

Instructions for Use and Assembly of Charred Wood Cladding

Introduction

Charred wood cladding, also known as Yakisugi or Shou Sugi Ban, is a natural timber product manufactured through a controlled charring process which enhances the wood's appearance, durability, and resistance to environmental exposure. As timber remains a living and hygroscopic material even after

processing, proper handling, storage, installation, and maintenance are essential to ensure the longevity and visual performance of the facade.

This document provides general recommendations and best practices for the installation and use of Inflamed charred wood cladding systems.



1. Product Characteristics

Charred wood is a natural timber product and therefore each board possesses unique visual characteristics including grain pattern, texture, knots, colour tone, and surface appearance. Natural variation between boards is expected and should not be considered a defect.

Due to the charring and brushing processes, surface appearance may vary depending on:

- wood species,
- growth structure,
- density of annual rings,
- brushing intensity,
- oil absorption,
- exposure to sunlight and weather conditions.

Especially in brushed finishes, the surface texture may contain naturally softer and harder grain areas. This contributes to the authentic appearance of the product.

Boards used for manufacturing with an average moisture content typically ranging between 10–18%.

As timber is hygroscopic, dimensional movement may occur depending on surrounding environmental conditions. Slight expansion, contraction, minor surface checking, and movement are natural properties of timber and shall not be treated as defects.

2. Acclimatisation and Storage Guidelines

Prior to installation, cladding boards should be acclimatised to the local environmental conditions.

Boards must be stored:

- horizontally on a flat surface,
- in a dry, well-ventilated, and sheltered area,
- protected from direct sunlight, rain, and ground moisture,
- at least 20 cm above ground level.

It is recommended to allow the timber to acclimatise for several days before installation, particularly during periods of extreme humidity or dryness.

Protective packaging should remain intact until shortly before installation. However, boards must not be stored in fully sealed or non-ventilated packaging for extended periods, as condensation may occur.

Extra care must be taken when handling charred wood products. Dragging boards against one another, dropping them, or placing them on dirty or rough surfaces may damage the finished surface.

For brushed finishes especially, installers must never place the brushed face of one plank directly against the finished face of another plank. This may result in scratching, burnishing, or visible marking of the surface. Boards should always be handled carefully and stacked in a manner that protects the visible face.

3. Installation Conditions

Installation should only take place under favourable weather conditions. Both the cladding boards and the substrate/wall structure must be dry during installation.

Installation should be carried out by qualified and experienced professionals familiar with ventilated timber facade systems.

Prior to installation, it is strongly recommended that a detailed facade design be prepared by a qualified architect, designer, or engineer. The design should include:

- supporting structure,
- ventilation cavity,
- membrane placement,
- insulation layers,
- flashing details,
- expansion considerations,
- drainage solutions,

- fire safety requirements.

When calculating quantities, an additional allowance of approximately 10–15% should be included to account for cutting and installation waste.

The facade system must be designed to protect the timber from excessive and prolonged moisture exposure. Proper detailing around:

- windows,
 - doors,
 - corners,
 - roof edges,
 - parapets,
 - horizontal transitions
- is essential.

The minimum recommended distance between the cladding and finished ground level is 30 cm.

Window sills, flashings, and horizontal surfaces should always be designed with sufficient slope to allow effective water runoff.

4. Ventilation Requirements

Proper ventilation behind the cladding is essential for the long-term performance of any timber facade system.

A continuous ventilated cavity must be maintained behind the cladding to allow:

- airflow,
- drying of moisture,
- pressure equalisation,
- reduction of condensation risk.

A ventilation cavity of minimum 20–30 mm is generally recommended.

Air intake openings should be positioned at the bottom of the facade, while air outlet openings should be provided at the top.

Ventilation openings should be protected using suitable insect mesh or ventilation profiles to prevent insects and debris from entering the cavity.

Insufficient ventilation may result in:

- excessive moisture accumulation,
- dimensional instability,
- mould growth,
- reduced service life of the facade system.

5. Supporting Structure

The attachment of charred wood cladding is achieved using a timber batten system suitable for the wall construction type.

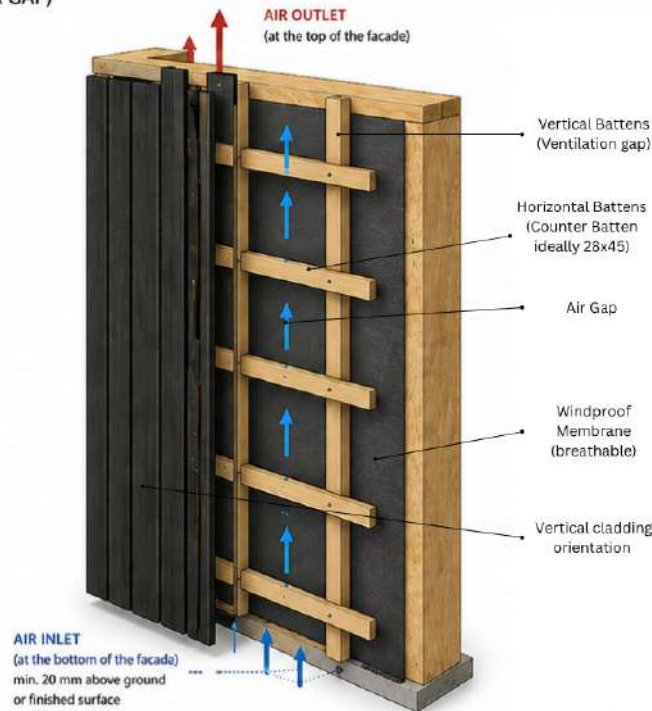
The supporting battens should:

- be dry and structurally stable,
- be treated or naturally durable,
- possess similar durability characteristics as the facade cladding,
- be installed straight and level.

