



CEWOOD – CEWOOD Panel

EN 13964:2014 ANNEX F – FLEXURAL STRENGTH TEST
EDGE TYPE: B-EDGE



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EN 13964:2014 ANNEX F TEST WITH ADDITIONAL LOAD

Report no.: 152154-1



Performed for:

CEWOOD, SIA
Galdusalas 1, Janunlaicenes pag.
LV-4336 Aluksnes

Performed by:

Teknologisk Institut
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Pages: 10 (incl. frontpage & appendices)

Appendices: 2 (4 pages total)

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Test report

Client:	CEWOOD, SIA Galdusalas 1, Janunlaicenes pag. LV-4336 Aluksnes	
Material:	8 CEWOOD Panel, membrane components, Woodfibre and cement based Model: CEWOOD Panel Appearance: wood coloured fibre. Dimensions: 1200 x 600 x 25 mm (L x W x T) Edge type: B-edge	
Sampling:	The test material was forwarded by the client and received at the Danish Technological Institute on 2022-11-15. The test material was labelled 152154-1 1-8 by the laboratory.	
Period:	The climate exposure was carried out from 2022-12-07 to 2022-12-14. The flexural tensile strength test was carried out 2022-12-14.	
Method	EN 13964:2014 - Annex F - F.5.4	Suspended ceilings – Requirements and test methods Membrane components – Flexural tensile strength test Test with additional load
Result:	The results of the test are shown on page 5. Flexural tensile strength: <u>Class D / 781 N/m²</u>	
Storage:	As the test is destructive and non-reproducible the samples have been re-moved immediately after ending the test.	
Terms:	Accredited testing was carried out in compliance with international requirements (EN/ISO/IEC 17025:2017) and in compliance with Danish Technological Institute's General Terms and Conditions regarding Commissioned Work accepted by Danish Technological Institute. The test results apply to the tested products only. This report may be quoted in extract only if the laboratory has granted its written consent.	
Location:	2022-12-21 Danish Technological Institute, Building & Construction, Aarhus	

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Test procedure

The performance of the test follows these steps:

1. Initial inspection
2. Climate exposure
3. Weighing
4. Loading

Initial inspection

The dimension of the specimens is measured, and the surface is examined for any sustained damage. All recorded data are evaluated before continuing the test.

Climate exposure

Prior to the loading part for the test, all specimens are subjected to a climate exposure in a climate chamber. The client has stated which of the classes of exposure according to EN 13964:2014 Table 8 the suspended component must comply.

Class	Conditions
A	Building components exposed to varying relative humidity up to 70 % and varying temperature up to 25 °C but without corrosive pollutants
B	Building components exposed to varying relative humidity up to 90 % and varying temperature up to 30 °C but without corrosive pollutants
C	Building components exposed to varying relative humidity up to 95 % and varying temperature up to 30 °C but without corrosive pollutants
D	More severe than the above

Tabel 8 (EN13964:2014)

Loading

Two types of loading may be applied:

1. **Without additional loading**
The specimen shall be loaded with 2.5 times of dead weight of the specimen. The load shall be maintained for a duration of 600 ± 10 s.
2. **With increasing load to declare additional loading**
Starting point for the following samples is 80% of the preliminary test failure load. The load increments shall be implemented uniformly in less than 60 s. Each load step shall be maintained for a duration of 600 ± 10 s.



Test results

Description of the specimens

Sample Data	
Type	CEWOOD Panel
Production date	2022-10-11
Dimensions	1200 x 600 x 25 mm
Appearance	Wood coloured fibre
Edge type	B-edge

Description of the test

Test description	
Exposure Class according to Table 8	Class D: 40±2 °C & 95±2 %RH (chosen by the client)
Load Type	Test with additional load: Evenly distributed load with sandbags
Preliminary failure load ¹	2630 N/m ²

¹Sample used to determine the preliminary failure load has been exposed to the same environment as the following samples.

Test setup

The specimens were installed according to the manufactures installations instructions. A special metal frame was designed to reproduce the boundary and support conditions that are relevant to normal use of the specimen, but without deflections of the frame. Wood boards of 40x100 mm were screwed on the metal frame and the membranes were attached to the boards with 6 screws delivered by the client. The specimens were loaded with sandbags directly onto the specimens.

Dimensions					
Unit [-]	Length [mm]	Width [mm]	Area [m ²]	Weight after climate exposure	
				[Kg]	[N/m ²]
1	1200	600	0.72	8.45	115.13
3	1200	600	0.72	8.33	113.50
4	1200	600	0.72	8.33	113.50
5	1200	600	0.72	8.18	111.45
6	1200	600	0.72	8.40	114.45

Load results			
Unit [-]	*Passing criteria [N/m ²]	Failure load [N/m ²]	**Requirement [-]
1	2104	2241	Passed
3	2104	2378	Passed
4	2104	2514	Passed
5	2104	2378	Passed
6	2104	3059	Passed

*Passing criteria is 80% failure load of the preliminary test

**Fulfil requirement: passing criteria < Failure load.



Declaration of performance

The declared additional load shall correspond with the lowest failure load divided by 2.5, minus the weight of the specimen, irrespective of load type expressed in the appropriate load unit.

