
**Pohištvo - Ugotavljanje vžigljivosti oblazinjenega pohištva - 2. del: Vir vžiga:
enakovreden plamenu vžigalice**

**Furniture - Assessment of the ignitability of upholstered furniture - Part 2: Ignition
source match flame equivalent**

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March 2004

ICS

Will supersede EN 1021-2:1993

English version

**Furniture - Assessment of the ignitability of upholstered furniture
- Part 2: Ignition source match flame equivalent**

Ameublement - Evaluation de l'allumabilité des meubles
rembourrés - Partie 2: Source d'allumage flamme
équivalente à une allumette

Möbel - Bewertung der Entzündbarkeit von Polstermöbeln -
Teil 2: Eine einem Streichholz vergleichbare Gasflamme
als Zündquelle

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 207.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (prEN 1021-2:2004) has been prepared by Technical Committee CEN/TC 207 "Furniture", the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1021-2:1993.

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Introduction

This European Standard is one of a series of standards concerned with the ignitability of upholstered furniture using various ignition sources. The ignition source used in this European Standard is a gas flame equivalent to a match flame.

1 Scope

This European Standard lays down a test method to assess the ignitability of material combinations, such as covers and fillings used in upholstered seating, when subjected to a small flame as an ignition source.

The test measures only the ignitability of a combination of materials used in upholstered seating and not the ignitability of a particular finished item of furniture incorporating these materials. They give an indication of, but cannot guarantee, the ignition behaviour of the finished item of furniture.

2 Terms and definitions

For the purposes of this European Standard the following terms and definitions apply.

2.1

progressive smouldering

exothermic oxidation, not accompanied by flaming, that is self-propagating, i.e. independent of the ignition source. It may or may not be accompanied by incandescence

2.2

flaming

undergoing combustion in the gaseous phase with the emission of light

2.3 Cover

2.3.1

outer cover

the outer layer of the upholstery composite

2.3.2

inner cover

a thin layer of material used between the outer cover and the upholstery filling and includes scrim fabrics, slip fabrics etc. Any inner cover greater than nominally 2 mm thick shall be considered to be part of the filling for test purposes

NOTE The term "interliner" is no longer used because it is non-specific and has been applied to different components within the composite.

2.4

filling

it comprises the main upholstery material together with all top pads, barrier foams, fleeces etc. which are applied to the main upholstery and are contained by the outer cover and inner cover (if used)

3 Criteria of ignition

3.1 Progressive smouldering ignition

For the purposes of European Standard, all the following types of behaviour are considered to be progressive smouldering ignitions:

- a) any test assembly that displays escalating combustion behaviour so that it is unsafe to continue and test and active extinction is necessary;
- b) any test assembly that smoulders until it is essentially consumed within the test duration;
- c) any test assembly that smoulders to the extremities of the specimen, viz. upper or lower margins, either side or to its full thickness, within the duration of the test;
- d) any test assembly that smoulders for more than one hour;
- e) any test assembly that, on final examination shows evidence of charring other than discoloration, for more than 50 mm in any direction apart from upwards from the original position of the end of the burner tube.

NOTE In practice it has been found that there is usually a clear distinction between materials which may char under the influence of the ignition source but which do not propagate further (non-progressive combustion) and those where smouldering develops in extent and spreads (progressive combustion).

3.2 Flaming ignition

For the purposes of this European Standard, all the following types of behaviour are considered to be flaming ignitions:

- a) any test assembly that displays escalating combustion behaviour so that it is unsafe to continue the test and active extinction is necessary;
- b) any test assembly that burns until it is essentially consumed within the test duration;
- c) any test assembly on which any flame front reaches the lower margin, either side or passes through its full thickness within the duration of the test;
- d) any flaming which continues for more than 120 s after removal of the burner tube.

4 Principle

To subject an assembly of upholstery materials to a gas flame ignition source. The assembly is arranged to represent in stylised form a junction between a seat and back (or seat and arm) such as might occur in a typical chair. The ignitability of an assembly is determined by applying smoker's materials such as a gas flame equivalent to a burning match. The test method measures the ignitability of the overall composite of materials, i.e. outer cover, inner cover, filling, etc., as constructed on the test rig. The results shall not be stated as being applicable to the general behaviour of any individual component (see also Annex A).

5 Health and safety of operators

5.1 General

The test method specified in this European Standard presents a considerable hazard; suitable precautions shall be taken.

5.2 Enclosure

For safety, the test should be conducted in a non-combustible fume cupboard. If such a cupboard is not available, a test enclosure should be constructed (see 6.2) so that the operator is protected from the fumes.

5.3 Extinguishers

Adequate means of extinguishing the assembly should be provided, bearing in mind that some combinations may produce severe flaming during the test. A hand and/or fixed water spray which can be directed over the burning area can be useful. Other means such as suitable fire extinguishers, fire blankets and a bucket of water will assist.

