

**Rubber and plastics hoses and hose assemblies -
Determination of electrical resistance and conductivity**

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 8031:2009 sisaldab Euroopa standardi EN ISO 8031:2009 ingliskeelset teksti.

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English Version

**Rubber and plastics hoses and hose assemblies - Determination
of electrical resistance and conductivity (ISO 8031:2009)**

Tuyaux et flexibles en caoutchouc et en plastique -
Détermination de la résistance et de la conductivité
électriques (ISO 8031:2009)

Gummi- und Kunststoffschläuche und Schlauchleitungen -
Bestimmung der elektrischen Eigenschaften, des
Widerstands und der Leitfähigkeit (ISO 8031:2009)

This European Standard was approved by CEN on 10 October 2009.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN ISO 8031:2009) 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of an identical text or by endorsement, at the latest by April 2010, and conflicting national standards shall be withdrawn at the latest by April 2010.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.

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Endorsement notice

The text of ISO 8031:2009 has been approved by CEN as a EN ISO 8031:2009 without any modification.

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Introduction

This edition of ISO 8031 addresses the problems encountered in field testing and during product acceptance tests in a production facility in following the test procedures specified in the previous edition (ISO 8031:1993) and a more practical approach is suggested. Also, a test procedure for determining electrical continuity between the end fittings of a hose assembly without actually measuring the resistance has been introduced. This test is frequently carried out in the field and in the factory when the product standard does not require the exact electrical resistance to be measured, but only requires verification of electric conductivity between both metal end fittings.

Special test methods to determine the electrical resistance through the hose wall (now required in some product standards for hoses used in explosive atmospheres) have been added.

Some test methods which have been standard practice in the hose industry for some time have now been included, as have several new methods to determine the ability of a hose assembly (with metal end fittings) to dissipate static electric charges when the metal end fitting is connected to earth. A total of four new explanatory sketches are included. The hose and hose assembly product standard applicable will have to specify which method is most suitable for the purpose of verification of the required property.

Annex A, an amended version of informative Annex A, "Recommended terminology and limits for electrical resistance", in ISO 8330:2007, has been included.

Rubber and plastics hoses and hose assemblies — Determination of electrical resistance and conductivity

1 Scope

This International Standard specifies electrical test methods for rubber and plastics hoses, tubing and hose assemblies to determine the resistance of conductive, antistatic and non-conductive hoses and the electrical continuity or discontinuity between metal end fittings.

NOTE All the test methods described for rubber hoses in this International Standard can also be applied to plastics hoses.

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 2878, *Rubber — Antistatic and conductive products — Determination of electrical resistance*

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

ISO 23529, *Rubber — General procedure for preparing and conditioning test pieces for physical test methods*

3 Terms and definitions

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

4 Measurement of resistance of conductive, antistatic and non-conductive hoses

4.1 General

Rubber hoses may have a conducting lining only or a conducting cover only, or may be manufactured from conducting rubber compounds throughout. A method of test is specified for each of the three possible types of construction.