

Extended Application according to CEN/TS 15117:2005 of an external wall panel type 'MOSO Bamboo X-treme' and "MOSO Bamboo N-durance'

Report no. 2024-Efectis-000342[rev.1]

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Project number ENL-25-000165

Date of issue September 2025

Number of pages 21

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1. GENERAL

1.1 REPORT

This extended application report concerns test results obtained in accordance with the test methods mentioned below.

The extended application process is carried out in conformity with the extended application standards mentioned below.

The standards below were used:

Table 1 Standards

Type	European standard	Part
Test	EN 13823:2020 +A1:2022	Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item.
Test	EN ISO 11925-2: 2020	Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: single-flame source test
ExAp	CEN/TS 15117:2005	Guidance on direct and extended application
ExAp	EN 15725:2023	Extended application on the fire performance of construction products and building elements: Principle of EXAP standards and EXAP reports

1.2 DETAILS OF THE PRODUCT OR BUILDING ELEMENT CONCERNED

Table 2 Details

Type	Part
Nature	Reaction to fire
Product Technical Specifications	Wall cladding
Product family	'MOSO Bamboo X-treme' and 'MOSO Bamboo N-durance'
Intended use	Outer layer of wall cladding
End use application	Wall / soffit panel

1.3 DESCRIPTION

The construction is a wall / soffit cladding, manufactured by Moso International B.V., made of bamboo.

Two types have been tested 'MOSO Bamboo N-durance' and 'MOSO Bamboo X-treme'. In the tests described in this report 'MOSO Bamboo N-durance' was tested with an oiled finishing. 'MOSO Bamboo X-treme' was unfinished in the tests mentioned below. These types are produced in a different manner to achieve their specific characteristics.

1.4 REVISION INFORMATION

This is a revised version of this report. This version supersedes all previous versions of this reports that are hereby withdrawn. Details on the changes can be found in the tables below.

Table 1.1: Revision information

Issue	Date of issue	Report no.
First issue	July 2025	2024-Efectis-000342
First revision	September 2025	2024-Efectis-000342[rev.1]

1.4.1 First revision detailed information

Table 1.2: First revision information

Chapter of revision	Chapter 7
Reason of revision	Different presentation of Extended Application results
Consequences of revision	None

2. TEST REPORTS IN SUPPORT OF THIS EXTENDED APPLICATION REPORT

The test reports will be used as the basis for this Extended Application report.

Table 3 Test reports according to EN 13823

No	Test laboratory/test report number	Test date	Test report / date of issue	Test standard + date	Test Result (average of complete set)	
T1	Efectis Nederland BV	4 January and 7 February 2024	2024-Efectis-R000155 June 2024	EN 13823:2020 +A1:2022	FIGRA _{0,2 MJ} = 73.8 W/s THR _{600s} = 6.0 MJ No LFS	SMOGR = 6.3 m ² /s ² TSP _{600s} 25.4 m ²
	type finishing properties orientation gap/seams joint(s)	MOSO Bamboo X-treme Varibo Cladding unfinished w = 65 and 178 t = 18 mm d = ±1150 kg/m ³ vertical 18 x 65 mm vertical and horizontal 18 x 178 mm seams between the facade cladding are filled and covered with 40 mm wide aluminium profiles tested with a vertical joint of 3 mm and a horizontal joint of 3 mm		mounting cavity	on a timber frame construction (Spruce, type C18, 38 x 120 mm, filled with glass wool), which is covered with water-repellent, vapor-permeable foil (t ≤ 1 mm) type 'MORGEO E-foil', with a non-fire- retardant treated pine double framework (18 x 45 and 28 x 45 mm), type C18, c.t.c. 462.5 mm and density approx. 400 kg/m ³ 46 mm between cladding and construction	

