grad®

Fire Solutions

Cladding

WHO ARE WE ?

For almost 20 years, the Grad® team has been perfecting the invisible clip fastening system.

→ Grad® is a brand of the Burger & Cie Group, a leader in clip-on decking and cladding. With its innovative system consisting of aluminium rails pre-equipped with clips at the factory, installing decking and cladding becomes a simplified process. The boards in a variety of species have grooves designed specifically to fit the Grad® system, so they can easily be fixed to the structure by simply pressing them down.

→ With an extensive range of accessories and the support of our dedicated design office, all projects become possible. Made-to-measure becomes easily accessible, making it possible to meet technical, geographical, aesthetic requirements, and much more. **Whatever the nature of your challenges, Grad® has the right solutions to make your projects a success.**

→ The idea of developing **an invisible fastening system** was born within a company based in northern Alsace, «Architecture du Bois», which specialises in exterior wood applications. It was in 2005 that the first version of the clip was created and then launched on the French market.

→ In 2012, the Grad® brand was born with the mission of developing fastening solutions for private, public and architectural applications. Grad® became part of Burger & Cie in 2016 and then joined it at its Lièpvre site in 2019.

→ **The Grad® system is suitable for horizontal and vertical cladding.** It also allows easy, individual removal of each board without damaging it, thanks to specially designed disassembly keys.

FOCUS ON OUR SYSTEM

100% invisible fastening, a unique, patented system.

ALUMINIUM

The 6060 alloy used for Grad® rails has excellent mechanical properties for structural use, allowing the systems to be installed on façades even in very exposed environments. This alloy also has very good corrosion resistance in outdoor environment close to the sea.

MADE-TO-MEASURE

Our design office is at your disposal to help you with your projects. From defining your requirements in terms of technical constraints to producing working drawings, we are at your disposal to provide you with the best possible support.

RECYCLABLE

The aluminium we use to manufacture our rails is made from an average of 80% recycled material. Based on its infinite recyclability, we would like to move towards “zero ultimate waste”.

ALUMINIUMS RAILS

Specific profiles with different characteristics to adapt to all requirements.

100% REMOVABLE

board by board, for open cladding projects thanks to our

DISMANTLING KEYS

PRE-INSTALLED CLIPS, PLACED TO ORDER

to fix compatible boards with a simple push, without any screws

SBI TEST

Single Burning Item

The Single Burning Item (SBI) test is a standardised test used to assess building materials' reaction to fire.

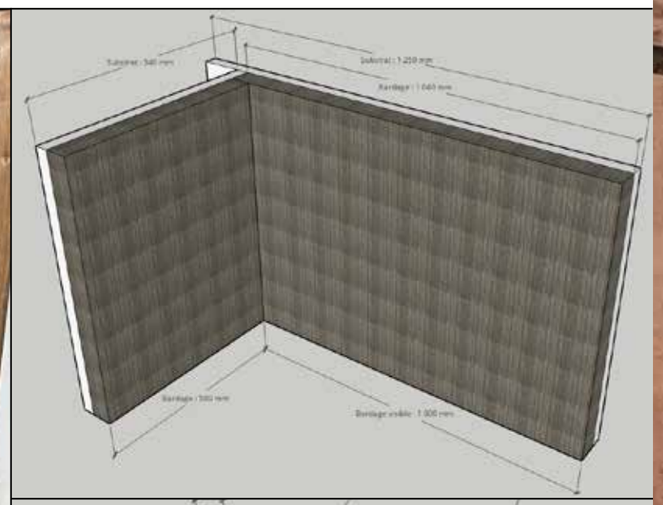
→ **TEST OBJECTIVE** : The main objective of the SBI test is to assess the reaction-to-fire properties of a material when subjected to a specific heat source. The aim is to analyse the material's potential contribution to fire propagation.

