



**SLOVENSKI STANDARD
SIST EN ISO 4023:2010**

01-februar-2010

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SIST EN ISO 4023:2002**

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Rubber hoses and hose assemblies for steam - Test methods (ISO 4023:2009)

Gummischläuche und -schlauchleitungen für Dampf - Prüfverfahren (ISO 4023:2009)

Tuyaux et flexibles en caoutchouc pour la vapeur - Méthodes d'essai (ISO 4023:2009)

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Ta slovenski standard je istoveten z: EN ISO 4023:2009

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ICS:

23.040.70 Gumene cevi in armature Hoses and hose assemblies

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 4023

November 2009

ICS 23.040.70

Supersedes EN ISO 4023:1995

English Version

**Rubber hoses and hose assemblies for steam - Test methods
(ISO 4023:2009)**

Tuyaux et flexibles en caoutchouc pour la vapeur -
Méthodes d'essai (ISO 4023:2009)

Gummischläuche und -schlauchleitungen für Dampf -
Prüfverfahren (ISO 4023:2009)

This European Standard was approved by CEN on 7 October 2009.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN ISO 4023:2009) has been prepared by Technical Committee ISO/TC 45 "Rubber and rubber products" in collaboration with Technical Committee CEN/TC 218 "Rubber and plastics hoses and hose assemblies" the secretariat of which is held by BSI.

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 May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 4023:1995.

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

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The text of ISO 4023:2009 has been approved by CEN as a EN ISO 4023:2009 without any modification.

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INTERNATIONAL STANDARD

ISO 4023

Fourth edition
2009-11-01

Rubber hoses and hose assemblies for steam — Test methods

Tuyaux et flexibles en caoutchouc pour la vapeur — Méthodes d'essai

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ISO 4023:2009(E)

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ISO 4023:2009(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.

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 4023 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

This fourth edition cancels and replaces the third edition (ISO 4023:1991), which has been technically revised.

The major technical change is the broadening of the scope to include hose assemblies. These have to be fitted with suitable end connections and couplings as, for a particular hose design, the type of end connection used can have a significant influence on the test results.

A procedure for dealing with any initial leakage between hose body and end fitting which sometimes occurs at the start of the test is also included.

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Rubber hoses and hose assemblies for steam — Test methods

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate health and safety practices and to ensure compliance with any national regulatory conditions.

All necessary safety devices shall be provided to ensure safe working conditions for the operators.

1 Scope

This International Standard specifies test methods in which a rubber hose test piece or hose assembly is exposed to saturated steam, thus simulating service conditions.

Four methods are specified, namely:

- method A: vertical rack method;
 - method B: horizontal rack method;
 - method C: flexing test, vertical arrangement;
 - method D: flexing test, horizontal arrangement.
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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 6134, *Rubber hoses and hose assemblies for saturated steam — Specification*

3 Method A: Vertical rack method

3.1 Principle

A length of hose or hose assembly is held in a fixed vertical position and saturated steam is passed through it.

NOTE The temperature or pressure of the steam and the time of exposure are given in ISO 6134 for each particular hose type. The relevant hose product standard will normally state which, if any, physical properties are to be used to check for hose deterioration as well as the permitted changes in these properties. Properties commonly specified are bursting strength, tensile strength, elongation at break of the lining and/or cover and adhesion between layers. Visually assessed test criteria may also be specified, for example rupture of reinforcement, cracking of cover to a specified depth and pitting or blistering of the lining. Sometimes, the time of exposure until the hose fails may be specified as the test criterion.

For hose assemblies, the check is carried out as for hoses but, in addition, it is recorded in the test report whether there is any failure or leakage at the end-fitting-to-hose interface.