REPORT

No	Test laboratory/test report number	Test date	Test report / date of issue	Test standard + date	Test Result (average of complete set)	
T2	SGS	16 - 30 October 2024	SHFS 2410001439FF December 19, 2024	EN 13823:2020 +A1:2022	FIGRA _{0,2 MJ} = 88.7 W/s THR _{600s} = 6.8 MJ No LFS	SMOGRA = 3.6 m ² /s ² TSP _{600s} = 25.6 m ²
	Type finishing properties orientation gaps/seams joint(s)	MOSO Bamboo N-durance Closed Cladding with false groove oiled w = 155 t = 18 mm d = ±1200 kg/m ³ vertical orientation closed tested with a vertical joint of 2 mm and a horizontal joint of 10 mm		mounting cavity	on a timber frame construction (Spruce, type C18, 38 x 120 mm, filled with glass wool), which is covered with water-repellent, vapor-permeable foil (t ≤ 1 mm), with a non-fire-retardant treated spruce double framework (18 x 45 and 28 x 45 mm), c.t.c. 462.5 mm and density approx. 400 kg/m ³ 46 mm between cladding and construction	
T3	SGS	9 - 23 July 2024 (sample A) 2 - 15 august 2024 (sample B)	AJFS 2406006771FF-01 November 14, 2024	EN 13823:2020 +A1:2022	sample A: FIGRA _{0,2 MJ} = 47.4 W/s THR _{600s} = 5.2 MJ No LFS SMOGRA = 9.9 m ² /s ² TSP _{600s} = 51.7 m ²	sample B: FIGRA _{0,2 MJ} = 68.6 W/s THR _{600s} = 5.9 MJ No LFS SMOGRA = 10.6 m ² /s ² TSP _{600s} = 55.8 m ²
	type finishing properties orientation gaps/seams joint(s)	MOSO Bamboo X-treme Closed Cladding unfinished w = 137 t = 18 mm d = ±1150 kg/m ³ vertical orientation closed sample A: tested with a vertical joint of 2 mm and a horizontal joint of 10 mm sample B: tested with a vertical joint of 2 mm and a horizontal joint of 7 mm		mounting cavity	on a timber frame construction (Spruce, type C18, 38 x 120 mm, filled with glass wool), which is covered with vapor-permeable breather membrane (t ≤ 1 mm), with a non-fire-retardant treated spruce double framework (18 x 45 and 28 x 45 mm) 46 mm between cladding and construction	

REPORT

No	Test laboratory/test report number	Test date	Test report / date of issue	Test standard + date	Test Result (average of complete set)	
T4	Peutz (under supervision of Efectis Nederland BV)	15 November 2023	2024-Efectis-R000175 June 2024	EN 13823:2020 +A1:2022	FIGRA _{0,2 MJ} = 72.8 W/s THR _{600s} = 6.5 MJ No LFS	SMOGRA = 2.7 m ² /s ² TSP _{600s} = 41.8 m ²
	type finishing properties orientation gaps/seams joint(s)	MOSO Bamboo X-treme Varibo Cladding on Grad system unfinished w = 155 t = 21 mm d = ± 1150 kg/m ³ horizontal orientation 5 mm tested with a vertical joint of 2 mm and a horizontal joint of 7 mm, both in the long wing		mounting cavity	Mounted on a timber frame construction (Spruce, type C18, 38 x 120 mm, filled with glass wool), covered with fiber cement Windstopper, thickness 4.5 mm, and fire classification A2, with a Grad-system, consisting of POM clips and an aluminium profile, c.t.c. 462.5 mm and area density approx. 23 kg/m ² 18 m between cladding and construction	
T5	FCBA - Bordeaux	5 and 6 October 2021	403/21/0609/A-1-v1 15/11/2021	EN 13823:2020* *) please refer to §5	FIGRA _{0,2 MJ} = 106 W/s THR _{600s} = 6.9 MJ No LFS	SMOGRA = 0 m ² /s ² TSP _{600s} = 6.3 m ²
	type finishing properties orientation gaps/seams joint(s)	MOSO Bamboo X-treme Closed Cladding on Grad System unfinished w = 136 mm t = 20 mm d = ± 1150 kg/m ³ vertical and horizontal orientation closed not mentioned in report		mounting cavity	Mounted with POM clips and an aluminium profile c.t.c. 650 mm max not mentioned in report	

REPORT

No	Test laboratory/test report number	Test date	Test report / date of issue	Test standard + date	Test Result (average of complete set)	
T6	Efectis Nederland BV	11 April and 3 May 2013 26 December 2019	2013-Efectis-R0227b[Rev.3] December 2020	EN 13823:2010* *) please refer to §5	FIGRA _{0,2 MJ} = 84.2 W/s THR _{600s} = 7.2 MJ No LFS	SMOGRA = 0.4 m ² /s ² TSP _{600s} = 26.2 m ²
	type finishing properties orientation gaps/seams joint(s)	MOSO Bamboo X-treme unfinished w = 137 mm t = 18 mm d = ±1150 kg/m ³ vertical and horizontal orientation closed none		mounting cavity	Mounted against pine battens, t = 40 mm d ≥ 450 kg/m ³ 40 mm between cladding and construction	
T7	SGS	29-31 January 2024	SHFTS25000202R01_ EN April 9, 2025	EN 13823:2020 +A1:2022	FIGRA _{0,2 MJ} = 75.4 W/s THR _{600s} = 5.8 MJ No LFS	SMOGRA = 17.0 m ² /s ² TSP _{600s} = 84.4 m ²
	type finishing properties orientation gaps/seams joint(s)	MOSO Bamboo X-treme Closed Cladding unfinished w = 137 mm t = 18 mm d ≈ 1150 kg/m ³ vertical closed tested with a vertical joint of 2 mm and a horizontal joint of 3 mm		mounting cavity	on a timber frame construction (Spruce, type C18, 38 x 120 mm, filled with glass wool), which is covered with vapor-permeable breather membrane (t ≤ 1 mm), with a spruce double framework (18 x 45 and 28 x 45 mm) 46 mm between cladding and construction	