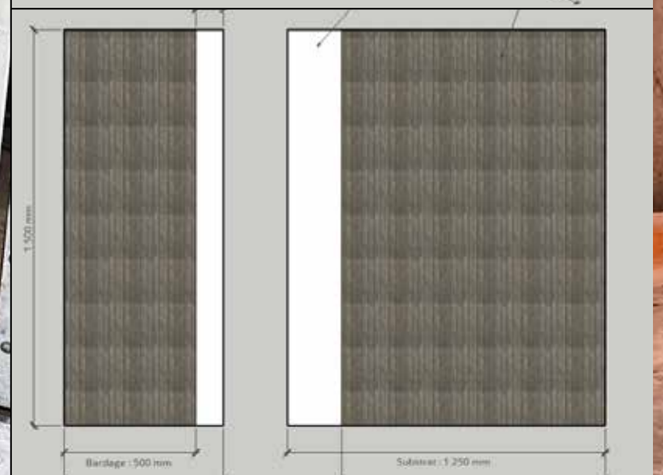
→ **TEST CONDITIONS :** The test is carried out in a specially equipped test chamber. The system is exposed to a specific heat source, replicating a flame, and several measurements are taken to assess its performance.

→ **PARAMETERS MEASURED :** The elements evaluated during the SBI test include the speed at which the flame progresses over the surface of the material, heat generation, smoke emission and the fall of ignited particles linked to the reaction of the material in a fire situation.

→ **STANDARDS AND REGULATIONS :** The SBI test is carried out in accordance with international standards: European standards EN 13501-1 and EN 13823. These directives define standardised protocols and classifications to guarantee the reproducibility and comparability of test results.

→ **CLASSIFICATION OF MATERIALS :** The results of the SBI test are used to classify materials according to their reaction to fire, an essential classification in the design and construction process. This ensures that the materials selected meet required fire safety standards.





FLAT RAIL

Non-structural rail for installing exterior cladding, soffits, roofing, ceilings, and interior panelling. Most commonly used for cladding.

TECHNICAL CHARACTERISTICS

Rail material	Aluminium 6060
Rail finish	Black paint
Rail weight (including clips)	+/- 0,630 kg/ml
Maximum length	3968 mm
Pull-out strength of the clip on the rail	150 to 250 kg, for two fixing points (depending on the type of cladding)

- Thin: only 38 mm thick including a 20 mm thick board
- Light : 630 gr/ml
- Industrially pre-clipped rail for perfect drainage lines
- Each board can be removed individually with special keys adapted to the width of the board
- Rail can be cut to length
- No contact between the boards and the aluminium rail for better air circulation
- Invisible fastening
- Simple, quick and comfortable installation
- Endless possibilities
- 100% recyclable

20-YEAR GUARANTEE

OUTDOOR APPLICATION

INVISIBLE FASTENING

INNOVATION : PYROCLIP

The Pyroclip is an innovative development of the Grad® clip to improve your cladding's reaction to fire. **It provides long-lasting, fire-resistant cladding** with mechanical performance that exceeds the minimum standards.

The result of extensive R&D work, the Pyroclip follows the same philosophy as the Grad® clip. Industrially pre-assembled on non-combustible aluminium profiles, **it offers unrivalled speed of installation and perfect finishes.**

→ THE PYROCLIP OF THE GRAD® SYSTEM IS :

Unrivalled reduction in installation time	Preserves boards outer surface
100% invisible fastening	Made in France structure
Can be completely dismantled for open cladding installation	20-year structural guarantee
Numerous compatible materials for cladding profilest	Perfect convergence lines

CERTIFIED PROFILES

THERMOSPRUCE

by Thermory® with Woodsafe® treatment
Thermally modified wood at 215°C

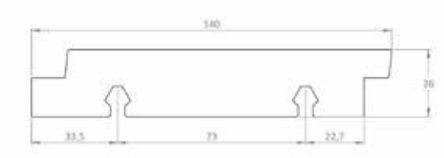
Thermally modified wood undergoes a high-temperature treatment process in a controlled, oxygen-free environment, which modifies its chemical structure. Without the addition of chemicals, heat treatment combines steam and heat to permanently alter the internal structure of the wood.

