



Technical Approval

SINTEF Building and Infrastructure confirms that

Fibo Trespo Bathroom panel

meets the provisions regarding product documentation given in Norwegian building regulations, with properties, fields of application and conditions as stated in this document

1. Holder of the approval

Fibo-Trespo AS
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2. Manufacturer

Fibo-Trespo AS, Lyngdal.

3. Product description

FiboTrespo bathroom panel is a watertight lining system based on plywood panels coated with high-pressure laminate on the front side and a transverse laminate on the rear side. The panels are made from plywood and consist of 7 sheets of wood according to NS-EN 13986, glued with waterproof adhesive. The front of the panels is covered with 0,85 mm high-pressure laminate, and the backside is covered with a 0,73 mm thick transverse laminate.

Standard dimensions are 2400 mm length and 600 mm width. Panel thickness is 10,2 mm. The density is 790 kg/m³. Tolerances are shown in table 1.

The long sides of the panels are profiled as shown in fig. 1, with an integrated locking profile "Aqualock". The short ends have inclined edges.

The bathroom panel system consists of plywood panels, installation profiles from extruded aluminium or PVC and sealing compound, se fig. 2.

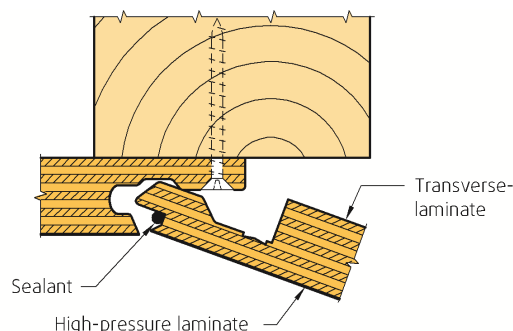


Fig. 1
 Fibo-Trespo bathroom panel is designed with Aqualock system

4. Fields of application

Fibo-Trespo bathroom panel can be used on walls in sanitary rooms as a waterproof lining. The panels can also be used in cloakrooms, washrooms, laundries, cleaning plants, laboratories etc. The panels can be fixed directly to the wall frames or battens, included walls below ground level. When used on walls from bricks or concrete battens are required.

5. Properties

Material properties

Fibo-Trespo bathroom panels are tested according to ETAG 022, "Guideline for European Technical Approval of watertight covering kits for wet room floors and or walls", Part 3: Inherently watertight board. Table 2 shows results from testing.

Table 1
 Tolerances for production of Fibo-Trespo bathroom panel

Property	Requirement	Test method
Length	± 1,0 mm	NS-EN 324-1
Width	± 0,5 mm	
Thickness	± 0,4 mm	
Squareness	≤ 1,0 mm	Diagonal deviation
Edge straightness	Max 0,8 mm	NS-EN 324-2
Lipping tongue/groove	≤ 0,15 mm	-

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Reference: Appr. O 10099 Contr. B 10222

Subject: Kledning - innvendig

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Tabell 2

Material properties for Fibo-Trespo bathroom panel verified by testing

Property	Result	Test method
Water vapour transmission, front side S_d – value ¹⁾	14 m	NS-EN 12572
Watertightness at 1,5 bar waterpressure for 7 days	Passed	NS-EN 14891, Annex A.7
Watertightness at penetrations in wall ²⁾	Passed	ETAG 022 Annex E
Bridge building capacity: - tensile strength - shear strength	2 mm – passed 2 mm – passed	ETAG 022, annex B
Dimensional changes in panel plane associated with changes in relative humidity: - Width, 30 – 90 % RF - Length, 30 – 90 % RF - Width, 90 – 30 % RF - Length, 90 – 30 % RF	1,9 mm/m 1,9 mm/m -1,6 mm/m -1,7 mm/m	NS-EN 318
Swelling of thickness after 24 hours immersion in water	2,8 %	NS-EN 317
Tensile strength perpendicular to the plane of the board	2,3 N/mm ²	NS-EN 319
Resistance to axial withdrawal of screws	1740 N	NS-EN 320
Bøyemomentkapasitet: - longitudinal direction - cross direction	1200 Nmm/mm 1400 Nmm/mm	NS-EN 310
Bending strength, EI: - longitudinal direction - cross direction	690 kNmm ² /mm 720 kNmm ² /mm	NS-EN 12089
Resistance to scratches	Passed	ETAG 022, Annex C
Cleaning ability	Passed	SS 92 36 14
Formaldehyde release	Class E1	NS-EN 13986

1) Test conditions: 93 % RH / 50 % RF vat 23 °C

2) Penetrations: copper pipes Ø 15 mm and wall boxes Ø 46 mm

Safety in case of fire

Fibo-Trespo bathroom panel complies with the requirements of class D-s1, d0, according to NS-EN 13501-1.