REPORT

Table 4 Test reports according to EN ISO 11925-2

No	Test laboratory/test report number	Test date	Test report / date of issue	Test standard + date	Test result	
T8	Efectis Nederland BV	February 7, 2024	2024-Efectis-R000154 June 2024	EN ISO 11925-2:2020	Flame height = 47 mm/60 sec	Inflammation of the filter paper: no
	type finishing properties	MOSO Bamboo X-treme Varibo Cladding Unfinished t = 18 mm d = ± 1150 kg/m ³ w > 90 mm			Both tested on edge and surface	
T9	Efectis Nederland BV	November 23, 2023	2024-Efectis-R000174 June 2024	EN ISO 11925-2:2020	Flame height = 32 mm/60 sec	Inflammation of the filter paper: no
	type finishing properties	MOSO Bamboo X-treme Cladding Unfinished t = 21 mm d = ± 1150 kg/m ³ w > 90 mm			Both tested on edge and surface	
T10	SGS	October 16-30, 2024	SHFS2410001440FF December 19, 2024	EN ISO 11925-2:2020	Flame height $\leq$ 150 mm/60 sec*	Inflammation of the filter paper: no
	type finishing properties	Moso Bamboo N-durance Closed Cladding with false groove oiled t = 18 mm d = ± 1200 kg/m ³ w > 90 mm			Both tested on edge and surface *) No exact measurements are given in the report	
T11	SGS	July 9-23, 2024 (sample A) August 2-15, 2024 (sample B)	AJFS2406006771FF-02 November 14, 2024	EN ISO 11925-2:2020	Flame height $\leq$ 150 mm/60 sec*	Inflammation of the filter paper: no
	type finishing properties	MOSO Bamboo X-treme Closed Cladding Unfinished t = 18 mm d = ± 1150 kg/ m ³ w > 90 mm			Both tested on edge and surface *) No exact measurements are given in the report	

REPORT

No	Test laboratory/test report number	Test date	Test report / date of issue	Test standard + date	Test Result (average of complete set)	
T12	FCBA	October 15, 2021	403/21/0609/A-1-v1 November 15 2021	EN ISO 11925-2:2020	Flame height ≤ 150 mm/60 sec*	Inflammation of the filter paper: no
	type finishing properties	MOSO Bamboo X-treme Closed Cladding Unfinished t = 20 mm d = ±1150 kg/ m ³ w > 90 mm			Both tested on edge and surface *) No exact measurements are given in the report	
T13	SGS	January 29-31 2024	SHFTS25000202R02_EN March 21 2025	EN ISO 11925-2:2020	Flame height ≤ 150 mm/60 sec*	Inflammation of the filter paper: no
	type finishing properties	MOSO Bamboo X-treme Closed Cladding Unfinished t = 18 mm d = ±1150 kg/m ³ w > 90 mm			Both tested on edge and surface *) No exact measurements are given in the report	
T14	Efectis Nederland BV	May 15, 2013	2013-Efectis-R000227a	EN ISO 11925-2:2010* *) please refer to §5	Flame height = 34 mm/60 sec	Inflammation of the filter paper: no
	type finishing properties	MOSO Bamboo X-treme cladding Unfinished t = 18 mm d = ±1150 kg/m ³ w > 90 mm			Both tested on edge and surface	

3. SAMPLING

The sampling has been done by the sponsor as mentioned in the test reports; no further information is available.

4. DEVIATIONS FROM TEST METHODS

Any deviations from the test method(s) as reported in the test report(s);

- For the reports mentioned in table 1: only in test report T5 it was stated that the test results were corrected for the amount of smoke the main burner produces over the auxiliary burner (as required in Clause 9 of EN 13823). This correction improves the performance of the product, so the outcome of the other reports is not to be questioned.
- A gap analysis was made for both report T5, T6 and T14, the outcome was that the new version of the test standard does not affect the test results, they remain valid and they remain the same.

5. EXTENDED APPLICATION REQUESTS

5.1 PRINCIPLES APPLIED FOR THE EXTENSION OF THE FIELD OF APPLICATION

This extended application procedure is based on approach 2 of EN 15725:2023. Definition of the ExAp based on available test results in accordance with §6.2 of the relevant extended application standard CEN/TS 15117, no calculations were done.

