INTERNATIONAL STANDARD

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

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

Reference number
ISO 6802:2005(E)

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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 6802 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

This third edition cancels and replaces the second edition (ISO 6802:1991), which has been technically revised.

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.

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

1 Scope

This International Standard describes a pressure impulse test with flexing for wire-reinforced rubber and plastics hydraulic hoses and hose assemblies.

The test is applicable to high-pressure hydraulic hoses and hose assemblies, which are subject to pulsating pressure in service.

This International Standard describes two methods of flexing the hose or hose assembly. The actual pressure impulse test is described in ISO 6803.

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

3 Test methods

Two methods of flexing are described: method 1 which uses a revolving manifold as shown in Figure 1, and method 2 which uses a horizontally sliding manifold as shown in Figure 2. When no requirement is stated in the product standard, use method 1.

4 Apparatus

The apparatus consists of a flex test rig, on which the test pieces can be installed, capable of producing flexing in the ways shown in Figures 1 and 2. The rig comprises a stationary manifold and a movable manifold, the latter being capable of either executing a revolving motion (see Figure 1) or executing a horizontally reciprocating (to-and-fro) motion (see Figure 2). The centreline of the stationary manifold is at the same height as, and parallel to, the centre of rotation of the revolving manifold or at the same height as the centre of the horizontally reciprocating manifold. The movable manifold is geared so that it stays parallel to the stationary manifold at all times. The number of revolving or to-and-fro cycles executed per minute by the movable manifold shall be within 34 % to 38 % of the number of impulse cycles produced per minute, i.e. the number of flex cycles executed during any given length of time is in a definite proportion to the number of impulse cycles.

The vertical centreline through the stationary manifold at each coupling is a distance l from the centre of rotation or centre of reciprocating motion of the movable manifold. In each case, the hose is subjected to a back-bending motion, with its inside radius being bent to a radius smaller than the minimum bend radius and the radius near each coupling being bent to a radius larger than the minimum bend radius.