6. Environmental aspects

Effect on indoor environment

The product is not regarded as emitting any particles, gases or radiation that have a perceptible impact on the indoor climate, or to have any significant impact on health.

Environmental declaration

No environmental declaration according to ISO 21930 has been worked out for Fibo-Trespo Baderomsplater.

Hazardous substances

The product contains no hazardous substances with priority in quantities that pose any increased risk for human health and environment. Chemicals with priority include CMR, PBT or vPvB substances.

Waste treatment/recycling

Fibo-Trespo Baderomspanel shall be sorted as residual waste on the building/demolition site. The product shall be delivered to an authorized waste treatment plant for energy recovery.

7. Special conditions for use and installation

Storage and conditioning

Fibo-Trespo bathroom panels shall be stored under dry conditions on a levelled substrate, front side to front side for surface protection. The panels shall be stored with packaging at room temperature for 3 days prior to installation. Humidity content of the panel core shall be <15 % at installation.

Underlying base

The underlying base for installation of Fibo-Trespo bathroom panels shall comply with the requirements for directional- and surface-tolerances given in NS 3420-1, tolerance class PB.

Installation on timber framework

The studs spacing shall be max. c/c 0,6 m, and horizontal battens shall have spacing max. c/c 0,8 m. Extra noggings shall be used if heavy objects, for instance washstand, shall be installed.

The panels shall be fixed to the studs/battens by zinc coated ring shanked special nails or by screws, spacing c/c 200 mm, as shown in fig. 1, nails or screws no closer than 35 mm from the top or bottom of the panel.

Power tools must be used with caution not to damage the panels.

Installation on concrete or brick walls

When installed on concrete or brick walls the panels shall be fixed to vertical and horizontal battens with dimensions min. 23 mm x 48 mm. The battens shall be installed c/c 0,8 m with the wide side flat. Distance between battens shall be 0,8 m, as described above for frame work walls. A capillary obstructing layer, for instance strips of tar paper, shall be installed between concrete/brick wall and the battens.

Wet areas

For wet areas all vertical joints and profiles shall be sealed using a wet area sealant as illustrated in figur 1 - 4. To ensure proper watertightness excess sealant shall be visible along the profile. Excess sealant must be wiped away.

All panel ends are to be sealed with one of the sealants listed in Table 3 prior to assembly. Proper use of sealant in bottom profile, inner- and outer corner is illustrated in figures 2 – 4.

Sealing of all joints shall be performed according to manufacturer's instructions.

Sealants approved for use are listed in Table 3. These sealants has been tested with Fibro Trespo bathroom panels according to ETAG 022, "Guideline for European Technical Approval of watertight covering kits for wet room floors and or walls", Part 3: Inherently watertight board. The listed sealants comply with present environmental requirements.

Table 3
Sealants approved for use with Fibro Trespo bathroom panels

Wet area sealant	Aluminium profiles	PVC-profiles
Fibro Seal	x	x
Soudaseal 215 LM	x	x
Optiform Baderomsplate Montasje	x	x