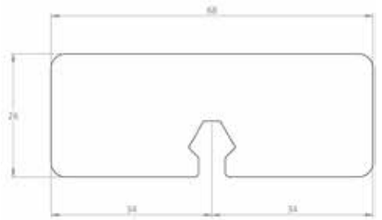
This transformation gives the wood improved properties such as stability, durability and resistance to bad weather, insects and rot. As a result, it is commonly used in exterior construction, such as cladding and decking, as well as in a variety of interior joinery projects.

In addition to its functional benefits, thermally treated wood often has a distinctive aesthetic with darker shades and a unique texture, making it a popular choice for many construction and design projects.

Low thermal and acoustic conductivity.
“Sawfalling” quality; 2 to 6 knots per linear meter

Durability class 1
Guaranteed up to 15 years according to the manufacturer’s conditions





WOODSAFE® TREATMENT

WoodSafe® is a company specialising in wood treatment to enhance its fire resistance. Their treatment process involves the application of specific chemicals designed to reduce the combustibility of wood and slow the spread of fire.

The precise details of the treatment vary according to the type of wood and the customer’s specific requirements. Typically, treatment involves applying a fire retardant that penetrates the wood fibres, forming a protective barrier against flames. **This barrier reduces the wood’s ability to burn and spread fire, improving its resistance to fire.**

It is important to note that although **fire-retardant treatment increases the fire resistance of wood**, it does not make it completely fireproof. Rather, it offers additional protection in the event of a fire. It is therefore crucial to follow the manufacturer’s recommendations and comply with local fire safety standards when using fire-retardant treated products.

CERTIFIED PROFILES

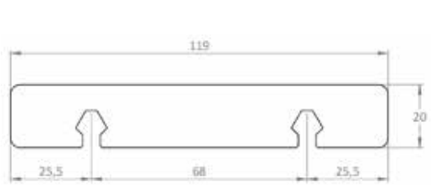
MOSO®
BAMBOO X-TREME®

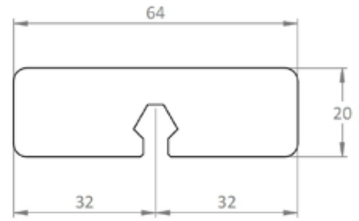
MOSO® Bamboo X-treme® thermally modified and high-density compressed boards offer an ideal solution for outdoor applications due to their increased durability and stability. The heat treatment process enhances bamboo’s natural resistance to bad weather, insects and rot, while the high-density compression improves its strength and ability to withstand external stresses such as variations in temperature and humidity.

This combination of heat treatment and compression ensures that bamboo boards retain their structural integrity in harsh outdoor conditions, making them ideal for flooring, decking, cladding and other outdoor applications requiring high strength and durability.

Bamboo X-treme® is thermo-treated at 200°C
Puncture and abrasion resistance
The ecological alternative to the massive use of tropical wood

Knot-free
Ideal for public works
According to EN-335 durability class 1
Guaranteed up to 25 years according to the manufacturer’s conditions