In some cases smouldering may be difficult to extinguish completely and complete immersion in water may be necessary.

6 Apparatus

6.1 Test rig

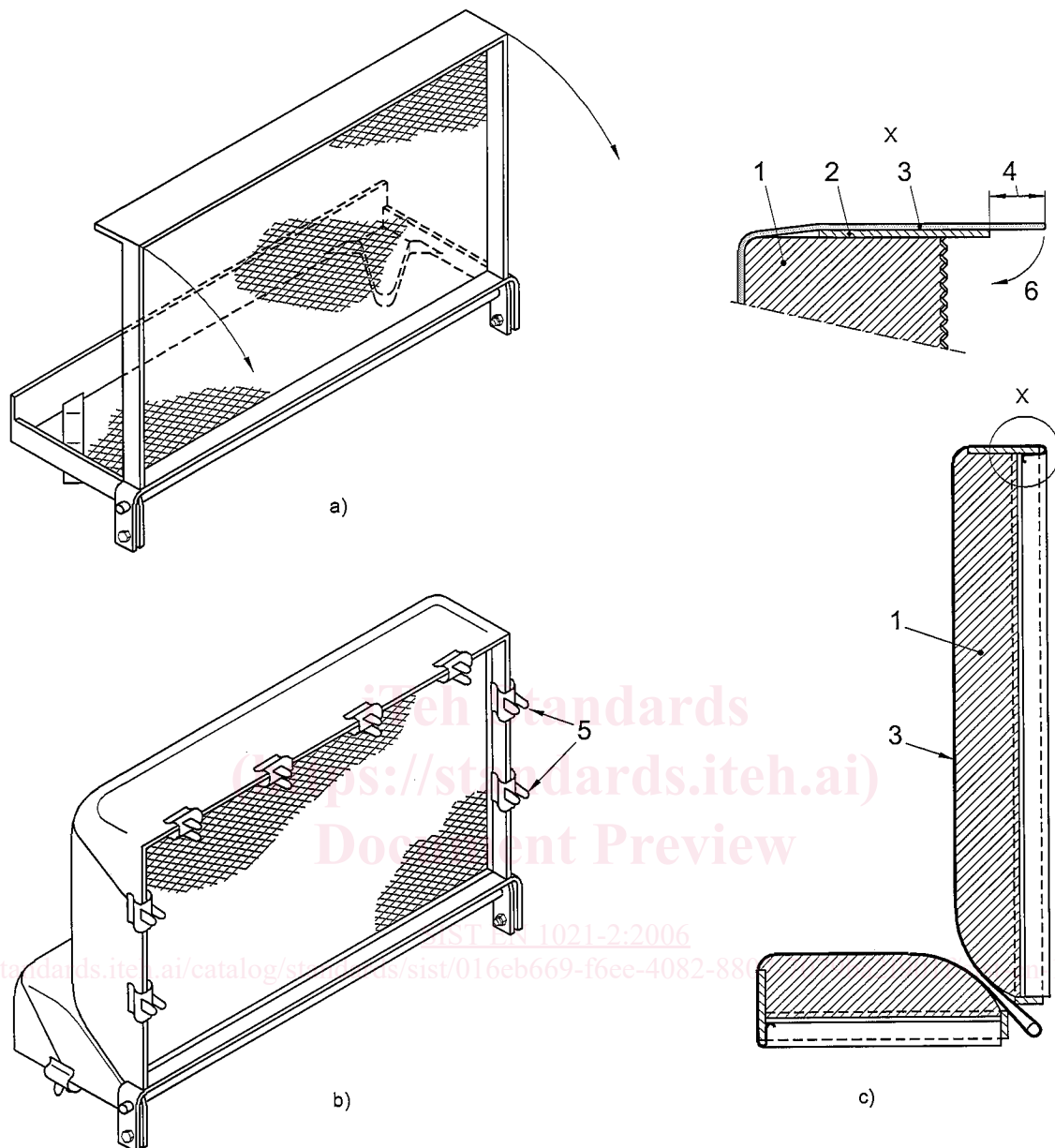
A suitable test rig is illustrated in Figures 1 and 2. It shall consist of two rectangular frames hinged together and capable of being locked at right angles to each other.

The sides and hinge edges of the frames shall be made from nominal (25x3)mm flat steel bar and shall securely hold mesh steel platforms set (6 ± 1) mm below the top edge of the frames (mesh size should be such that an open mesh area of approximately 15 mm^2 to 150 mm^2 exists).

The upper edge of the vertical frame and the front edge of the horizontal frame shall be steel end plates (450x65x3)mm to prevent the test filling moving during the assembly of the test specimen (see Figures 1 and 2).

The internal width and height of the back frame shall be (450 ± 2) mm x (300 ± 2) mm and the width and depth of the base frame (450 ± 2) mm x (150 ± 2) mm. A standard edging section may be used around the mesh steel platform to give protection and greater rigidity.

