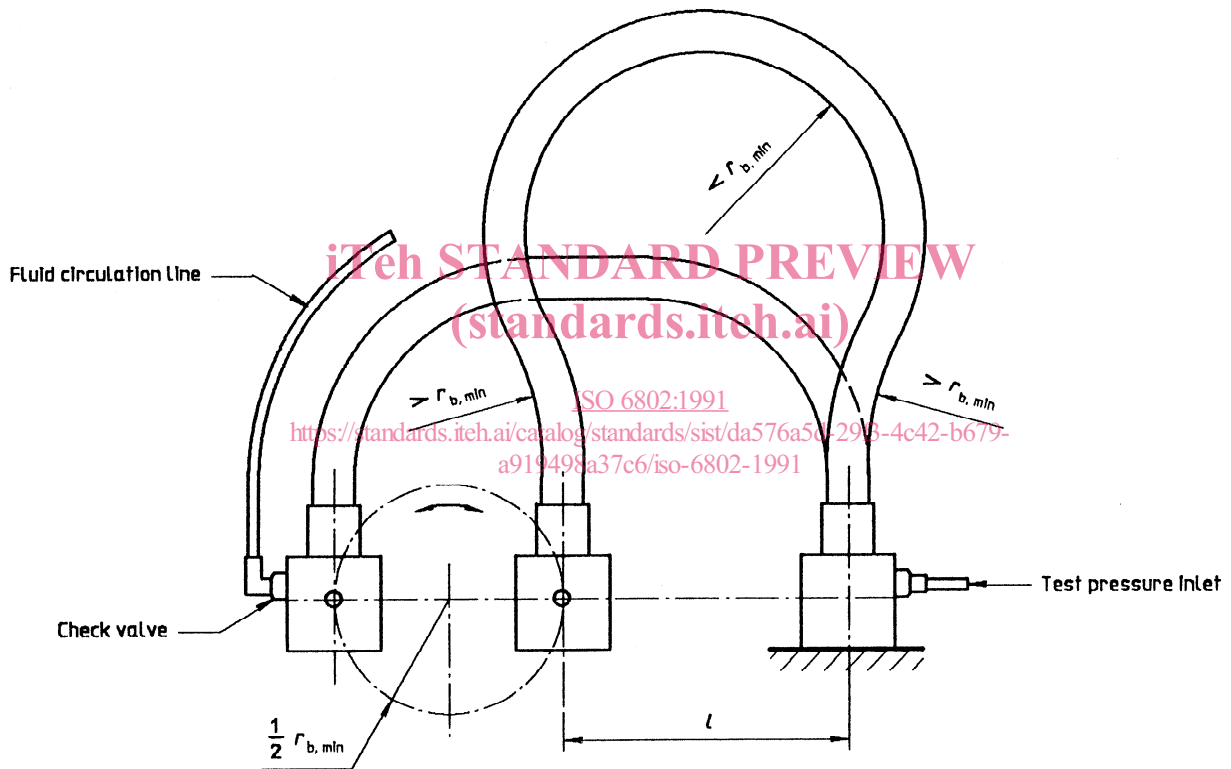


Figure 1 — Schematic arrangement of the test piece for the impulse test with flexing

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