

This is a preview of "ISO 9705-1:2016". Click here to purchase the full version from the ANSI store.

First edition  
2016-02-15

---

---

---

## **Reaction to fire tests — Room corner test for wall and ceiling lining products —**

### **Part 1: Test method for a small room configuration**

*Essais de réaction au feu — Essai dans le coin d'une pièce pour les produits de revêtement pour murs et plafonds —*

*Partie 1: Méthode d'essai pour une configuration de petite pièce*



Reference number  
ISO 9705-1:2016(E)

This is a preview of "ISO 9705-1:2016". Click here to purchase the full version from the ANSI store.



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

This is a preview of "ISO 9705-1:2016". Click here to purchase the full version from the ANSI store.

## Contents

	Page
<b>Foreword</b>	<b>v</b>
<b>Introduction</b>	<b>vi</b>
<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 Principle</b>	<b>2</b>
<b>5 Fire test room</b>	<b>2</b>
5.1 Dimensions	2
5.2 Doorway	3
5.3 Construction material	3
<b>6 Ignition source</b>	<b>3</b>
6.1 General	3
6.2 Location	4
6.3 Gas	4
6.4 Heat output	4
<b>7 Hood and exhaust duct</b>	<b>4</b>
<b>8 Instrumentation in the exhaust duct</b>	<b>4</b>
8.1 General	4
8.2 Volume flow rate	4
8.3 Gas analysis	5
8.3.1 Sampling line	5
8.3.2 Oxygen	5
8.3.3 Carbon dioxide	5
8.4 Optical density	5
8.4.1 General	5
8.4.2 Lamp	5
8.4.3 Lenses	5
8.4.4 Aperture	5
8.4.5 Detector	5
8.4.6 Location	6
<b>9 System performance</b>	<b>6</b>
9.1 System response	6
9.1.1 Procedure	6
9.1.2 Delay times	7
9.1.3 Response times	7
9.1.4 Calculations	7
9.2 Daily Check	7
9.3 Precision	8
9.4 Methanol calibration	8
9.4.1 Frequency of calibration	8
9.4.2 Container	8
9.4.3 Methanol	8
9.4.4 Procedure for methanol calibration	8
9.4.5 Requirements for methanol calibration	9
<b>10 Preparation of test specimens</b>	<b>9</b>
10.1 Specimen configuration	9
10.2 Boards	9
10.3 Mounting	9
10.4 Substrates	9
10.5 Paints and varnishes	9

This is a preview of "ISO 9705-1:2016". Click here to purchase the full version from the ANSI store.

10.6	Conditioning	10
<b>11</b>	<b>Testing</b>	<b>10</b>
11.1	Initial conditions	10
11.1.1	Ambient temperature	10
11.1.2	Ambient wind speed	10
11.1.3	Burner	10
11.1.4	Photographs	10
11.2	Procedure	10
11.2.1	Automated recording of data	10
11.2.2	Adjustment of burner and exhaust flow	11
11.2.3	Photographs	11
11.2.4	Observations	11
11.2.5	Termination of test	11
11.2.6	Damage of tested sample	11
11.2.7	Unusual behaviour	11
11.2.8	Additional measurements	12
<b>12</b>	<b>Test report</b>	<b>12</b>
<b>Annex A (normative) Ignition source</b>		<b>14</b>
<b>Annex B (informative) Instrumentation of test room</b>		<b>17</b>
<b>Annex C (informative) Design of exhaust system</b>		<b>21</b>
<b>Annex D (informative) Instrumentation in exhaust duct</b>		<b>24</b>
<b>Annex E (normative) Calculation</b>		<b>31</b>
<b>Annex F (informative) Specimen configurations</b>		<b>39</b>
<b>Annex G (informative) Precision</b>		<b>40</b>
<b>Annex H (informative) Laser smoke photometer</b>		<b>41</b>
<b>Bibliography</b>		<b>42</b>

This is a preview of "ISO 9705-1:2016". Click here to purchase the full version from the ANSI store.

## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT), see the following URL: [Foreword — Supplementary information](#).

The committee responsible for this document is ISO/TC 92, *Fire safety*, Subcommittee SC 1, *Fire initiation and growth*.

This first edition of ISO 9705-1 cancels and replaces ISO 9705:1993, which has been technically revised. It also incorporates the Corrigendum ISO 9705:1993/Cor 1:1993.

ISO 9705 consists of the following parts, under the general title *Reaction to fire tests — Room corner test for wall and ceiling lining products*:

- *Part 1: Test method for a small room configuration*
- *Part 2: Technical background and guidance [Technical Report]*

This is a preview of "ISO 9705-1:2016". Click here to purchase the full version from the ANSI store.

## **Introduction**

This part of ISO 9705 is intended to describe the fire behaviour of a product under controlled laboratory conditions.

The test method may be used as part of a fire hazard assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use.