



**SLOVENSKI STANDARD**  
**SIST EN ISO 13894-1:2015**  
**01-junij-2015**

---

**Dekoratívni visokotlačni laminati - Kompozitni elementi - 1. del: Preskusne metode (ISO 13894-1:2000)**

High-pressure decorative laminates - Composite elements - Part 1: Test methods (ISO 13894-1:2000)

Dekorative Hochdruck-Laminat - Verbundelemente - Teil 1: Prüfverfahren (ISO 13894-1:2000)

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

Stratifiés décoratifs haute pression - Éléments composites - Partie 1: Méthodes d'essai (ISO 13894-1:2000)

[SIST EN ISO 13894-1:2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

[https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

[088619fb8ca7/sist-en-iso-13894-1-2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

**Ta slovenski standard je istoveten z: EN ISO 13894-1:2015**

---

**ICS:**

83.140.20      Laminatne plošče      Laminated sheets

**SIST EN ISO 13894-1:2015**      **en,de**

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 13894-1:2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015>

EUROPEAN STANDARD

EN ISO 13894-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2015

ICS 83.140.20; 97.150

English Version

## High-pressure decorative laminates - Composite elements - Part 1: Test methods (ISO 13894-1:2000)

Stratifiés décoratifs haute pression - Éléments composites -  
Partie 1: Méthodes d'essai (ISO 13894-1:2000)

Dekorative Hochdruck-Laminat - Verbundelemente - Teil  
1: Prüfverfahren (ISO 13894-1:2000)

This European Standard was approved by CEN on 7 April 2015.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

[SIST EN ISO 13894-1:2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015>



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

**Contents**

Page

Foreword.....3

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 13894-1:2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015>

## Foreword

The text of ISO 13894-1:2000 has been prepared by Technical Committee ISO/TC 61 "Plastics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 13894-1:2015 by Technical Committee CEN/TC 249 "Plastics" the secretariat of which is held by NBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2015, and conflicting national standards shall be withdrawn at the latest by October 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**Endorsement notice**  
**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

The text of ISO 13894-1:2000 has been approved by CEN as EN ISO 13894-1:2015 without any modification.

[SIST EN ISO 13894-1:2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)  
<https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 13894-1:2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015>

INTERNATIONAL  
STANDARD

ISO  
13894-1

First edition  
2000-03-15

---

---

**High-pressure decorative laminates —  
Composite elements —**

Part 1:  
**Test methods**

*Stratifiés décoratifs haute pression — Éléments composites —*

*Partie 1: Méthodes d'essai*

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 13894-1:2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015>



Reference number  
ISO 13894-1:2000(E)

© ISO 2000

**ISO 13894-1:2000(E)****PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 13894-1:2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

<https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015>

© ISO 2000

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 734 10 79  
E-mail [copyright@iso.ch](mailto:copyright@iso.ch)  
Web [www.iso.ch](http://www.iso.ch)

Printed in Switzerland



## Contents

Page

Foreword.....	iv
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	1
4 Conditioning.....	2
5 Appearance .....	2
6 Dimensions.....	2
7 Flatness .....	6
8 Glue-line quality .....	8
9 Surface bond strength .....	9
10 Perpendicular tensile strength.....	12
11 Resistance to elevated temperature (short-term exposure) .....	15
12 Resistance to elevated temperature (long-term exposure).....	15
13 Resistance to water vapour .....	16
14 Substrate protection against water vapour .....	18
15 Resistance to axial withdrawal of wood screws (screw-holding).....	19
16 Determination of continuous load capability of shelving .....	22
17 Surface impact resistance (large-diameter ball).....	24
18 Surface impact resistance (small-diameter ball).....	24
19 Water resistance (edge swell) .....	25

## ISO 13894-1:2000(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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this part of ISO 13894 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 13894-1 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 11, *Products*.

ISO 13894 consists of the following parts, under the general title *High-pressure decorative laminates — Composite elements*:

— *Part 1: Test methods*

— *Part 2: Specification of wood-based HPDL elements*

ITIH STANDARD PREVIEW  
(standards.iteh.ai)  
SIST EN ISO 13894-1:2015  
<https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015>

# High-pressure decorative laminates — Composite elements —

## Part 1: Test methods

### 1 Scope

This part of ISO 13894 specifies the methods of test for determination of the properties of composite elements surfaced, and possibly edged, with high-pressure decorative laminate (HPDL) as defined in clause 3.

### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 13894. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 13894 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid part of ISO 13894.

ISO 1478:1999, *Tapping screw thread*. [SIST EN ISO 13894-1:2015  
https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015](https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015)

ISO 4586-1:1997, *High-pressure decorative laminates — Sheets made from thermosetting resins — Part 1: Classification and specifications*.

ISO 4586-2:1997, *High-pressure decorative laminates — Sheets made from thermosetting resins — Part 2: Determination of properties*.

ISO 7170:1993, *Furniture — Storage units — Determination of strength and durability*.

### 3 Terms and definitions

For the purposes of this part of ISO 13894, the following terms and definitions apply.

#### 3.1

##### **composite element surfaced with high-pressure decorative laminate**

a composite board produced by adhesively bonding high-pressure decorative laminate (HPDL) sheet material to one or both sides of a substrate

NOTE 1 The substrate may be a wood-based product (e.g. particle board), mineral board (e.g. calcium silicate), metal sheet, expanded honeycomb or a plastic material.

NOTE 2 Examples of adhesives are PVAc, urea formaldehyde and polychloroprene.

NOTE 3 Certain tests contained in this part of ISO 13894 are not applicable to all types of composite element.

## ISO 13894-1:2000(E)

### 3.2

#### high-pressure decorative laminate(s)

#### HPDL, HPL

See definition 3.1 in ISO 4586-1:1997.

## 4 Conditioning

Composite elements shall be pre-conditioned for a minimum period of 7 days at  $20\text{ °C} \pm 5\text{ °C}$  and  $(45 \pm 20)\%$  relative humidity before testing, or other conditions of temperature and humidity if agreed between supplier and purchaser.

## 5 Appearance

### 5.1 Principle

The HPDL elements are inspected for appearance under standardized conditions of lighting and viewing.

### 5.2 Procedure

Inspect the element from a distance of 1,5 m in accordance with test method 5.1 of ISO 4586-2:1997.

### 5.3 Expression of results iTeh STANDARD PREVIEW

Report HPDL defects, as defined in 5.1 of ISO 4586-2:1997, plus fabrication defects such as surface ripple, bumps, cracks, indentations and adhesive smears.

### 5.4 Test report

<https://standards.iteh.ai/catalog/standards/sist/d253b0ae-7c69-457a-8098-088619fb8ca7/sist-en-iso-13894-1-2015>

The test report shall include the following information:

- a) a reference to this part of ISO 13894;
- b) the name and type of product;
- c) any defects observed;
- d) any deviations from the specified test method;
- e) the date of the test.

## 6 Dimensions

### 6.1 Determination of length and width

#### 6.1.1 Principle

The length and width of the element are measured using a steel tape or rule.

#### 6.1.2 Apparatus

**6.1.2.1 Steel tape or rule**, of sufficient length to measure the greatest dimension of the element, and graduated to allow a reading accuracy of 0,5 mm. For cut-to-size elements requiring more precise dimensional tolerances, suitable high-precision measuring equipment shall be used.