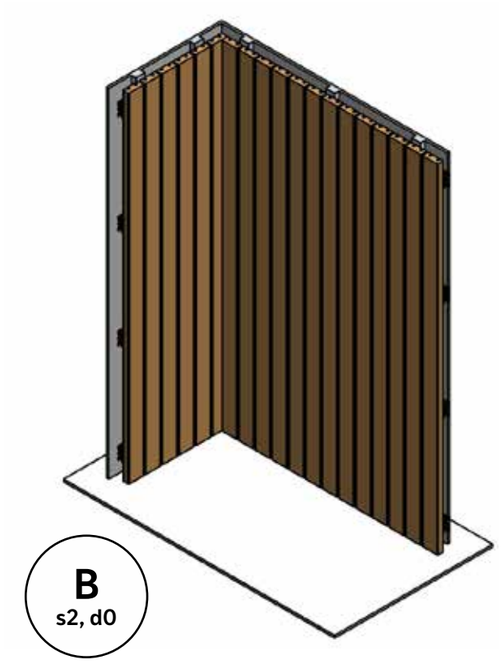




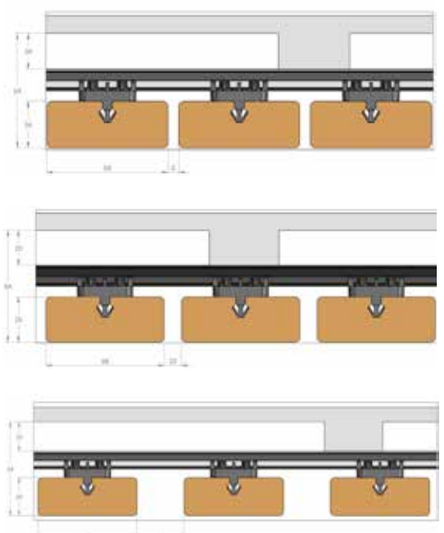
CERTIFIED PROFILES

THERMOSPRUCE 26/68

with 1 central groove on fiber cement with 20 mm air space and Grad®'s substructure



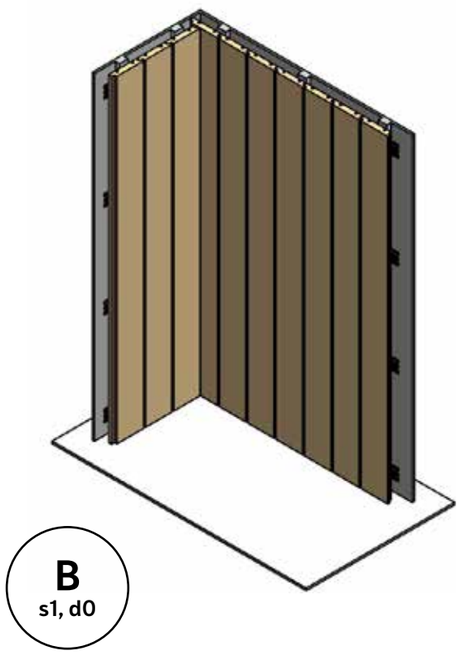
Variety	Thermospruce by Thermory®
Board direction	Vertical
Board thickness	26 mm
Board width	68 mm
Spacing between boards	6 to 32 mm
Air space	20 mm

