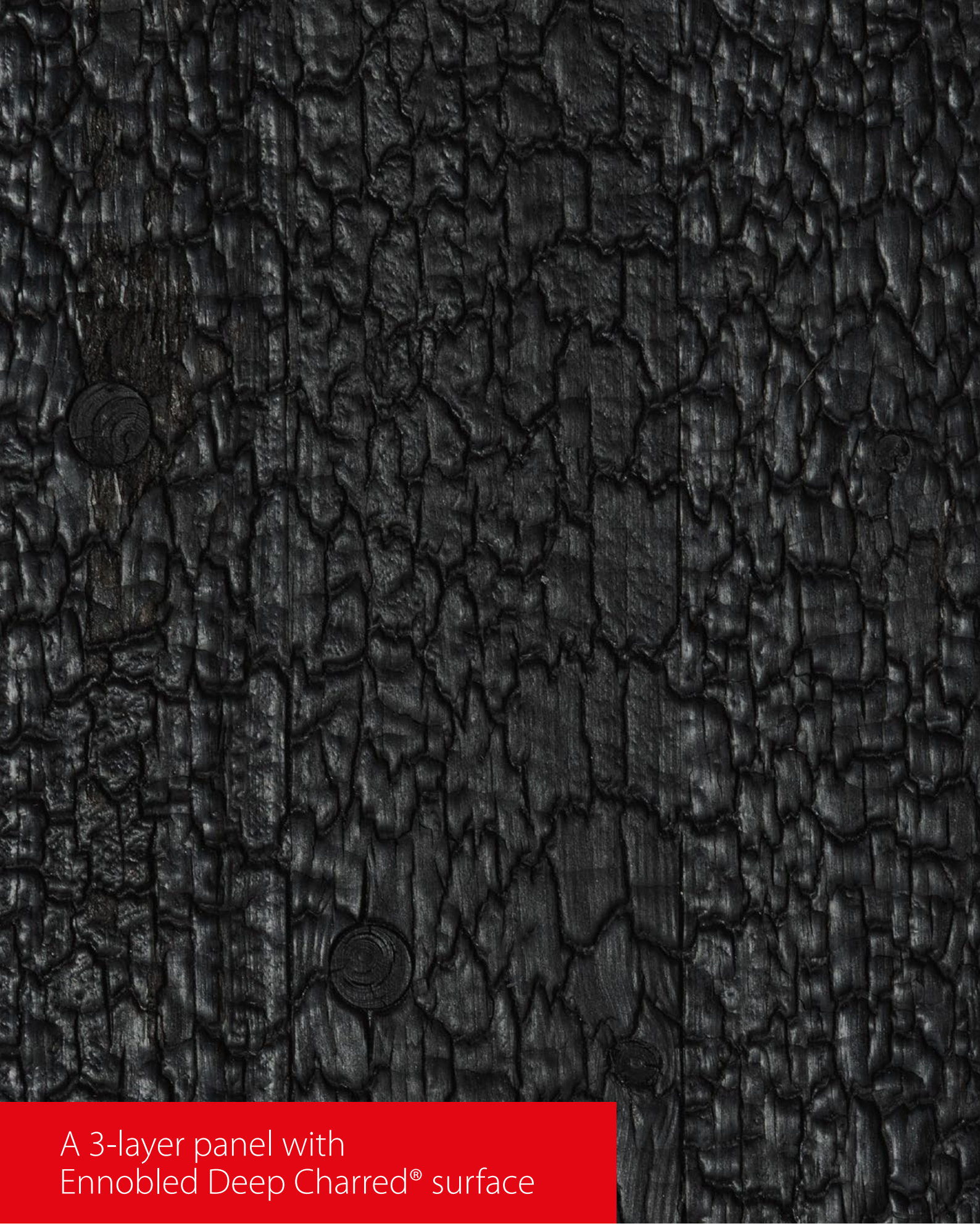


A 3-layer panel with Ennobled Deep Charred® surface

NOVATOP *by* ENNOBLED

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5 SAMPLER OF SURFACES

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ONLINE SUPPORT

Technical documentation

Product

3D library

Warning:
All rights reserved for technical changes, typesetting and printing errors. The colour of the images may differ from the original due to printing.

Warning:
The product is under development.
You can find the current technical documentation on the website in downloads section.

V: 01/26

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A 3-layer panel with Ennobled Deep Charred® surface

A combination of Czech craftsmanship, traditional Japanese technology and Austrian precision.

