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SIST EN 204:1998

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EUROPEAN STANDARD

EN 204:1991

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English version

Classification of non-structural adhesives for
joining of wood and derived timber products.Classification des colles pour usages
non structuraux pour l'assemblage des
bois et matériaux dérivés du bois.Beurteilung von Klebstoffen fuer
nichttragende Bauteile zur Verbindung
von Holz und Holzwerkstoffen.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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REPUBLIKA SLOVENIJA
MINISTRSTVO ZA ZNANOST IN TEHNOLOGIJO
Urad RS za standardizacijo in meroslovje
LJUBLJANA

SIST. EN 204

PREVZET PO METODI RAZGLASITVE

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 103 "Adhesives for wood and derived timber products".

In accordance with the Common CEN/CENELEC Rules, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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 and provide greater legal security in any future product liability system with regard to properties guaranteed by the adhesive manufacturer.

This standard defines durability classes according to the strength of the adhesive.

For special applications, further tests which do not fall within the scope of this Standard may be applicable.

The adhesive described in this standard are suitable for instance for the bonding of furniture and interior structures, panneling, doors, windows, stairs etc. of which one part at least is made of wood or derived timber products.

1 Scope

This European Standard classifies non-structural adhesives for joining wood and derived timber products in durability classes.

The classification is determined by measurement of wet and dry strength of test pieces in either of the two standard atmospheres:

(23 ± 2) °C and (50 ± 5) % relative humidity or

(20 ± 2) °C and (65 ± 5) % relative humidity

Note: There are specific standards for the bonding of wooden structural members, the manufacture of plywood, particle boards, fibre boards and also for the veneering of surfaces.

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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.

EN 205 Test methods for wood adhesives for non-structural applications; Determination of tensile shear strength of lap joints

3 Classification, Definition

The bonds shall comply with the specification for the respective durability class given in table 1.



Table 1. Description of durability classes

durability class	Examples of climatic conditions and fields of application ¹⁾
D 1	Interior, in which the temperature only occasionally exceeds 50 °C for a short time and the moisture content of the wood is 15 % maximum.
D 2	Interior with occasional short-term exposure to running or condensed water and/or to occasional high humidity provided the moisture content of the wood does not exceed 18 %.
D 3	Interior with frequent short-term exposure to running or condensed water and/or to heavy exposure to high humidity. Exterior not exposed to weather.
D 4	Interior with frequent long-term exposure to running or condensed water. Exterior exposed to weather but with adequate protection by a surface coating.

¹⁾ If it is expected that the bonds will have to meet higher or other requirements than those shown in table 1, e. g. for use in other climates, special agreements should be made on the type of wood and the type of adhesive, dependent on actual climatic conditions, and, if necessary, further test should be carried out in accordance with EN 205.

4 Adhesive strength requirements and testing

In order to classify an adhesive in one of the durability classes according to table 1, all minimum values of adhesive strength indicated in table 2 shall be attained as mean values after the prescribed conditioning sequence.

EN 205 and the following requirements are applicable to the testing of the adhesive:

- thin adhesive bond lines shall be used
- 20 test pieces shall be tested for each conditioning sequence (see table 2 for serial number)
- the individual values and the mean value shall be recorded

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Table 2. Minimum values of adhesive strength

All minimum values indicated in the columns of durability classes D 1 to D 4 shall be reached as mean values for the classification of an adhesive (for example for D 4 the conditioning sequences number 1, 3, 5, and 6).

The values given in table 2 are comparative values and shall not be used as a basis for calculation (e. g. of design data). They are not comparable with values obtained using test pieces of other dimensions.

Conditioning according to EN 205		Adhesive strength in N/mm ² Durability classes			
Serial number of conditioning sequence	Kind and duration	D 1	D 2	D 3	D 4
1	7 days ¹⁾ in standard atmosphere ²⁾	≥ 10	≥ 10	≥ 10	≥ 10
2	7 days in standard atmosphere 3 hours in cold water ⁴⁾ 7 days in standard atmosphere	- ³⁾	≥ 8	-	-
3	7 days in standard atmosphere 4 days in cold water ⁴⁾	-	-	≥ 2	≥ 4
4	7 days in standard atmosphere 4 days in cold water ⁴⁾ 7 days in standard atmosphere	-	-	≥ 8	-
5	7 days in standard atmosphere 6 hours in boiling water 2 hours in cold water ⁴⁾	-	-	-	≥ 4
6	7 days in standard atmosphere 6 hours in boiling water 2 hours in cold water ⁴⁾ 7 days in standard atmosphere	-	-	-	≥ 8

¹⁾ 1 day = 24 hours

²⁾ (23 ± 2) °C and (50 ± 5) % r.h. or (20 ± 2) °C and (65 ± 5) % r.h.

³⁾ No test required

⁴⁾ The water shall have the same temperature as the test climate (20 °C or 23 °C).