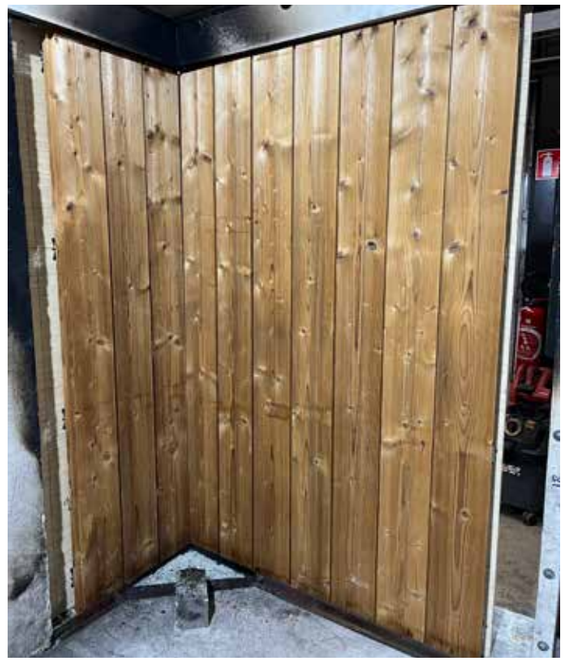


CERTIFIED PROFILES

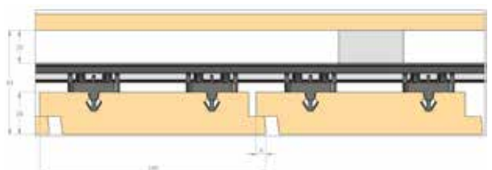
THERMOSPRUCE 26/140

overlap on plywood with 20 mm air space and Grad®'s substructure





Variety	Thermospruce by Thermory®
Board direction	Vertical
Board thickness	26 mm
Board width	140 mm
Air space	20 mm
Specification	Overlap

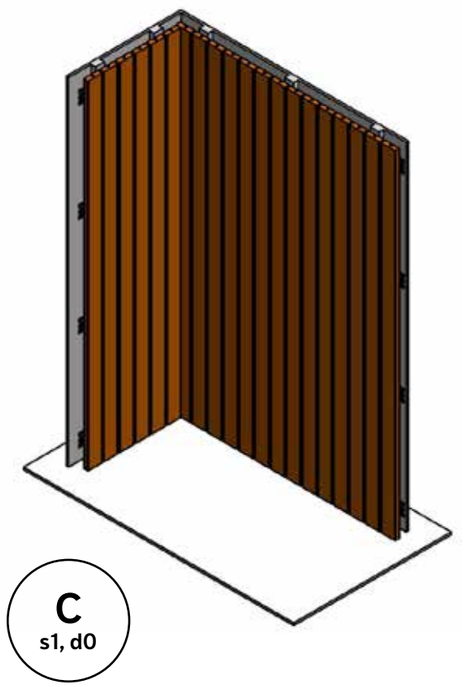


Thermospruce 26/140 overlap on plywood

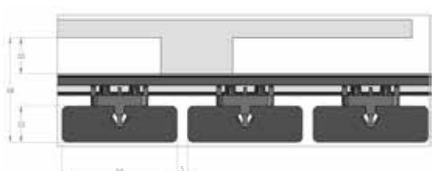
CERTIFIED PROFILES

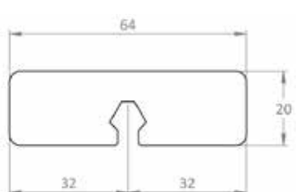
MOSO® BAMBOO X-TREME® 20/64

on fiber cement with 20 mm air space and Grad®'s substructure



Variety	MOSO® Bamboo X-treme®
Board direction	Vertical
Board thickness	20 mm
Board width	64 mm
Spacing between boards	5 mm
Air space	20 mm

