SLOVENSKI STANDARD
SIST EN 205:2003

01-julij-2003

Nadomešča:
SIST EN 205:1998

Lepila - Lepila za les za nekonstrukcijsko uporabo - Ugotavljanje natezno strižne trdnosti spojev s preklopom

Adhesives - Wood adhesives for non-structural applications - Determination of tensile shear strength of lap joints

Klebstoffe - Holzklebstoffe für nicht tragende Anwendungen - Bestimmung der Klebfestigkeit von Längsklebungen im Zugversuch

Adhésifs - Adhésifs pour bois a usages non structuraux - Détermination de la résistance a la rupture des joints a recouvrement par l'essai de cisaillement en traction

Ta slovenski standard je istoveten z: EN 205:2003

ICS:

83.180	Lepila	Adhesives

SIST EN 205:2003 en

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 205

March 2003

ICS 83.180

Supersedes EN 205:1991

English version

Adhesives - Wood adhesives for non-structural applications - Determination of tensile shear strength of lap joints .

Adhésifs - Colles pour bois à usages non structuraux - Détermination du pouvoir adhésif des collages longitudinaux par l'essai de cisaillement

Klebstoffe - Holzklebstoffe für nichttragende Anwendungen - Bestimmung der Klebfestigkeit von Längsklebungen im Zugversuch

This European Standard was approved by CEN on 21 November 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

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

Ref. No. EN 205:2003 E

Contents

Foreword

This document (EN 205:2003) has been prepared by Technical Committee CEN/TC 193, "Adhesives", the secretariat of which is held by AENOR.

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 September 2003, and conflicting national standards shall be withdrawn at the latest by September 2003.

This document supersedes EN 205:1991.

Annex A is informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

European Standards giving a common classification with respect to durability classes for wood adhesives will allow considerable improvement in consumer protection in any future product liability system with regard to properties guaranteed by the adhesive manufacturer.

The methods described in this standard are suitable for the following and other applications:

- assessing the usability and quality of adhesives for wood and derived timber products;

- classifying these adhesives into the durability classes D1 to D4 of EN 204 (thermoplastic adhesives) and C1 to C4 of EN 12765 (thermosetting adhesives);

- assessing effects on the bond strength resulting from the bonding conditions chosen, the various conditioning sequences and the treatment of the test pieces before and after bonding;

1 Scope

This European Standard describes tests for adhesives for wood and derived timber products for the assessment of their resistance to hot and cold water. It can be used for the assessment of the strength of bonds with a thin or thick bond-line. It does not apply to adhesives for structural use or to the manufacture of particle boards, fibreboard's and plywood. It does not replace tests on finished products.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 204, *Classification of thermoplastic wood adhesives for non-structural applications.*

EN 923:1998, *Adhesives —Terms and definitions*

EN 12765, *Classification of thermosetting wood adhesives for non-structural applications*

ISO 5893, *Rubber and plastics test equipment — Tensile, flexural and compression types (constant-rate-of-traverse) — Specification.*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 923:1998 and the following apply.

3.1
thin bond line
close contact adhesive joint where the adhesive layer is nominally 0.1 mm thick

3.2
thick bond line
gap filled joint where the adhesive layer is (1,0 ± 0,1) mm thick

4 Principle

A symmetrical bonded single lap joint between two symmetrical wooden adherends subjected to specified conditioning treatments and strained to rupture by a tensile force parallel to the grain.

5 Safety

Persons using this standard shall be familiar with normal laboratory practice.

This standard does not purport to address all the safety problems, if any, associated with its use.

It is the responsibility of the user to establish health and safety practices and to ensure compliance with any European or national regulatory conditions.

6 Apparatus

The testing machine shall be a constant-rate-of-traverse machine as described in ISO 5893.

If a constant-rate-of-traverse machine is not available, a constant-rate-of-loading machine shall be used causing a rupture within the time limits specified in 7.5.

The jaws shall grip the test pieces with a wedge action and permit self alignment whilst the test pieces are being pulled.

7 Procedure

7.1 Preparation of bonded assemblies

7.1.1 General

Prepare two panels (see Figure 1) from a thick unsteamed, conditioned, straight-grained board of beech (*Fagus sylvatica* L.) with a nominal density of (700 ± 50) kg/m^3 with a moisture content of (12 ± 1) %. It is permissible to prepare panels from different boards unless it is essential to minimize differences in the wood in order to conduct special comparative tests (see note 1).

Ensure that the angle between the growth rings and the surface to be bonded is between 30º and 90º.

