SLOVENSKI STANDARD
oSIST prEN 1021-1:2013

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Pohištvo - Ocenjevanje vžigljivosti oblazinjenega pohištva - 1. del: Vir vžiga: tleča cigareta

Furniture - Assessment of the ignitability of upholstered furniture - Part 1: Ignition source smouldering cigarette

Möbel - Bewertung der Entzündbarkeit von Polstermöbeln - Teil 1: Glimmende Zigarette als Zündquelle

Ameublement - Évaluation de l'allumabilité des meubles rembourrés - Partie 1: Source d'allumage : cigarette en combustion

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97.140	Pohištvo	Furniture

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English Version

Furniture - Assessment of the ignitability of upholstered furniture - Part 1: Ignition source smouldering cigarette

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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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Foreword

This document (prEN 1021-1:2012) 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 1021-1:2006.

Introduction

This European Standard is one of a series of standards concerned with the ignitability of upholstered furniture using different ignition sources. The ignition source used in this European Standard is a smouldering cigarette.

1 Scope

This European Standard specifies a test method to assess the ignitability of material combinations, such as covers and fillings used in upholstered seating, when subjected to a smouldering cigarette 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.

The standard contains four annexes:

Annex A (informative) Guidance notes for designers and specifiers

Annex B (informative) Model report form

Annex C (informative) Cleaning of a rig

Annex D (normative) Water soaking procedure

2 Terms and definitions

For the purposes of this document, 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
outer cover
outer layer of the upholstery

2.4
inner cover
thin layer of material used between the outer cover and the upholstery filling. Any inner cover greater than nominally 2 mm thick is part of the filling for test purposes

NOTE 1 to entry The term “interliner” is no longer used because it is non-specific and has been applied to different components within the composite.

2.5
filling
main upholstery material contained by the outer cover and (if used) the inner cover. It may consist of several different materials including any inner cover nominally greater than 2 mm thick

3 Criteria of ignition

3.1 Progressive smouldering ignition

For the purposes of this 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 the test and active extinction is necessary;

b) any test assembly that smoulders until it is largely 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 after one hour from the application of the ignition source;

e) any test assembly that, on final examination (see 9.3), shows evidence of progressive smouldering.

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, a flaming ignition is considered to be the occurrence of any flames initiated by a smouldering source.

4 Principle

To subject an assembly of upholstery materials to a smouldering 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 a smouldering ignition source such as a cigarette. 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).

NOTE Test specimens prepared from materials taken from furniture that has been used may give different results to the same materials before use.

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

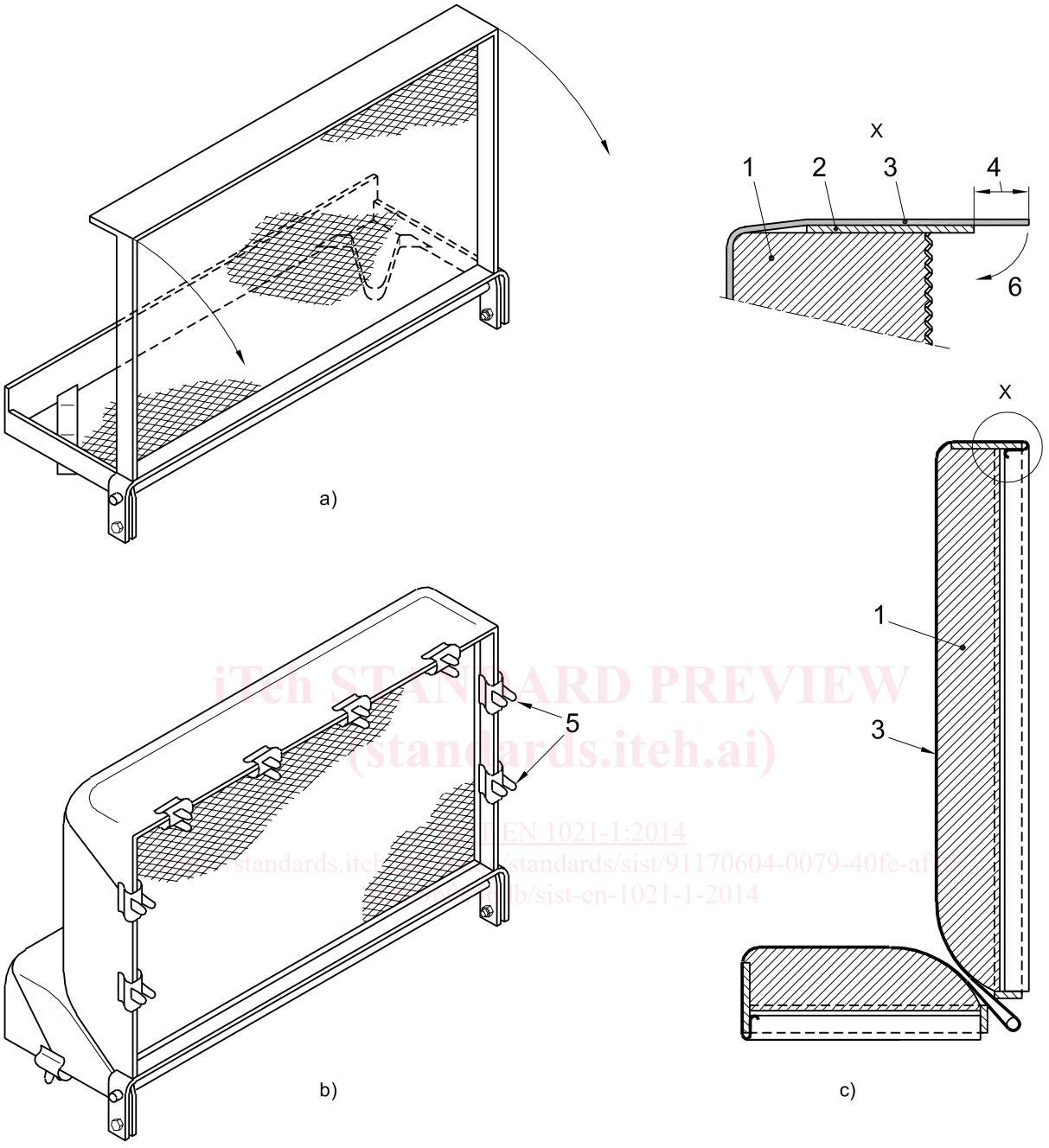
Adequate means of extinguishing the assembly should be provided bearing in mind that some combinations may produce severe flaming during the test. A hand and/or fixed water spray which can be directed over the burning area can be useful. Other means such as suitable fire extinguishers, fire blankets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