5.2 VARIABLES

The following variables have been tested and are described in the test reports mentioned in chapter 3:

Table 5 Tested variables

Type	MOSO Bamboo X-treme, MOSO Bamboo N-durance
Shape	Varibo Cladding, Closed Cladding, Rectangular Cladding, Rebate Cladding, Trapezium Cladding
Seams Seam width	Open, closed, closed seams filled and covered with aluminium profiles 0 mm (closed), 5 mm
Joints	Vertical joints width 2, 3 mm Horizontal joints width 3, 7, 10 m
Cavities	Cavities behind profiles 18, 40, 46 mm



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Fixing	Clip, Screwed, Grad clip, Screwed hidden
Finish	Unfinished, oiled
Surface	Flat, flat with false groove
Edge	sharp edge, r = 1 mm, r = 3 mm
Dimensions, width	65, 100, 136, 137, 155, 178 mm
Dimensions, thickness	18, 20, 21 mm
Density	1150, 1200 kg/m ³
Orientation	Vertical, horizontal

6. EXTENDED APPLICATION

In the table below the variations are substantiated.

Table 6 Substantiation

Shape	The shape of the boards may influence the characteristics of the fire behaviour. <i>In the tests it was demonstrated that any of the tested seams lead to a result of minimum B-s2, d0.</i>
Seams and seam width	Seams may influence the test result. Flames may reach the unexposed side of the product and the interior layer(s) via the seams. Products may deform at the seams leading to small air gaps behind the product. The presence of seams filler (such as the aluminium profile tested in T2) may also influence the test result. No general direct application rules can be given for seams or seams fillers. <i>In the tests it was demonstrated that any of the tested seams lead to a result of minimum B-s2, d0.</i>
Joints	Joints may influence the test result. Flames may reach the unexposed side of the product and the interior layer(s) via the joints. Products may deform at the joints leading to small air gaps behind the product. The presence of joint filler may also influence the test result. No general direct application rules can be given for joints or joint fillers. <i>In the tests it was demonstrated that any of the tested geometries/structures lead to a result of minimum B-s2, d0.</i>
Presence of air gaps/cavities	Air gaps/cavities may influence the test result. An effect of air gaps/cavities may be that flames attack both sides of the product and any associated substrate or underlined product. This attack may be caused by open or opening joints (vertical or horizontal), by burning through, by melting or by falling parts of the product under test. The heating of an air gap may lead to a chimney effect, substantially increasing the severity of the thermal attack. No general direct application rules can be given for the presence of air gaps. <i>In the tests it was demonstrated that any of the tested gaps/cavities lead to a result of minimum B-s2, d0.</i>
Fixing method	Fixings/attachments and supports may influence the test result. Because the influence of fixing method is very different for individual products, it is not possible to give any general rules. However, it might be possible to group products of similar nature in order to derive a direct application rule. <i>In the tests it was demonstrated that any of the tested fixing methods lead to a result of minimum B-s2, d0.</i>
Finish	The type of finishing influences the fire performance parameters of EN 13823 and EN ISO 11925-2. Because different types of finishing have very different behaviour in fire, it is not possible to give any general rule for direct application of test results for different types of coating or facings.

	<i>In the tests it was demonstrated that any of the tested finishings lead to a result of minimum B-s2, d0.</i>
Surface / Edge / Width	The geometry and the structure of the product may influence the fire performance of the product when tested. No general rules can be given. <i>In the tests it was demonstrated that any of the tested geometries/structures lead to a result of minimum B-s2, d0.</i>
Thickness	The thickness of a product will have an influence on the fire performance when tested according to EN 13823. As the influence of thickness is very different for individual products, it is not possible to give any general rules. However, it may be possible to group products of similar nature, e.g. wood panels, in order to derive a direct application rule. The thickness of a product will have an influence on the fire performance when tested according to EN ISO 11925-2. <i>In the tests it was demonstrated that any of the tested thicknesses lead to a result of minimum B-s2, d0.</i>
Density	The density of a product will have an influence on the fire performance when tested according to EN 13823. As the influence of density is very different for individual products, it is not possible to give any general rules. However, for a given product it may be possible to interpolate between data points from samples of different density. <i>In the tests it was demonstrated that any of the tested densities lead to a result of minimum B-s2, d0.</i>
Product orientation	For non-symmetrical products the performance of the sides may be very different due, for example, to very different top layers. On one side a product may have different reaction to fire performance due to a directional effect (like a surface with linear trapezoid profiles). The flame spread may be blocked or guided by the directional effect (the profile direction). No general direct application rules can be given. <i>In the tests it was demonstrated that any of the tested orientations lead to a result of minimum B-s2, d0.</i>

