

Teknisk rapport

SIS-CEN/TR 12872:2014

Publicerad/Published: 2015-01-21
Utgåva/Edition: 1
Språk/Language: engelska/English
ICS: 79.060.01

Träbaserade skivor – Vägledning för användning av lastupptagande skivor i golv, väggar och tak

Wood-based panels – Guidance on the use of load-bearing boards in floors, walls and roofs

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-105045>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

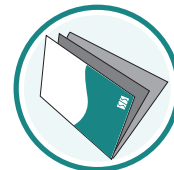
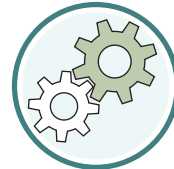
Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Denna tekniska rapport är inte en svensk standard. Detta dokument innehåller den engelska språkversionen av CEN/TR 12872:2014.

This Technical Report is not a Swedish Standard. This document contains the English version of CEN/TR 12872:2014.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Uppllysningar om sakinnehållet i detta dokument lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna uppllysningar om nationell och internationell standard.

Information about the content of this document is available from the SIS, Swedish Standards Institute, telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about national and international standards.

Dokumentet är framtaget av kommittén för Träbaserade skivor, SIS/TK 182/AG 8.

Har du synpunkter på innehållet i det här dokumentet, vill du delta i ett kommande revideringsarbete eller vara med och ta fram standarder inom området? Gå in på www.sis.se - där hittar du mer information.

TECHNICAL REPORT

CEN/TR 12872

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

December 2014

ICS 79.060.01

Supersedes CEN/TS 12872:2007

English Version

Wood-based panels - Guidance on the use of load-bearing boards in floors, walls and roofs

Panneaux à base de bois - Guide pour l'utilisation des panneaux structurels en planchers, murs et toitures

Holzwerkstoffe - Leitfaden für die Verwendung von tragenden Platten in Böden, Wänden und Dächern

This Technical Report was approved by CEN on 11 November 2014. It has been drawn up by the Technical Committee CEN/TC 112.

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.



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.....		4
1 Scope		5
2 Normative references		5
3 Terms and definitions		5
4 Information on product performance		7
5 Inspection at site.....		7
6 Transport and delivery		7
7 Handling.....		7
8 Stacking		7
9 Storage.....		9
10 Moisture content, conditioning and the effects of moisture		9
10.1 Moisture content.....		9
10.2 Dimensional movement		9
10.3 Conditioning.....		10
11 Cutting and machining		11
11.1 General.....		11
11.2 Cutting with hand tools.....		11
11.3 Machining with power tools.....		11
11.4 Drilling.....		12
12 Fixing		12
13 Floors — Selection and installation		13
13.1 Selection (specification)		13
13.2 Type of floor covering related to wood-based floor panels		13
13.3 Installation		14
13.3.1 Preparation of structure		14
13.3.2 Edge profile		14
13.3.3 Expansion gaps		14
13.3.4 Gluing.....		15
13.3.5 Laying of wood-based panels for flooring		15
14 Walls — Selection and installation		16
14.1 Selection (specification)		16
14.2 Wall constructions using wood-based panels on studs		16
14.3 Installation		16
14.3.1 Preparation of structure		16
14.3.2 Edge profile		17
14.3.3 Expansion gaps		17
14.3.4 Assembly of wood-based panels for walls on studs		18
15 Roofs — Selection and installation.....		19
15.1 Selection (specification)		19
15.2 Type of roof covering related to wood-based roof panels		19
15.3 Type of roofs		19
15.3.1 Flat roofs: cold roofs — warm roofs.....		19
15.3.2 Pitched roofs — principles		20
15.4 Installation		21

15.4.1	Preparation of structure	21
15.4.2	Edge profile	21
15.4.3	Expansion gaps	22
15.4.4	Laying of wood-based panels in roof structures	22
	Bibliography	24

Foreword

This document (CEN/TR 12872:2014) has been prepared by Technical Committee CEN/TC 112 "Wood-based panels", the secretariat of which is held by DIN.

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.

This document supersedes CEN/TS 12872:2007.

Compared to CEN/TS 12872:2007 the following changes have been made:

- a) deliverability changed from CEN/TS to CEN/TR;
- b) references to requirements according to EN 12871 deleted after transformation of EN 12871 into a test method standard;
- c) in 10.2, Table 2, values of dimensional changes depending on moisture content for multilayer solid wood panels added;
- d) presentation of wall and roof constructions in Clauses 14 and 15 indicated as basic examples;
- e) recommended expansion gaps for walls and roofs in Clauses 14 and 15 reduced.

