INTERNATIONAL STANDARD

ISO 8030

Second edition
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Rubber and plastics hoses — Method of test for flammability

Tuyaux en caoutchouc et en plastique — Méthode d'essai d'inflammabilité

Reference number
ISO 8030:1995(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.

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.

International Standard ISO 8030 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 1, *Hoses (rubber and plastics)*.

This second edition cancels and replaces the first edition (ISO 8030:1987), which has been technically revised (the standard is no longer limited to hoses for underground mining; it has been restricted, however, to hoses of sizes up to and including 50 mm bore).

International Organization for Standardization
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Rubber and plastics hoses — Method of test for flammability

1 Scope

This International Standard specifies a method for assessing the flammability of hoses, except for hoses intended for use with petroleum fuels for combustion engines. The method is restricted to hoses of sizes up to and including nominal bore 50.

NOTES

1 The reader is referred to the applicable hose specification for flame/afterglow requirements.

2 The method of test for flammability of hoses for use with petroleum fuels is given in ISO 13774:—[1], *Rubber and plastics hoses for fuel — Method of test for flammability*.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 340:1988, *Conveyor belts — Flame retardation — Specifications and test method.*

ISO 471:1995, *Rubber — Temperatures, humidities and times for conditioning and testing.*

3 General

The test specified in this International Standard is a small-scale laboratory test and it is therefore important to note that the results obtained can only be indicative and do not allow the prediction of behaviour in a fire. It is above all a screening or quality control test and has been used for many years to assess the suitability of hoses for underground use in particular.

Attention is drawn to the need for ensuring that the test specified in this International Standard is carried out under suitable environmental conditions and that personnel are adequately protected against risk of fire, and inhalation of smoke and/or toxic products of combustion.

4 Apparatus

4.1 Draught-free cabinet, with a dark interior, a hole at the top for the escape of fumes, a hand-hole and flap for handling the burner and a sliding door with a viewing panel of suitable transparent material. The arrangement and approximate dimensions of the cabinet are shown in figure 1.

4.2 Spirit burner, constructed and checked in accordance with the annex to ISO 340.

4.3 Stand, for supporting the test piece in a horizontal position above the burner (see figure 2).

4.4 Stop-watch or **stop-clock**.

1) To be published.

5 Test piece

The test piece shall be a 300 mm long sample of hose. Six test pieces shall be tested.

6 Conditioning of test piece

No test shall be carried out within 24 h of manufacture of the hose. Test pieces shall be conditioned at standard temperature and humidity (see ISO 471) for at least 3 h before testing. This may be part of the 24 h period after manufacture.

7 Procedure

In subdued lighting, adjust the burner as specified in ISO 340 with the burner standing vertically. The base of the burner shall be at an angle of 45° to the horizontal during the test. The top of the burner shall be 50 mm ± 2 mm from the test piece and the flame shall impinge on the test piece at an angle of 90° to the longitudinal axis and at the mid-point of the test piece.

Allow the flame to impinge on the test piece for 60 s ± 1 s and then withdraw the burner. Record the duration of the persistance of flame and afterglow following withdrawal of the burner for each of the six test pieces and calculate the average duration.

8 Test report

The test report shall include the following information:

a) the statement:

> "The test results relate only to the behaviour of the test pieces under the particular conditions of test; they shall not be used as a means of assessing the potential fire hazard of the hose in use."

b) the nominal bore of the hose;

c) the date of manufacture and batch number or reference, if known;

d) the method of manufacture and details of reinforcement;

e) a reference to this International Standard;

f) the mean duration of flame and afterglow, the presence of burning droplets, if any, and the individual results from the six test pieces;

g) any tendency for the material to burn freely or to drip or for the flame to propagate after the withdrawal of the burner.