7. EXTENDED APPLICATION RESULTS

In chapter 7 variations of the product are substantiated, leading to the following possible applications:

Table 7 Possible end use applications

Orientation	Horizontal	Vertical / Horizontal								
Joints	Vertical joints width ≤ 3 mm, Horizontal joints width ≤ 10 mm									
Shape	Varibo Cladding		Rebate Cladding	Trapezium / Rectangular Cladding			Closed Cladding			
Width	≥ 155 mm	65 - 178 mm			≥ 155 mm	65 - 178 mm		≥ 155 mm		
Thickness	20 - 21 mm	18 - 21 mm			20 - 21 mm	18 - 21 mm				
Edge	r = 0 - 5 mm									
Surface	Flat							Flat with false groove		
Fixing	Grad clip	Clip		Screwed		Grad clip	Screwed hidden	Grad clip	Screwed hidden	Grad clip
Seams	Open	Filled / Covered with 40 mm wide aluminium profiles		Closed	Filled / Covered with 40 mm wide aluminium profiles	Open	Closed			
Seams width	≤ 5 mm			0 mm (closed)	≤ 5 mm		0 mm (closed)			
Framework	Grad system	Pine / Spruce *)		Pine / Spruce *)	Pine / Spruce *)	Grad system	Pine / Spruce *)	Grad system	Pine / Spruce *)	Grad system
Cavity	18 mm	18 - 46 mm				18 mm	18 - 46 mm			
Cavity panel / foil	Fiber cement Windstopper t ≥ 4,5 mm fire class A1 / A2	Water-repellent vapor-permeable foil (t ≤ 1 mm) or Fiber cement Windstopper t ≥ 4,5 mm fire class A1 / A2		Water-repellent vapor-permeable foil (t ≤ 1 mm) or Fiber cement Windstopper t ≥ 4,5 mm fire class A1 / A2		Fiber cement Windstopper t ≥ 4,5 mm fire class A1 / A2	Water-repellent vapor-permeable foil (t ≤ 1 mm) or Fiber cement Windstopper t ≥ 4,5 mm fire class A1 / A2			
Frame Construction	Timber frame construction (Spruce, type C18, filled with glass wool)									

8. EVALUATION

The test results mentioned in chapter 3 achieved the following results according to EN 13501-1:

Table 8 Tested variables

Class	Test method(s)	Classification criteria
B	EN 13823	FIGRA _{0,2 MJ} ≤ 120 W/s and LFS < edge of specimen and THR600s ≤ 7.5 MJ
	EN ISO 11925-2* Exposure = 30 s	Fs ≤ 150 mm within 60 s
s2	EN 13823	SMOGRA ≤ 30m ² /s ² TSP _{600s} ≤ 200m ²
d0	EN 13823	No flaming droplets/particles within 600 s
	EN ISO 11925-2	No ignition of the paper
* Under conditions of surface flame attack and, if appropriate to the end-use application of the product, edge flame attack.		

9. ADDITIONAL STATEMENT

The extended application results relate to the behaviour of a product/product family or building element under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product/product family or building element in use.

This extended application is issued on the basis of test data and the content of the relevant standards at the time of issue.



Signed by: Saskia NIEUWENDIJK

Project leader Fire Resistance Engineering



Signed by: George SCHOLTEN

Project leader Fire Resistance Engineering



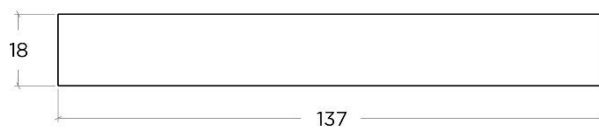
Signed by: Bauke KNOTTNERUS

Manager Reaction to Fire

APPENDIX A: Drawings

Available products

MOSO Bamboo N-durance Rectangular board
Dimensions: 137 x 18 mm (W x T), Radius 0 mm
Density: approx. 1200 kg/m³
Finish: Unfinished



MOSO Bamboo X-treme Rectangular board
Dimensions: 137 x 18 mm (W x T), Radius 0 mm
Density: approx. 1150 kg/m³
Finish: Unfinished