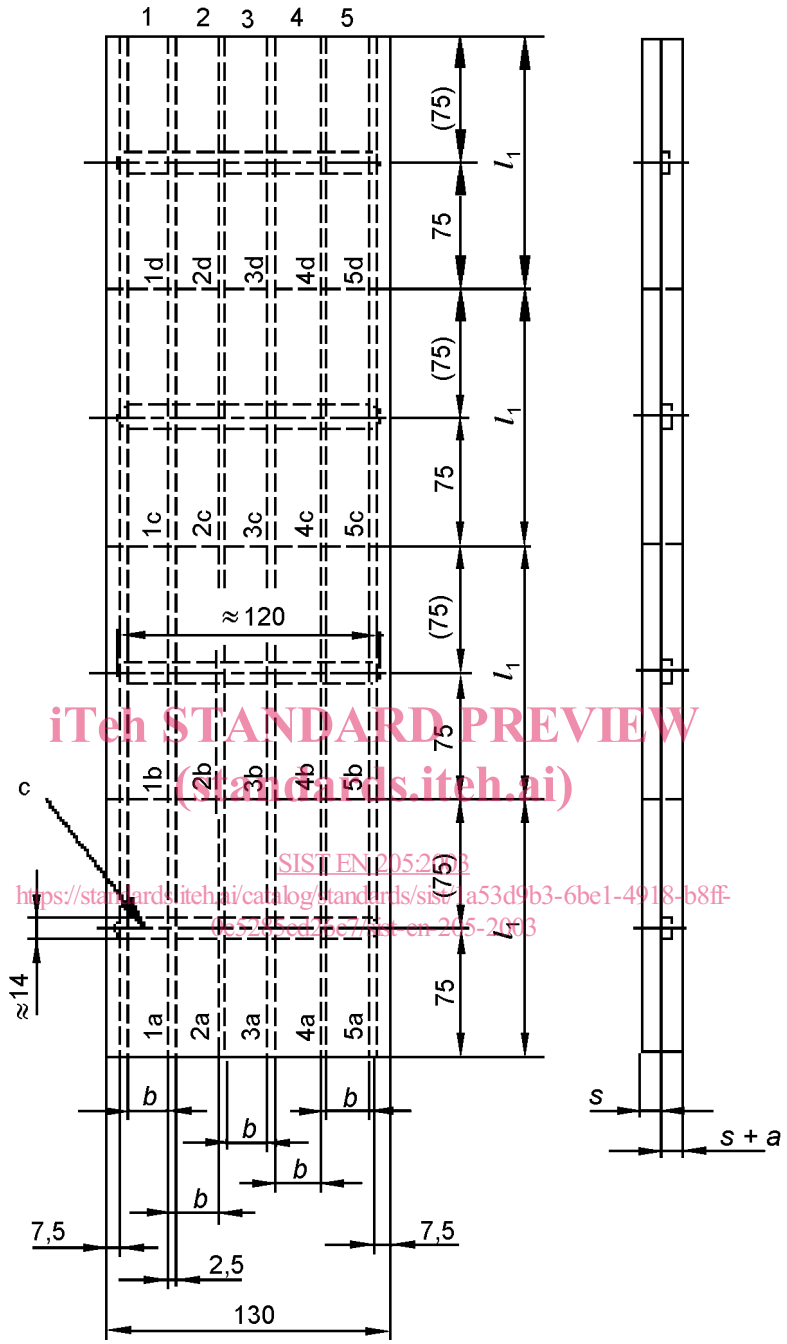
Cut the panels across the direction of the grain to a length equal to a multiple of 300 mm with the necessary allowance for cross-cutting and along the grain to a width of approximately 130 mm making an allowance for the width of cut as shown in Figure 1.

For tests on thin bond-lines, use two panels of (5,0 ± 0,1) mm thickness.

For tests on thick (1,0 ± 0,1) mm bond-lines, use one thick panel of (6,0 ± 0,1) mm thick and one panel of (5,0 ± 0,1) mm thick. Make grooves (1,0 ± 0,1) mm deep and (14 ± 1) mm wide in the 6 mm thick panel as shown in Figure 1.

NOTE 1 When comparing the strength of an adhesive in thick and thin bond-lines, the differences in bond strength caused by differences in the wood should be minimized. In such cases, it is recommended that the panels to be tested are cut from the same board in the direction of the grain in the following order: two 5 mm panels for thin bond-lines; one 5 mm panel and one 6 mm panel for thick bond-lines. The panels are usually cut slightly oversize and planed down to the required thickness before use.

Dimensions in millimetres.



Key

a = 1,0 ± 0,1 : thickness of bond-line

b = 20,0 ± 0,2 : width of test piece

c = grooves for thick bond-line

l_1 = 150 ± 5: length of test piece

s = 5,0 ± 0,1 : thickness of the panels

Figure 1 — Example of a bonded panel marked for division into individual test pieces using 2,5 mm saw cuts