



SLOVENSKI STANDARD

SIST ISO 3795:1999

01-december-1999

Cestna vozila, traktorji ter kmetijski in gozdarski stroji - Ugotavljanje obnašanja notranjih oblog v požaru

Road vehicles, and tractors and machinery for agriculture and forestry -- Determination of burning behaviour of interior materials

iTeh STANDARD PREVIEW

Véhicules routiers et tracteurs et matériels agricoles et forestiers -- Détermination des caractéristiques de combustion des matériaux intérieurs

[SIST ISO 3795:1999](https://standards.iteh.ai/catalog/standards/sist/f7d24ae3-1c99-4f5a-a88f-094ac91e2d71/sist-iso-3795-1999)

Ta slovenski standard je istoveten z: **ISO 3795:1989**

ICS:

13.220.40	Sposobnost vžiga in obnašanje materialov in proizvodov pri gorenju	Ignitability and burning behaviour of materials and products
43.020	Cestna vozila na splošno	Road vehicles in general
65.060.01	Kmetijski stroji in oprema na splošno	Agricultural machines and equipment in general

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en

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INTERNATIONAL STANDARD

**ISO
3795**

Second edition
1989-10-15

Road vehicles, and tractors and machinery for agriculture and forestry — Determination of burning behaviour of interior materials

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*Véhicules routiers et tracteurs et matériels agricoles et forestiers — Détermination
des caractéristiques de combustion des matériaux intérieurs*

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Reference number
ISO 3795 : 1989 (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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3795 was prepared jointly by Technical Committees ISO/TC 22, *Road vehicles*, and ISO/TC 23, *Tractors and machinery for agriculture and forestry*.

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This second edition cancels and replaces the first edition (ISO 3795 : 1976), the scope of which has been extended to include tractors and machinery for agriculture and forestry.

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Introduction

Evaluation of burning behaviour of interior materials is based on the assumption that a fire in the passenger compartment is unlikely to occur when the burning rate of the interior material under the action of a small flame is zero or very small.

In the framework of international regulations for motor vehicle safety prepared by the competent groups of the Economic Commission for Europe (ECE/UNO), ISO had been requested to develop a method for the determination of the burning behaviour of interior materials in motor vehicles. Extensive information on existing test methods was collected and evaluated. In view of safety standards which are already mandatory, considerations were based primarily on the test procedure defined in US-FMVSS 302.

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Considerable attention was devoted to the problem of ventilation of the combustion chamber. Two series of comparative tests were conducted to investigate different design variations.

After extended discussions, it was decided to incorporate the combustion chamber described in this International Standard.

Furthermore, it was decided to require the presence of supporting wires as part of the standard equipment in order to avoid subjective interpretations of sample behaviour by the test personnel.

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Road vehicles, and tractors and machinery for agriculture and forestry — Determination of burning behaviour of interior materials

1 Scope

This International Standard specifies a method for determining the horizontal burning rate of materials used in the occupant compartment of road vehicles (for example, passenger cars, lorries/trucks, estate cars, coaches), and of tractors and machinery for agriculture and forestry, after exposure to a small flame.

This method permits testing of materials and parts of the vehicle interior equipment individually or in combination up to a thickness of 13 mm. It is used to judge the uniformity of production lots of such materials with respect to their burning behaviour.

Because of the many differences between the real world situation (application and orientation within vehicle interior, conditions of use, ignition source, etc.) and the precise test conditions specified in this International Standard, this method cannot be considered as suitable for evaluation of all true in-vehicle burning characteristics.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was 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 edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2768-1: 1989, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications*.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 burning rate: Quotient of the burnt distance measured according to this International Standard and the time taken to burn this distance.

It is expressed in millimetres per minute.

3.2 composite material: Material composed of several layers of similar or different materials intimately held together at their surfaces by cementing, bonding, cladding, welding, etc.

When different materials are connected together intermittently (for example, by sewing, high-frequency welding, riveting), then in order to permit the preparation of individual samples in accordance with clause 6, such materials will not be considered as composite materials.

3.3 exposed side: Side which faces towards the occupant compartment when the material is mounted in the vehicle.

4 Principle

A sample is held horizontally in a U-shaped holder and is exposed to the action of a defined low-energy flame for 15 s in a combustion chamber, the flame acting on the free end of the sample. The test determines if and when the flame extinguishes or the time in which the flame passes a measured distance.

5 Apparatus

5.1 Combustion chamber (see figure 1), preferably of stainless steel and having the dimensions given in figure 2. The front of the chamber contains a flame-resistant observation window, which may cover the front and which can be constructed as an access panel.

The bottom of the chamber has vent holes, and the top has a vent slot all around. The combustion chamber is placed on four feet, 10 mm high.

The chamber may have a hole at one end for the introduction of the sample holder containing the sample; in the opposite end, a hole is provided for the gas line. Melted material is caught in a pan (see figure 3) which is placed on the bottom of the chamber between vent holes without covering any vent hole area.