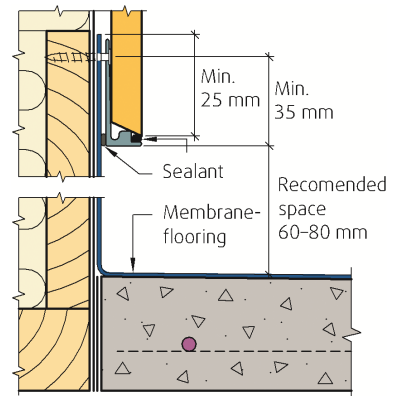


Fig. 2
Sealing panel/bottom profile

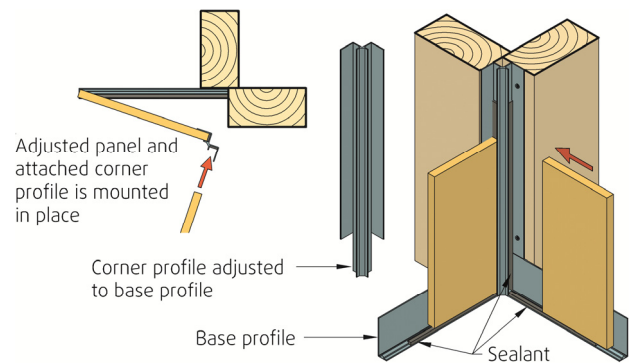


Fig. 3
Sealing inside corner

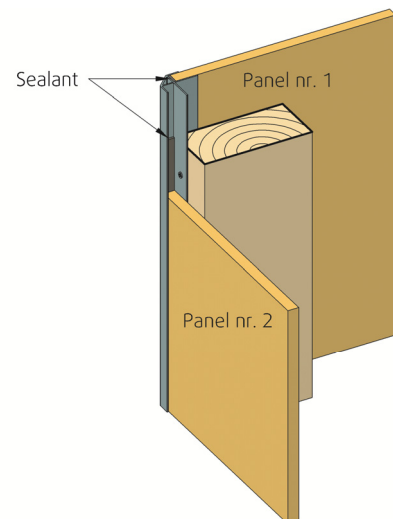


Fig. 4
Sealing outside corner

Penetrations in wet areas

Watertightness around wall boxes are ensured by using one of following methods:

- Sleeve delivered with the wall box is to be attached to the bathroom panel using one of the sealants listed in table 3. See Fig 5.
- Tightening ring and gasket delivered with wall box is installed as illustrated in Fig. 6.

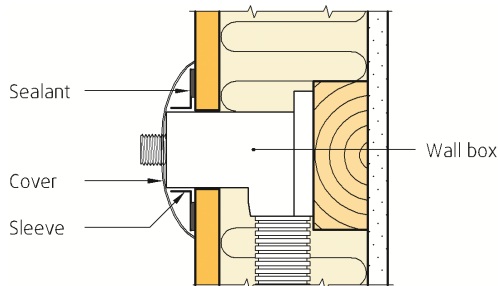


Fig. 5
Installation of wall box with sleeve

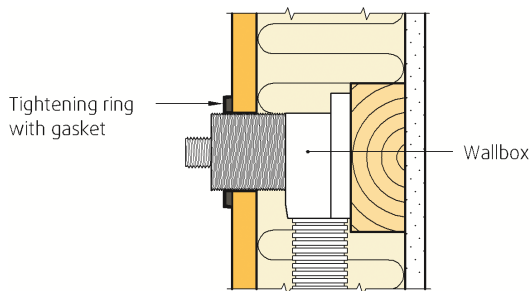


Fig. 6
Installation of wall box with tightening ring and gasket

Vapour barrier in exterior walls

Fibo-Trespo bathroom panels meet the requirements to water vapour transmission for walls facing outdoor environment or unheated rooms. Walls shall not have any vapour barrier in addition to Fibo Trespo bathroom panel.

Maintainance/cleaning

Fibo-Trespo bathroom panels are to be cleaned using a wet cloth or using a mild detergent without rubbing components.

8. Factory production control

The product is subject to supervisory factory production and product control according to contract between SINTEF Building and Infrastructure and the manufacturer concerning Technical Approval.

The Manufacturer holds Quality System certified by Det Norske Veritas in accordance to ISO 9001:2008, certificate no. 2002-OSL-AQ-7219.

9. Basis for the approval

The approval is based on the properties documented in these reports:

- SINTEF NBL as, Materialer og Brann. Klassifikasjonsrapport fra prøving av Fibo-Trespo Baderomspanel. Rapport 102010.02/12.042
- SINTEF Byggforsk. Prøving av vanntetthet for Fibo-Trespo Baderomspanel ved bruk av fugemassen "Optiform Baderomspanel Montasje. Rapport nr. 3B056701 av 20.09.2011.
- SINTEF Byggforsk. Prøving av Baderomspanel (høytrykkslaminat, sperrelaminat og bjerkefiner). Vanndampmotstand. Rapport nr. 3D0256.01 av 01.09.2008.
- Norges byggforskningsinstitutt Prøving av baderomspanel. Rapport O-9580 av 25.11.99.
- Norges byggforskningsinstitutt. Prøving av baderomspanel. Rapport O-9554 av 30.11.99.
- Norges byggforskningsinstitutt. Prøving av overflatehardhet på baderomspanel. Rapport KO 40340 av 10.02.00 og KO 40341 av 10.02.00.

10. Marking

The product shall be marked with the manufacturers name, product name and date of production. The marking may be fixed directly on the panels or on the packaging. The approval mark for Technical Approval No. 2289 may also be used.



Approval mark

11. Liability

The holder/manufacturer has sole product responsibility according to existing law. Claims resulting from the use of the product cannot be brought against SINTEF beyond the provisions of Norwegian Standard NS 8402

12. Technical management

Project manager for this approval is Pål Harstad, SINTEF Building and Infrastructure, dep. Energi og Arkitektur, Oslo.

for SINTEF Building and Infrastructure



Hans Boye Skogstad
Approval Manager