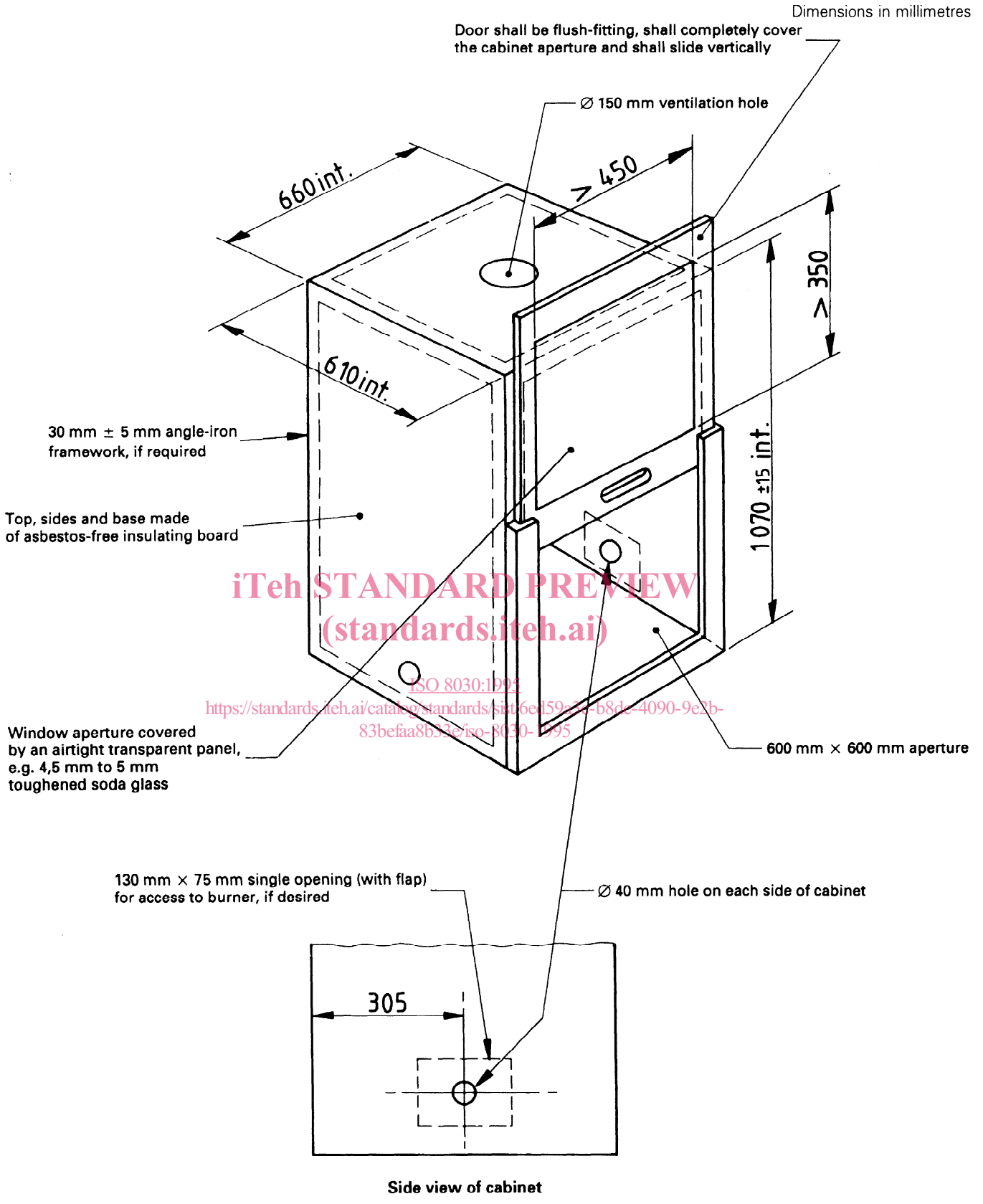

Figure 1 — Cabinet for flammability test

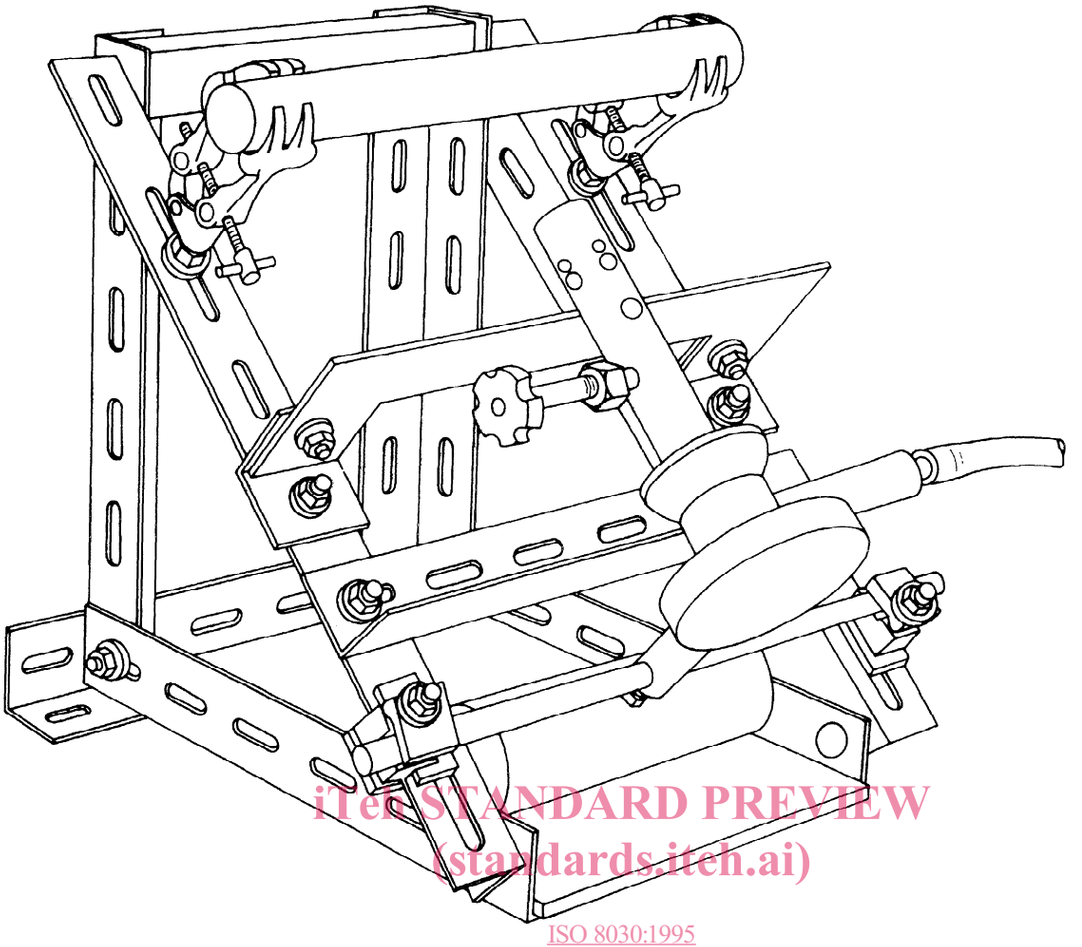

Figure 2 — Arrangement for flammability test

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