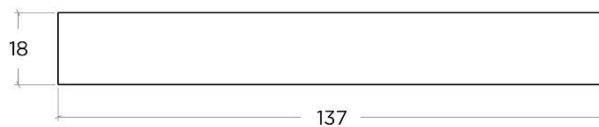
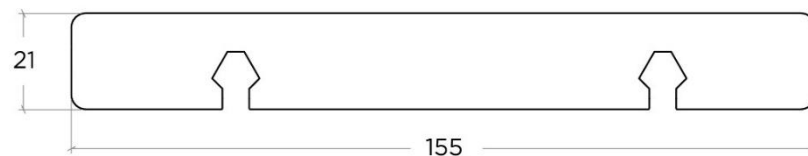
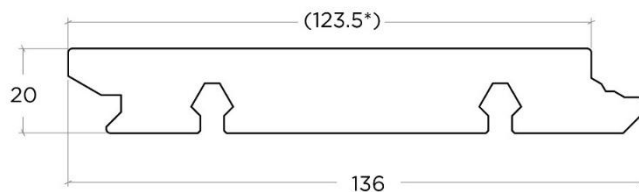


Figure A. 1 Profile type: Rectangular board

MOSO Bamboo X-treme Varibo Cladding on Grad System
Dimensions: 155 x 21 mm (W x T), Radius 3 mm
Density: approx. 1150 kg/m³
Finish: Unfinished



MOSO Bamboo X-treme Closed Cladding on Grad System
Dimensions: 136 x 20 mm (W x T), Radius 1 mm
Density: approx. 1150 kg/m³
Finish: Unfinished



*) Effective width.

Figure A. 2 Profile types: On Grad system

MOSO Bamboo X-treme Varibo Cladding
Dimensions: 65 x 18 mm (W x T), Radius 3 mm
Density: approx. 1150 kg/m³
Finish: Unfinished



MOSO Bamboo X-treme Varibo Cladding
Dimensions: 178 x 18 mm (W x T), Radius 3 mm
Density: approx. 1150 kg/m³
Finish: Unfinished

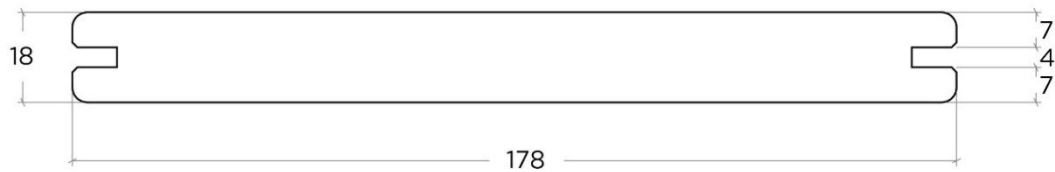
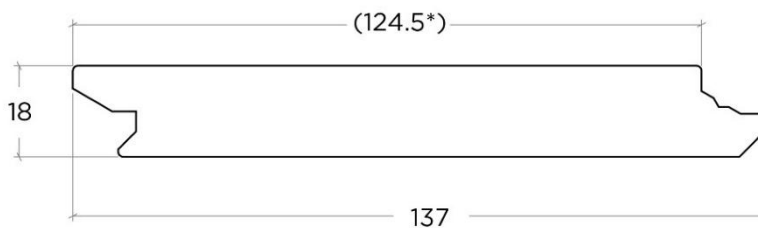


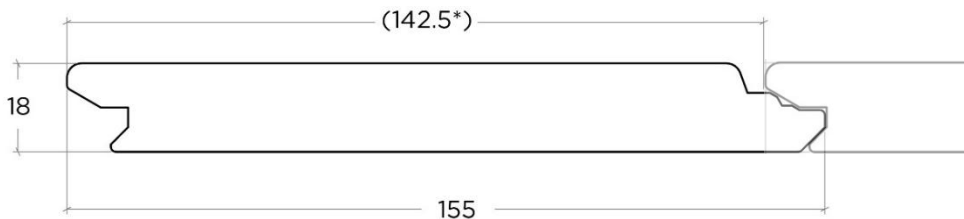
Figure A. 3 Profile types: Varibo cladding

MOSO Bamboo X-treme Closed Cladding
Dimensions: 137 x 18 mm (W x T), Radius 1 mm
Density: approx. 1150 kg/m³
Finish: Unfinished



*) Effective width.

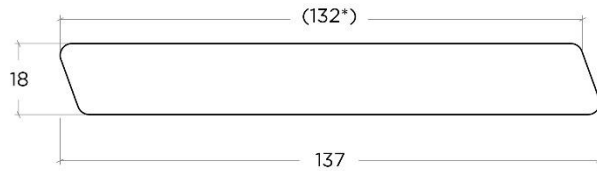
MOSO Bamboo N-durance Closed Cladding with false groove
Dimensions: 155 x 18 mm (W x T), Radius 3 mm
Density: approx. 1200 kg/m³
Finish: Oiled



*) Effective width.