The sides of the frame shall extend beyond the back of each frame to provide for the hinge holes and to form the back legs. The hinge rod shall be of nominal 10 mm diameter steel, continuous across the back of the rig and its axis $(22,5 \pm 0,5)$ mm beyond the back member of each frame.

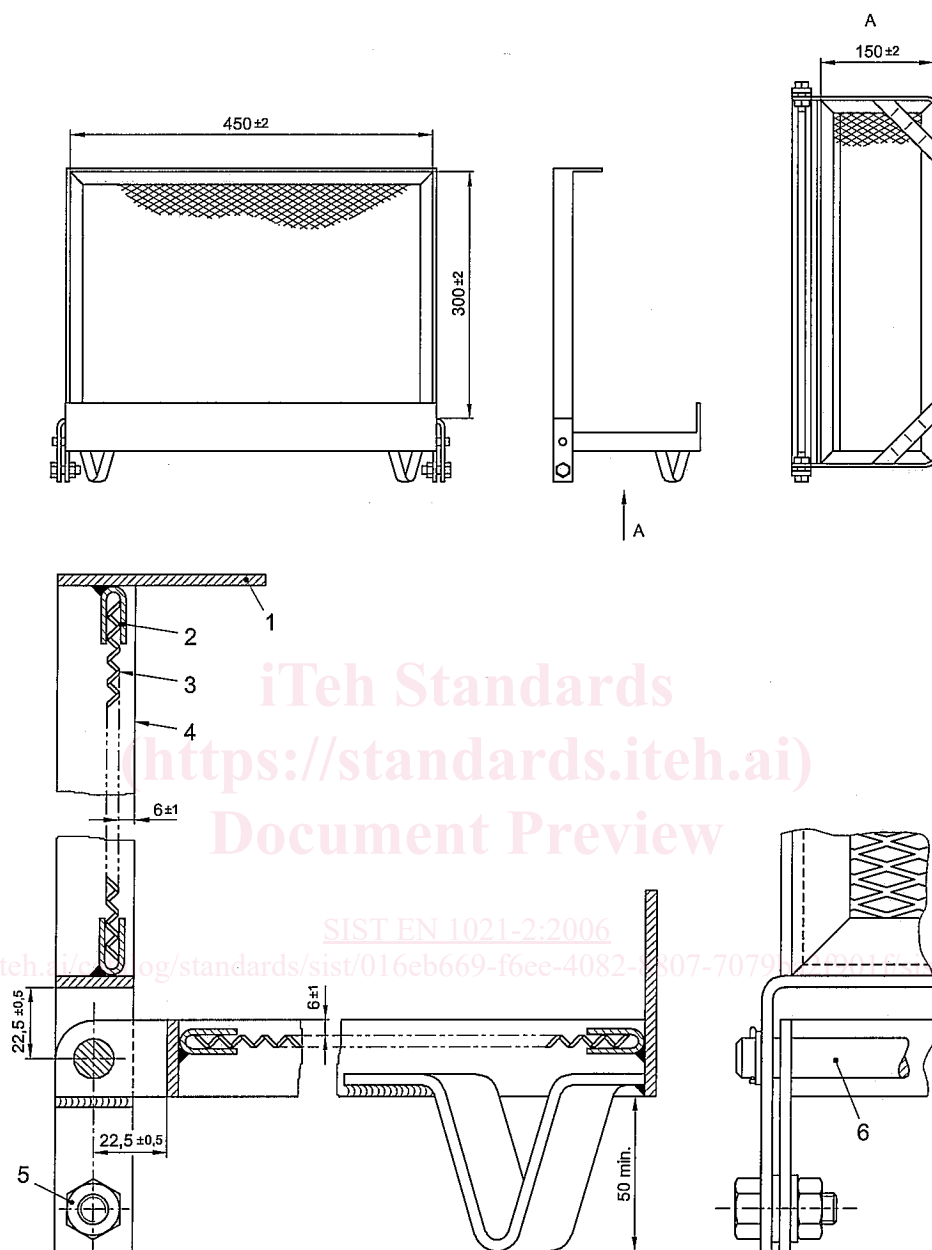


Key

- a) Test rig
- b) Test rig with cover and fillings
- c) Vertical section
- X Detail of fitting cover to frame
- 1 Filling
- 2 End plate of frame
- 3 Cover
- 4 Overlap 20 mm
- 5 Clips
- 6 Fold cover overlap under frame to touch the steel mesh supporting the filling and fasten with clips as below

Figure 1 – Test rig assembly

Dimensions in millimetres



NOTE 1 Unless tolerances are indicated, dimensions are nominal

NOTE 2 All parts are made of steel

Key

- 1 End plate of frame (65x3) mm
- 2 Edging section
- 3 Expanded metal mesh size (28x6) mm (see 6.1)
- 4 Side member of frame (25x3) mm
- 5 M10 bolt, nut and washers
- 6 $\varnothing 10$ Hinge rod

Figure 2 – Test rig detail