1 Scope

This Technical Report gives guidance on the use of wood-based panels in structural applications as structural floor and roof decking on joists or structural wall sheathing on studs in accordance with EN 12871. It provides information on:

- inspection at site;
- transport and delivery;
- handling;
- stacking;
- storage;
- moisture content, conditioning and the effects of moisture;
- cutting and machining;
- selection;
- installation.

2 Normative references

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

EN 300, *Oriented Strand Boards (OSB) - Definitions, classification and specifications*

EN 312, *Particleboards - Specifications*

EN 622-2, *Fibreboards - Specifications - Part 2: Requirements for hardboards*

EN 622-3, *Fibreboards - Specifications - Part 3: Requirements for medium boards*

EN 622-5, *Fibreboards - Specifications - Part 5: Requirements for dry process boards (MDF)*

EN 634-2, *Cement-bonded particleboards - Specifications - Part 2: Requirements for OPC bonded particleboards for use in dry, humid and external conditions*

EN 636, *Plywood - Specifications*

EN 12871, *Wood-based panels - Determination of performance characteristics for load bearing panels for use in floors, roofs and walls*

EN 13353, *Solid wood panels (SWP) - Requirements*

EN 1995-1-1:2004, *Eurocode 5 — Design of timber structures — Part 1-1: General — Common rules and rules for buildings*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 Service classes

3.1.1

service class 1

is characterised by a moisture content in the materials corresponding to a temperature of 20 °C and the relative humidity of the surrounding air only exceeding 65 % for a few weeks per year

[EN 1995-1-1:2004, 2.3.1.3]

3.1.2

service class 2

is characterised by a moisture content in the materials corresponding to a temperature of 20 °C and the relative humidity of the surrounding air only exceeding 85 % for a few weeks per year

[EN 1995-1-1:2004, 2.3.1.3]

3.1.3

service class 3

climatic conditions leading to higher moisture contents than in service class 2

[EN 1995-1-1:2004, 2.3.1.3]

3.2

structural floor decking

assembly of wood-based panels supported on joists over which the decking spans

Note 1 to entry: The characteristic of the floor decking is that it is supported by joists and, when subjected to load, is free to deflect between the joists.

3.3

structural wall sheathing

wood-based panel capable of providing mechanical resistance to a wall structure

3.4

structural roof decking

assembly of wood-based panels supported on joists over which the roof decking spans

Note 1 to entry: The characteristic of the decking is that it is supported by joists and, when subjected to load, is free to deflect between the joists.

3.5

warm roof

roof design in which the panels supported on joists are placed below the insulation

Note 1 to entry: The panels are considered to be under conditions corresponding to service class 1.

3.6

cold roof

roof design in which the panels and some of the supporting joists are placed above the insulation

Note 1 to entry: The panels are considered to be under conditions corresponding to service class 2.

3.7

sub floor

structural panel meant to be covered by overlays

4 Information on product performance

Information on product performance based on EN 13986 will be made available by the manufacturer or supplier.

5 Inspection at site

The following should be checked based on the marking of the panel and/or the manufacturer's documentation and/or the designers specification:

- grade or class according to EN specification standard;
- thickness;
- service class;
- suitability for biological durability use class;
- surface (sanded or un-sanded);
- edges (tongue and groove or other type of profile);
- joist or stud spacing;
- load category;
- main load-bearing direction for OSB, plywood and solid wood panels only.

6 Transport and delivery

Panels should be adequately protected by a waterproof covering during transportation. Edges should be well protected from rain or traffic spray. Edge protection should also be provided to avoid damage by ropes, straps or other banding. This applies particularly to profiled panels such as tongued and grooved panels.

Panels should be stacked properly to avoid sagging or other distortion, see Clause 8.

If packing includes banding or strapping this should be removed as soon as possible after delivery to prevent any permanent deformation of the panels. When packs are delivered with edge or face protection panels, these should be left in place until the pack is required for use.

7 Handling

When lifting, moving and stacking panels, edge protection should also be provided to avoid damage by lifting ropes and/or forklifts.

When handling pre-finished panels, it is essential to avoid damage or dirt on the finished surfaces.

Pre-finished panels should always be lifted from a stack and never slid.

8 Stacking

Panels should be stacked flat on a level surface with all four edges flush. The ideal base is a close boarded or slatted pallet.

If this is not possible the panels should be carefully stacked on battens of equal thickness at centres not exceeding 600 mm as shown in Figure 1.