Figure A. 4 Profile types: Closed Cladding

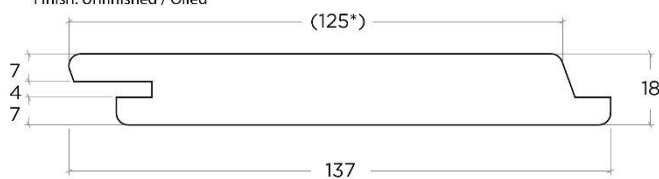
MOSO Bamboo X-treme / Bamboo N-durance Trapezium
Dimensions: 137 x 18 mm (W x T), Radius 3 mm
Density: approx. 1150 kg/m³ / approx. 1200 kg/m³ resp.
Finish: Unfinished / Oiled



*) Effective width.

Figure A. 5 Profile types: Trapezium

MOSO Bamboo X-treme / Bamboo N-durance Rabat
Dimensions: 137 x 18 mm (W x T), Radius 3 mm
Density: approx. 1150 kg/m³ / approx. 1200 kg/m³ resp.
Finish: Unfinished / Oiled



*) Effective width.

Figure A. 6 Profile types: Rabat

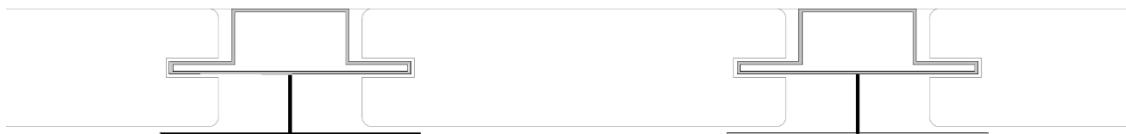


Figure A. 7 Seam type: Closed with aluminium profile

System and installation principles

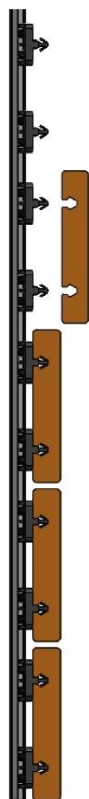


Figure A. 8 Grad system

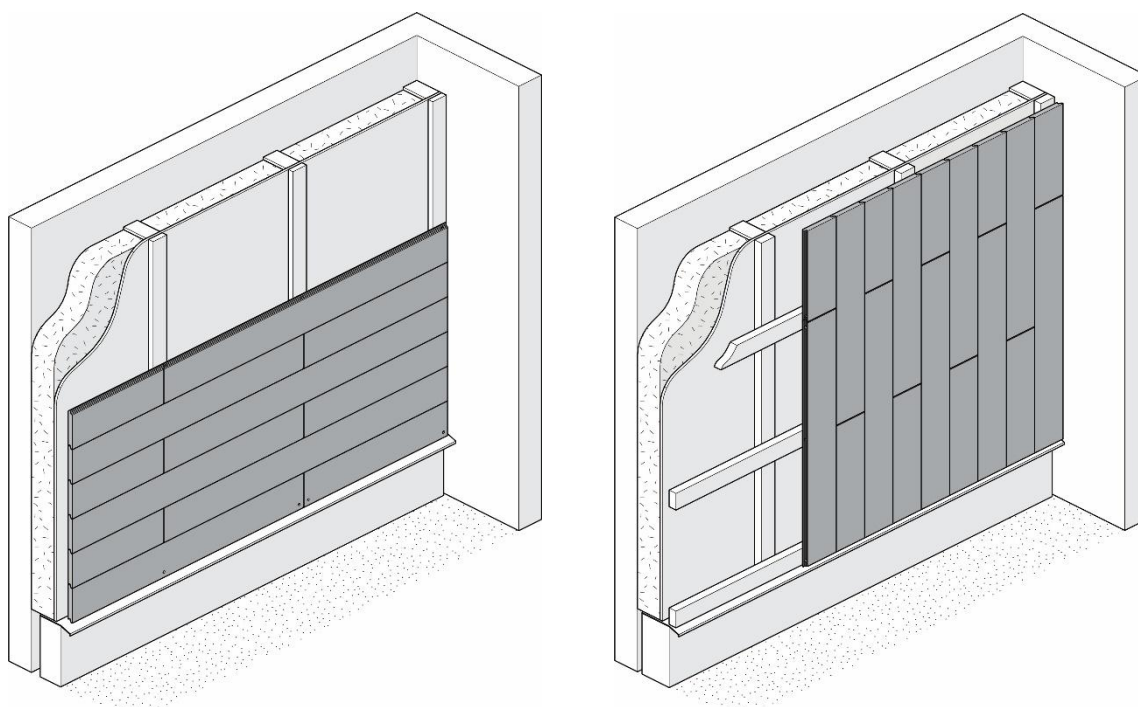
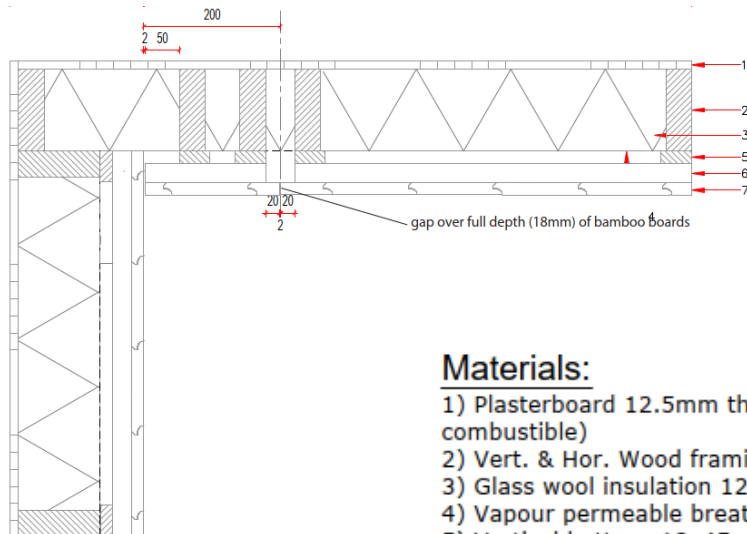