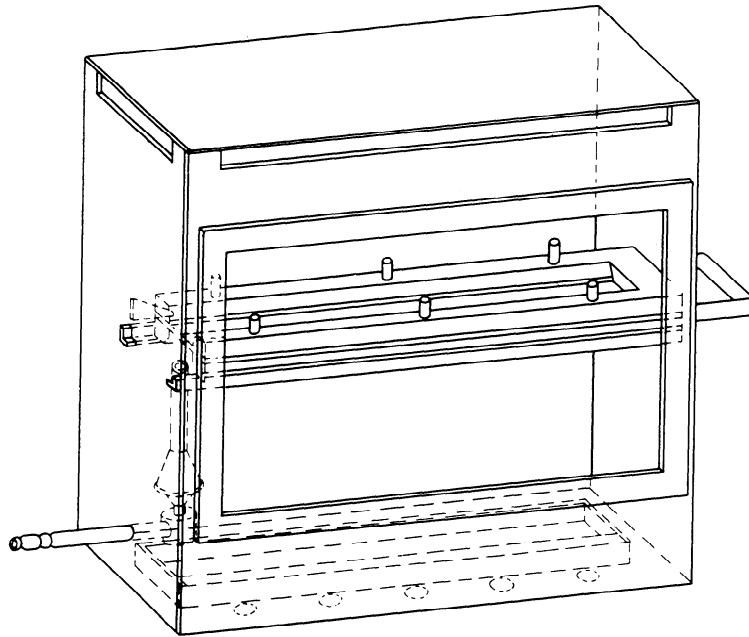


Figure 1 – Example of combustion chamber with sample holder and drip pan

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Dimensions in millimetres
Tolerances according to ISO 2768-1