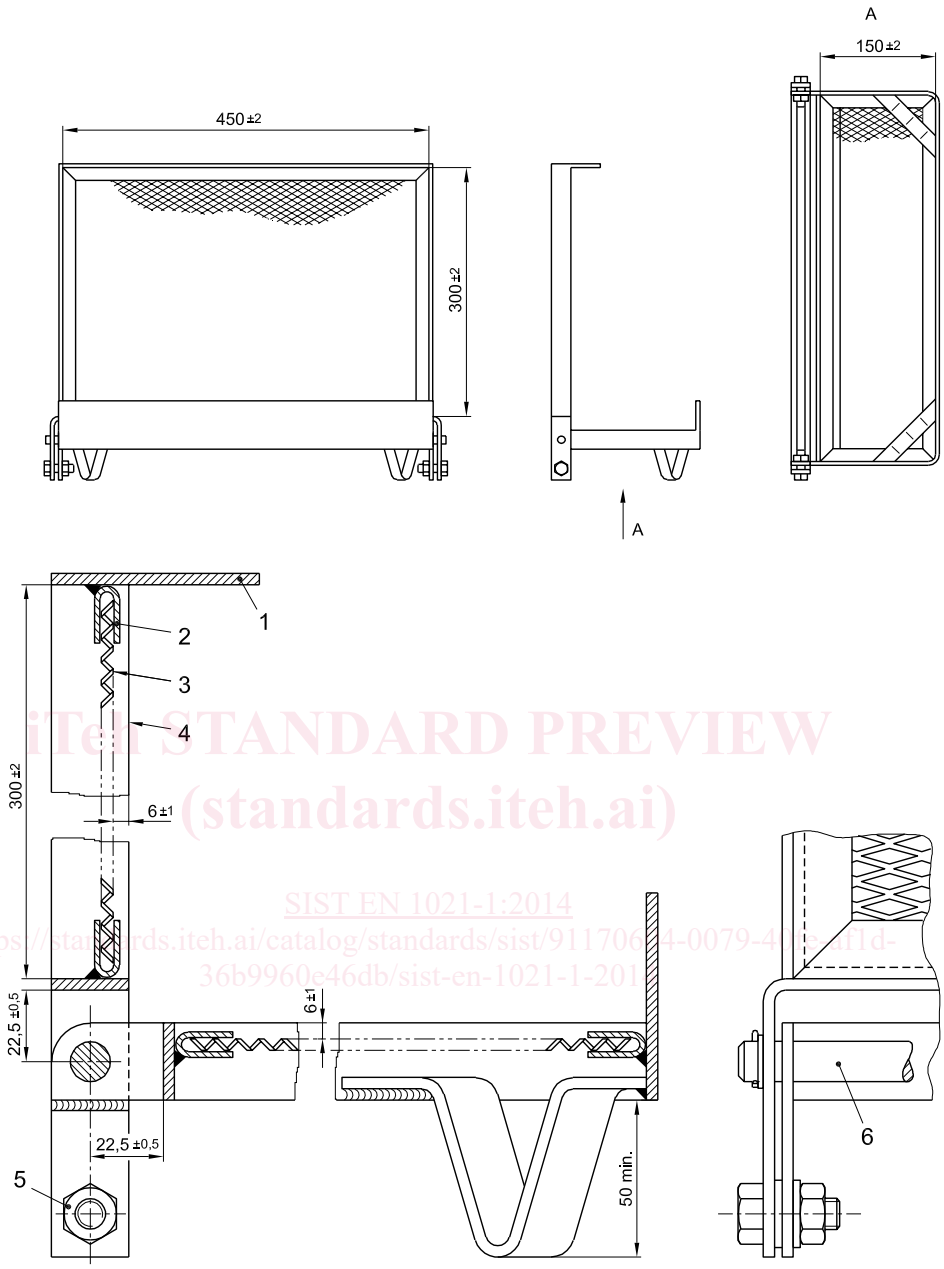


Key

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 65 mm x 3 mm
2 edging section
3 expanded metal mesh size 28 mm x 6 mm (see 6.1)
4 side member of frame 25 mm x 3 mm
5 M10 bolt, nut and washers
6 Ø 10 hinge rod

Figure 2 — Test rig detail