The manufacturer's declaration for the product shall be in accordance with Table F.2 with declared additional load.

$$\frac{\text{Lowest Failure load}}{2.5} - \text{weight of specimen}$$

$$\frac{2241}{2.5} - 115 \approx 781 \frac{N}{m^2}$$



Appendix A: Photos

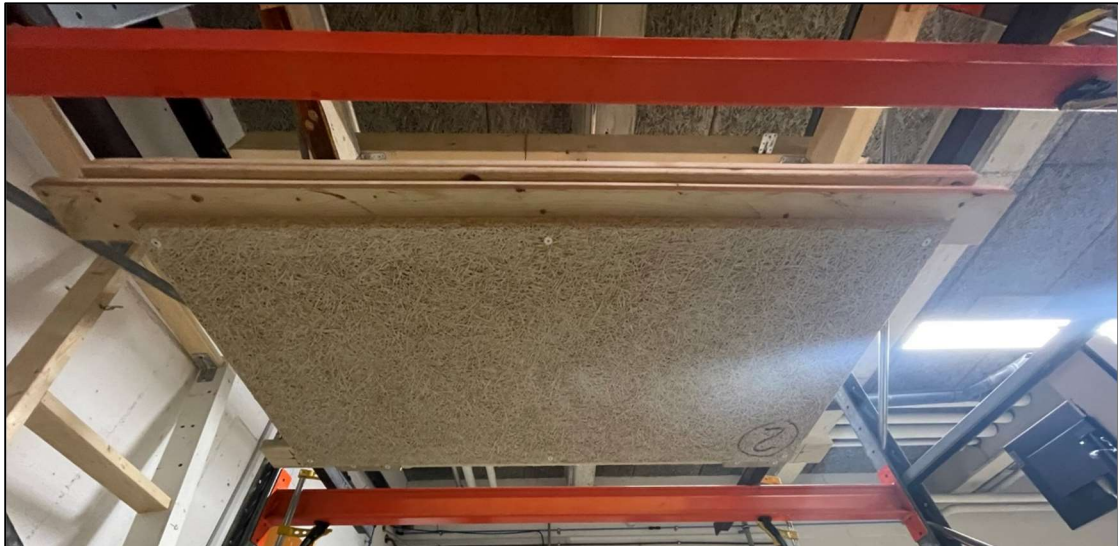


Photo 1. Specimen mounted in test frame prior to loading.



Photo 2. Specimen applied with 80% preload



Photo 3. Edge of specimen during load

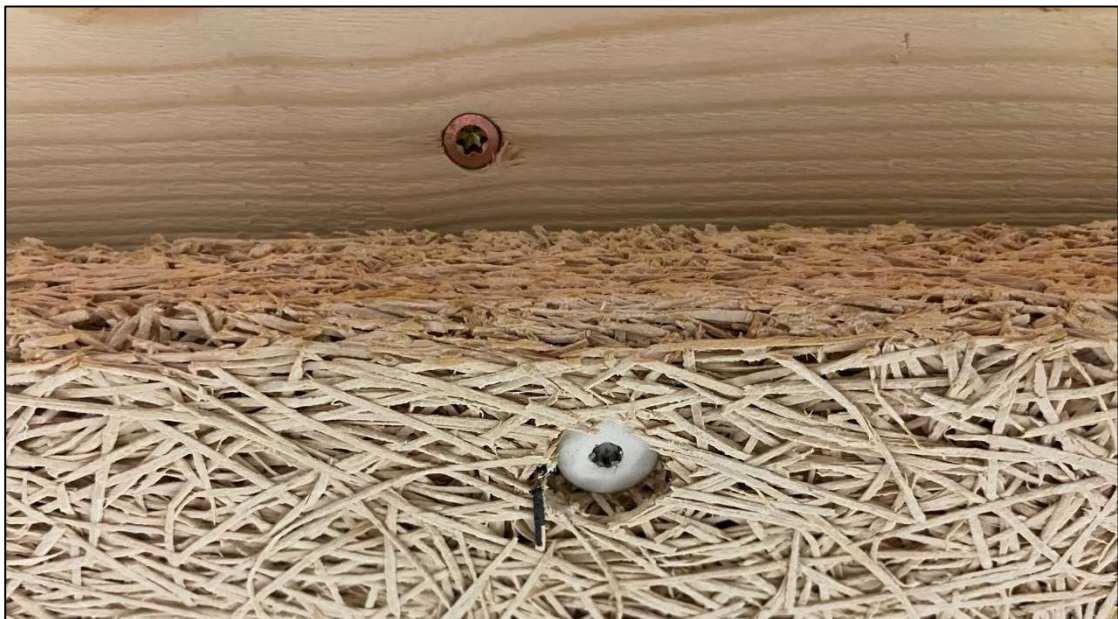


Photo 4. Screw-head going through the membrane



Photo 5. Edge of specimen during load



Photo 6. Specimen after failure load



The general conditions pertaining to assignments accepted by Danish Technological Institute shall apply in full to the technical testing or calibration at Danish Technological Institute and to the completion of test reports or calibration certificates within the relevant field.

Danish Accreditation (DANAK):

DANAK is the national accreditation body in Denmark in compliance with EU regulation No. 765/2008.

DANAK participates in the multilateral agreements for testing and calibration under European co-operation for Accreditation (EA) and under International Laboratory Accreditation Cooperation (ILAC) based on peer evaluation. Accredited test reports and calibration certificates issued by laboratories accredited by DANAK are recognized cross border by members of EA and ILAC equal to test reports and calibration certificates issued by these members' accredited laboratories.

The use of the accreditation mark on test reports and calibration certificates or reference to accreditation, documents that the service is provided as an accredited service under the company's DANAK accreditation according to EN ISO IEC 17025:2017.

Construction Product Regulation:

In accordance with Regulation (EU) No. 305/2011 of the European Parliament and of the Council, the Construction Products Regulation (CPR), the test was conducted for the purpose of the assessment of the performance under AVCP System 3 as described in Regulation (EU) No. 568/2014 and in compliance with all applicable provisions of the CPR. The Danish Technological Institute is a notified body in accordance with CPR Article 48.

September 2021