SLOVENSKI STANDARD
kSIST FprEN 320:2010

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Vlaknene plošče - Določanje odpornosti proti aksialnemu izvleku vijaka

Particleboards and fibreboards - Determination of resistance to axial withdrawal of screws

Spanplatten und Faserplatten - Bestimmung des achsenparallelen Schraubenausziehwiderstands

Panneaux de particules et panneaux de fibres - Détermination de la résistance à l'arrachement des vis selon son axe

Ta slovenski standard je istoveten z: **FprEN 320**

ICS:

79.060.20 Vlaknene in iverne plošče Fibre and particle boards

kSIST FprEN 320:2010 **en,fr,de**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

FINAL DRAFT
FprEN 320

September 2010

ICS 79.060.20

Will supersede EN 320:1993

English Version

Particleboards and fibreboards - Determination of resistance to axial withdrawal of screws

Panneaux de particules et panneaux de fibres - Détermination de la résistance à l'arrachement des vis selon son axe

Spanplatten und Faserplatten - Bestimmung des achsenparallelen Schraubenausziehwiderstands

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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kSIST FprEN 320:2010

Contents

Page

kSIST FprEN 320:2010

Foreword

This document (FprEN 320:2010) has been prepared by Technical Committee CEN/TC 112 “Wood-based panels”, the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 320:1993.

Compared to EN 320:1993, the following modifications have been made:

a) Scope extended to include also particleboards;

b) Normative references updated.

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1 Scope

This European Standard specifies a method for the determination of the resistance of fibreboards and particleboards to axial withdrawal of screws.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 326-1, *Wood-based panels — Sampling, cutting and inspection — Part 1: Sampling and cutting of test pieces and expression of test results*

EN ISO 1478, *Tapping screws thread (ISO 1478:1999)*

3 Principles

Face and edge withdrawal of screws are determined by measuring the force required to withdraw a defined screw from the test piece. Edge withdrawal is only determined on boards of 15 mm thickness or more.

4 Apparatus

4.1 Testing machine, which shall be capable of applying in increasing axial load to the underside of the screw head through a suitable stirrup, whilst adequately restraining the test piece at the same time and measuring the maximum load to an accuracy of 1 %.

4.2 Metal jig.

For testing face withdrawal of screws of boards of less than 15 mm thickness, the use of a metal jig with a central boring, which restrains the test piece (see Figure 1), is recommended.

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Dimensions in millimetres

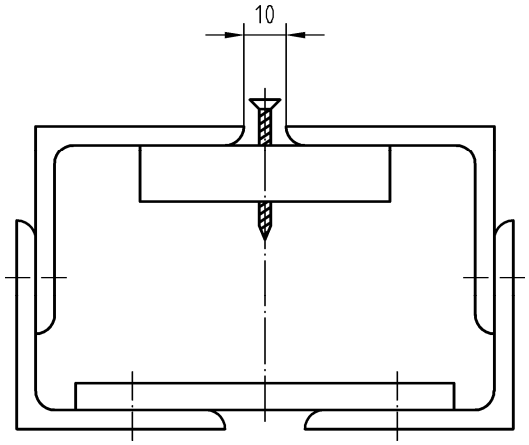


Figure 1 — Principle of testing face screwholding on boards of < 15 mm thickness

5 Test pieces

5.1 Sampling

Sampling and cutting of the test pieces shall be carried out according to EN 326-1.

5.2 Dimensions

Five test pieces are taken from each sample board. The test pieces shall be square with a side length of (75 ± 1) mm.

5.3 Conditioning

The test pieces shall be conditioned to constant mass in an atmosphere with a mean relative humidity of (65 ± 5) % and a temperature of (20 ± 2) °C. Constant mass is considered to be reached when the results of two successive weighing operations, carried out at an interval of 24 h, do not differ by more than 0,1 % of the mass of the test piece.

NOTE The tests should be carried out not later than 1 h after removal of the test pieces from the conditioning environment.

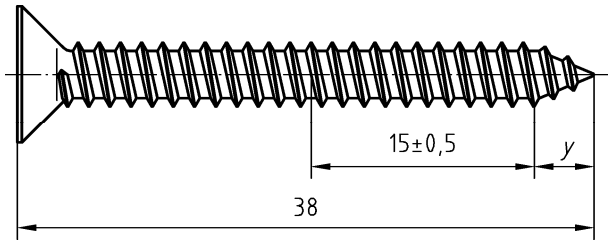
5.4 Preparation of test pieces

After the test pieces have been conditioned, the screws shall be inserted into prebored pilot holes. Holes shall have a diameter of (2,7 ± 0,1) mm and a depth of (19 ± 1) mm. They shall be drilled perpendicular to the surface of the test piece, located at the midpoints of one face and two adjacent edges (on edges for boards of ≥ 15 mm thickness only.

For this test, a steel screw, nominal size 4,2 mm × 38 mm, with a thread no. ST 4,2 according to EN ISO 1478 and a thread pitch of 1,4 mm (see Figure 2) shall be used. The screws shall be inserted into the test pieces in such a way, that (15 ± 0,5) mm of complete thread are embedded in the test piece. For testing face screwholding on test pieces of < 15 mm, insert the screw in such a way that the length of the incomplete thread, y, protrudes on the opposite side of the test piece.

kSIST FprEN 320:2010

Dimensions in millimetres



Key
y length of incomplete thread

Figure 2 — Parallel shank screw, nominal size 4,2 mm × 38 mm, with a thread no. ST 4.2 according to EN ISO 1478, thread pitch: 1,4 mm

6 Procedure

6.1 Positioning of test pieces

Mount the test pieces in the testing machine so that the surface under test is not supported at any point closer than 15 mm to the periphery of the embedded part of the screw, and is held perpendicular to the direction of the force applied to the screw (see Figure 3). For the testing of face screw withdrawal on boards of < 15 mm thickness, the metal jig (see Figure 1) shall be used in such a way that the screw is inserted into the boring in the centre of the metal jig, and the test piece is well restrained by the metal jig.