Figure A. 9 Mounting with battens



Materials:

- 1) Plasterboard 12.5mm thickness - Type A fire class (Non-combustible)
- 2) Vert. & Hor. Wood framing 38x120mm = Spruce wood C18
- 3) Glass wool insulation 120mm / 16 kg/m³
- 4) Vapour permeable breather membrane =< 1mm
- 5) Vertical battens 18x45mm - Spruce wood
- 6) Horizontal battens 28x45mm - Spruce wood
- 7) Moso Bamboo X-treme Closed cladding 137x18mm

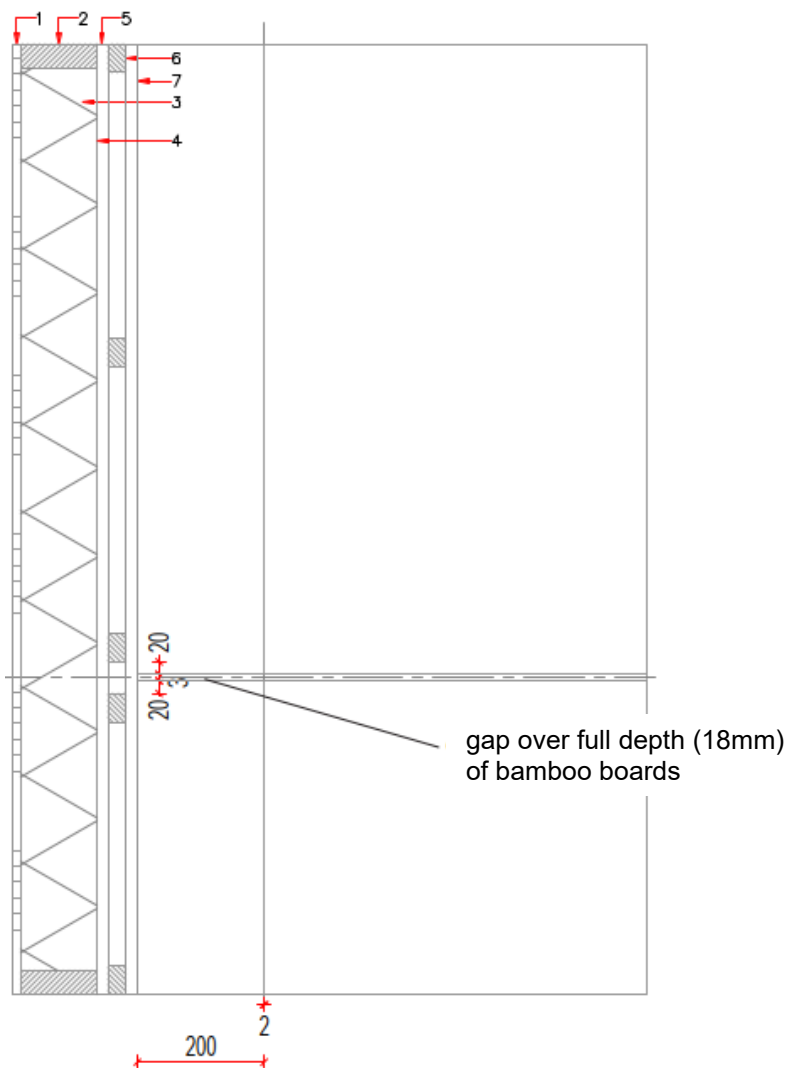


Figure A. 10 Example of mounting with battens on a Timber Frame Construction (top and side view)