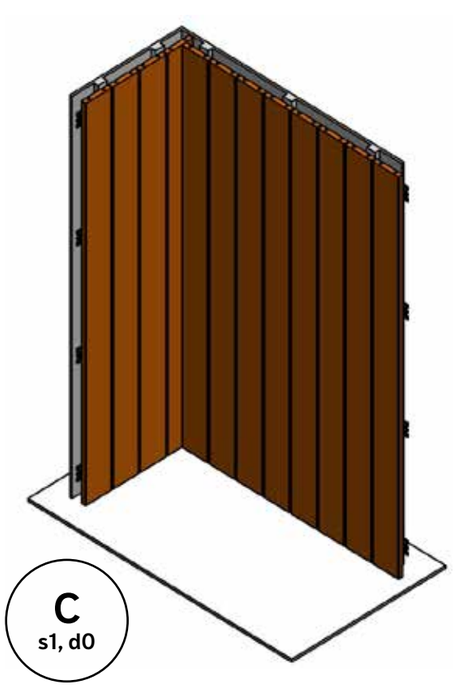




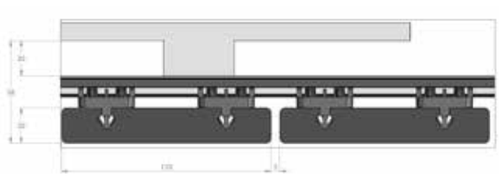
CERTIFIED PROFILES

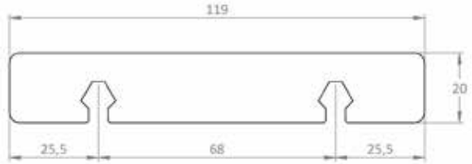
MOSO® BAMBOO X-TREME® 20/119

on fiber cement with 20 mm air space and Grad®'s substructure



Variety	MOSO® Bamboo X-treme®
Board direction	Vertical
Board thickness	20 mm
Board width	119 mm
Spacing between boards	5 mm
Air space	20 mm



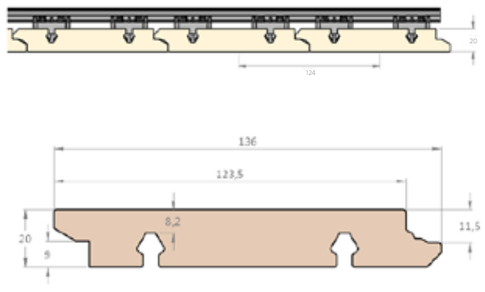


CERTIFIED PROFILES

MOSO® BAMBOO X-TREME® 20/136

and Grad®'s substructure

Variety	MOSO® Bamboo X-treme®
Board direction	Vertical or horizontal
Board thickness	20 mm
Board width	136 mm
Spacing between boards	5 mm
Air space	40 mm
Specification	Overlap / clip POM



CLASSIFICATIONS : OUR RESULTS

The results of the SBI test are used to classify materials according to their reaction to fire, an essential classification in the design and construction process. This ensures that the materials selected meet the required fire safety standards.

The classifications depend on 3 major criteria: **fire behaviour** (heat release and flame spread), **smoke release**, and finally, **the fall of flaming drops or particles**.

EUROCLASS CLASSIFICATION IN ACCORDANCE WITH EN 13501-1

Fire behaviour (class)		Smoke emissions (smoke)		Flaming droplets (dropping)	
A1	Non-combustible	-	-	-	-
A2	Practically incombustible	s1	Low smoke emissions	d0	No inflamed droplets/particles
B	Withstands prolonged attack by flames and a single burning object while limiting flame spread	s2	Average smoke emissions	d1	Inflamed droplets/particles lasting less than 10 seconds
C	Withstands a brief attack from flames and a single burning object while limiting flame spread	s3	High smoke emissions	d2	Inflamed droplets/particles lasting more than 10 seconds
D	Withstands a brief attack by small flames while limiting the spread of the flame and a single burning object				
E	Withstands brief attacks from small flames while limiting flame spread	Not applicable		No classification	
F					

PROFILES	GRAD® RAILS	TESTED BOARDS	SPACING BETWEEN BOARDS	SUPPORT	BOARD ORIENTATION	CLIP	RESULTS
	Flat rail	Thermory® Thermoépicéa + Woodsafe® 26/68 - 1 rainure	From 6 mm to 32 mm	Fiber cement 20 mm air space Flat rail	Vertical	Pyroclip	**B - s2, d0**
	Flat rail	Thermory® Thermoépicéa + Woodsafe® 26/140	Overlap	Plywood 20 mm air space Flat rail	Vertical	Pyroclip	**B - s1, d0**
	Flat rail	MOSO® Bamboo X-Treme® 20/64	5 mm	Fiber cement 20 mm air space Flat rail	Vertical	Pyroclip	**C - s1, d0**
	Flat rail	MOSO® Bamboo X-Treme® 20/119	5 mm	Fiber cement 20 mm air space Flat rail	Vertical	Pyroclip	**C - s1, d0**
	Flat rail PR24 PR39	MOSO® Bamboo X-Treme® 20/136	Overlap	Fiber cement or polywood 40 mm air space With or without insulation	Vertical or horizontal	POM	**B- s1, d0**

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