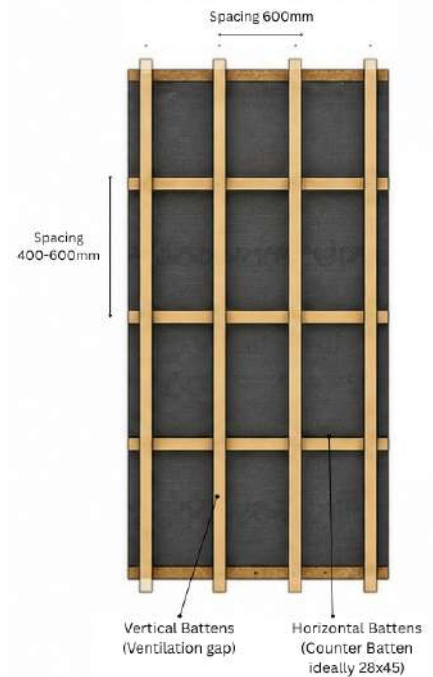
Unseasoned or wet timber must not be used for the supporting structure.

Battens should generally be installed perpendicular to the cladding direction.

VENTILATED VERTICAL CLADDING – DOUBLE BATTEN SYSTEM (WITH AIR GAP)



FRAME VIEW (FROM FRONT) (without cladding)



BOTTOM DETAIL (AIR INLET)



TOP DETAIL (AIR OUTLET)



Typical batten spacing:

- 400–600 mm centres depending on profile, board dimensions, and wind load requirements.

For vertical cladding installations, a double batten system is recommended to ensure proper rear ventilation.

Horizontal battens used in vertical installations should preferably feature chamfered upper edges to improve water runoff.

Where continuous horizontal battens are used, provisions must be made to maintain uninterrupted airflow behind the cladding.

6. Fixing Recommendations

Only high-quality stainless steel fixings suitable for exterior timber cladding applications should be used.

Recommended:

- A2 stainless steel screws for standard environments,
- A4 stainless steel screws for coastal or high-humidity environments.

To ensure both structural stability and a visually professional facade appearance, two screws should always be used at every fixing point.

Using only a single fixing point may allow boards to:

- twist,
- cup,
- warp,
- move excessively over time.



All screws should be installed in **perfectly straight** and consistent lines throughout the facade.

Proper screw alignment is extremely important for the final visual quality of the installation.

Straight fixing lines can be achieved using:

- laser alignment systems, or
- traditional string line methods.

For the traditional method:

- one fixing screw is positioned at one end of the facade section,
- another fixing screw is positioned at the opposite end,
- a string line (rope) is tensioned between them to create a straight

installation reference line.

Care should be taken to avoid overdriving screws, as excessive force may damage the charred or brushed surface.

Pre-drilling is recommended:

- near board ends,
- when using hardwood species,
- during installation in colder weather conditions,
- where splitting risk exists.

7. Handling During Installation

Charred wood surfaces require additional care during installation compared to conventional timber cladding.

Installers should:

- wear clean gloves when possible,
- avoid dragging boards,
- avoid placing tools directly on finished surfaces,
- avoid excessive contact with rough surfaces,
- immediately remove metal filings or construction debris from the facade surface.

Special care should be taken with brushed finishes, as aggressive contact between boards may damage the visible surface texture.

Boards should always be lifted rather than slid across one another.

Cut ends created during installation should be treated appropriately where possible to minimise moisture penetration and maintain visual consistency.

8. Natural Weathering and Maintenance

Over time, exposure to UV radiation and environmental conditions will naturally influence the appearance of timber cladding.

This may include:

- colour fading,
- silvering,
- gradual tonal variation,
- surface texture changes.

This process is natural and should not be considered a defect.

Maintenance frequency depends on:

- wood species,
- facade orientation,
- climate conditions,
- UV exposure,
- selected finish type.

Oiled finishes may require periodic maintenance coating to preserve colour intensity and surface protection.

Carbon (fully charred) surfaces may naturally release small carbon particles during the early stages following installation. This is a natural characteristic of deeply charred timber.

Regular inspection of the facade is recommended.

9. Important Notice

This installation guide is intended to provide general advice and recommendations regarding the installation and use of charred wood cladding products.

The information contained within this document does not replace project-specific engineering, architectural, or professional installation advice.

As installation conditions, climatic exposure, substrate construction, and project detailing may vary significantly, responsibility for correct installation remains with the installer, contractor, architect, and project designer.

Inflamed strongly recommends consulting qualified facade professionals before commencing installation.

Failure to follow proper installation practices may negatively affect both the appearance and performance of the facade system.