

This is a preview of "ISO 8031:2009". [Click here to purchase the full version from the ANSI store.](#)

Third edition  
2009-10-15

---

---

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

*Tuyaux et flexibles en caoutchouc et en plastique — Détermination de la résistance et de la conductivité électriques*



Reference number  
ISO 8031:2009(E)

© ISO 2009

This is a preview of "ISO 8031:2009". [Click here to purchase the full version from the ANSI store.](#)

**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2009

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "ISO 8031:2009". Click here to purchase the full version from the ANSI store.

## Contents

Page

Foreword .....	iv
Introduction.....	v
<b>1 Scope .....</b>	<b>1</b>
<b>2 Normative references .....</b>	<b>1</b>
<b>3 Terms and definitions .....</b>	<b>1</b>
<b>4 Measurement of resistance of conductive, antistatic and non-conductive hoses.....</b>	<b>1</b>
4.1 General .....	1
4.2 Apparatus .....	2
4.3 Preparation and cleaning for the test.....	3
4.4 Conditioning .....	4
4.5 Procedure for hoses with conducting lining (on full hose length).....	4
4.6 Procedure for hoses with conducting cover .....	5
4.7 Procedure for hoses with conducting compounds throughout.....	6
4.8 Hose assemblies fitted with metal end fittings .....	7
4.9 Test procedure to determine the electrical resistance through the wall of hoses and hose assemblies .....	7
<b>5 Measurement of electrical continuity between metal end fittings of hose assemblies .....</b>	<b>10</b>
<b>6 Measurement of electrical discontinuity of hose assemblies .....</b>	<b>10</b>
<b>7 Measurement of electrical resistance of a hose assembly lining (conductive or static dissipating) or hose assembly cover (conductive or static dissipating) in contact with the metal end fitting .....</b>	<b>11</b>
7.1 General .....	11
7.2 Apparatus .....	11
7.3 Preparation and cleaning for the test.....	11
7.4 Conditioning .....	11
7.5 Test procedure.....	11
<b>8 Test report.....</b>	<b>13</b>
<b>Annex A (informative) Recommended terminology and limits for electrical conductivity and resistance .....</b>	<b>15</b>

## 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 8031 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 8031:1993), which has been technically revised (for details, see the Introduction).

This is a preview of "ISO 8031:2009". [Click here to purchase the full version from the ANSI store.](#)

## 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.