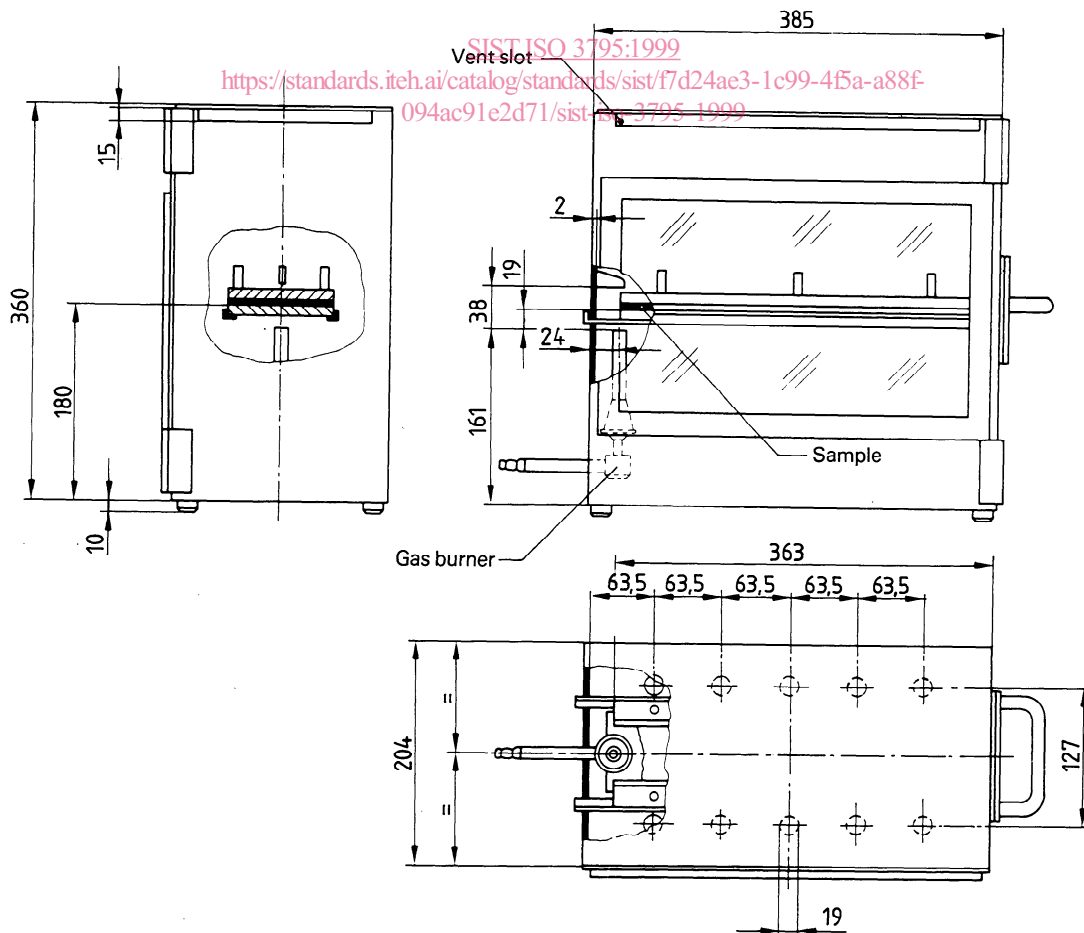


Figure 2 – Example of combustion chamber

Dimensions in millimetres
Tolerances according to ISO 2768-1

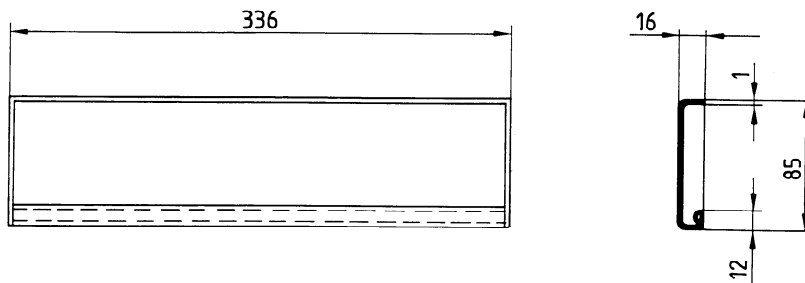


Figure 3 — Typical drip pan

5.2 Sample holder, consisting of two U-shaped metal plates or frames of corrosion-proof material. Dimensions are given in figure 4.

The lower plate is equipped with pins, the upper one with corresponding holes in order to ensure consistent holding of the sample. The pins also serve as the measuring points at the beginning and end of the burning distance.

A support shall be provided in the form of 0,25 mm diameter heat-resistant wires spanning the frame at 25 mm intervals over the bottom U-shaped frame (see figure 5).

The plane of the lower side of samples shall be 178 mm above the floor plate. The distance of the front edge of the sample

holder from the end of the chamber shall be 22 mm; the distance of the longitudinal sides of the sample holder from the sides of the chamber shall be 50 mm (all inside dimensions). (See figures 1 and 2.)

5.3 Gas burner. The small ignition source is provided by a Bunsen burner having an inside diameter of 9,5 mm. It is located in the test cabinet so that the centre of its nozzle is 19 mm below the centre of the bottom edge of the open end of the sample (see figure 2).

5.4 Test gas. The gas supplied to the burner shall have a calorific value of approximately 38 MJ/m³ (for example natural gas).

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Dimensions in millimetres
Tolerances according to ISO 2768-1 if not otherwise indicated

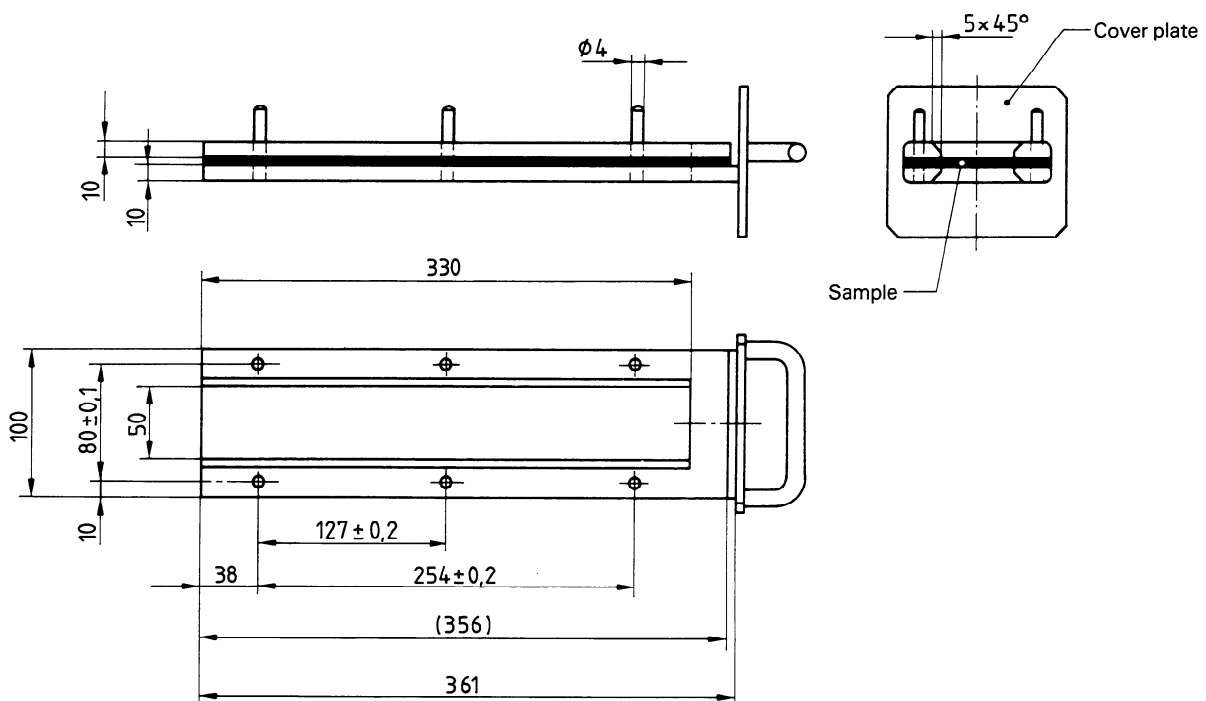


Figure 4 — Example of sample holder