DESCRIPTION

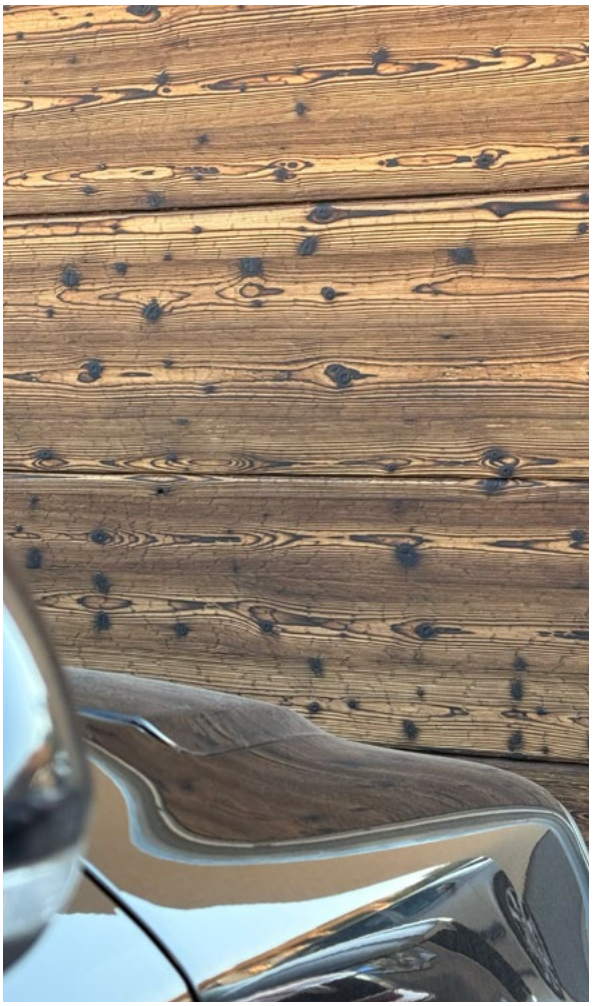
A three-layer NOVATOP SWP spruce panel with a surface layer treated using ENNOBLED Deep Charred® technology.

NOVATOP SWP three-layer panels are made with exceptional care, the wood is dried to 8 %, the lamellas are sorted, the surface is closed and straightened. This guarantees the panel long-term stability both indoors and outdoors.

ENNOBLED Deep Charred® technology is based on the traditional Japanese Yakisugi method – deep charring of wood using a flame. At temperatures around 900 °C, a charred layer, 2–3 mm thick, is formed. This forms a natural protective barrier against moisture and significantly extends the life of the material. The surface is then treated with a special oil that provides long-term protection and enhances its colour depth. The result is a surface with a distinctive three-dimensional appearance and a unique aesthetic effect that gives buildings a distinctive look. The surface changes over the years and acquires greyish tones depending on the type of exposure.

10 REASONS FOR NOVATOP BY ENNOBLED PANELS

1. **The power of fire**
   Traditional Japanese technology in a new concept
2. **Luxurious appearance**
   Distinctive three-dimensional surface
3. **Uniqueness**
   A unique flame imprint in every detail
4. **Protection in depth**
   The charred layer acts as a natural shield against environmental effects
5. **Durability**
   Long service life, the surface acquires greyish tones
6. **Certainty of details**
   Dimensional stability, minimum shrinkage and swelling
7. **A natural material**
   Gentle gluing
8. **Sustainability**
   PEFC certified wood
9. **Connection of the tips**
   Czech craftsmanship quality, Japanese tradition + Austrian precision
10. **Purely natural product**
    It can be recycled or burned at the end of its life cycle and converted into bioenergy.



NOVATOP by Ennobled panels have been created in cooperation with an Austrian company called Ennobled GmbH.

NOVATOP *by* ENNOBLED

NOVATOP BY ENNOBLED DATA SHEET

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NOVATOP BY ENNOBLED — A 3-LAYER PANEL WITH DEEP CHARRED® SURFACE	
Technical requirements	EN 13353, EN 13986
Operation classes	SWP/3 S according to EN 13353
Wood	Spruce
Glue	MUF
Thickness (mm)	27 (9-9-9)
Net formats (mm)	Exterior Widths: 500, 625 Lengths: 2500, 2900, 5000 Interior Widths: 500, 625 Lengths: 2500, 2900
Dimensional tolerances	Machining tolerance in the thickness of ±0.4 mm Tolerance of sanding thickness of ±0.2 mm Width and length tolerance of ±0.5 mm
Surface treatment	Ennobled Deep Charred® technology
Types of surfaces	Sunburned Deep Charred® Modern Brown Deep Charred® Summer Gray Deep Charred® Geat Black Deep Charred® Carbonized Deep Charred®
Moisture of wood	8±2 %
Density	490 Kg/m^3
Reaction to fire	D-s2, d0
Design value of thermal conductivity (λ)	0.13 W/mK with a specific weight of 490 kg/m3 according to EN ISO 10456 – spruce
Factor of diffusion resistance (μ)	200/70 (dry/wet)
Sound absorption	250–500 Hz – 0,1 1000–2000 Hz – 0,3
Airborne sound insulation (dB)	R = 13 x log (m_a) + 14 m_a = surface weight kg/m^2
Specific heat capacity (cp)	1,600 J/kgK according to EN ISO 10456

NOVATOP

NOVATOP BY ENNOBLED SURFACE TYPES

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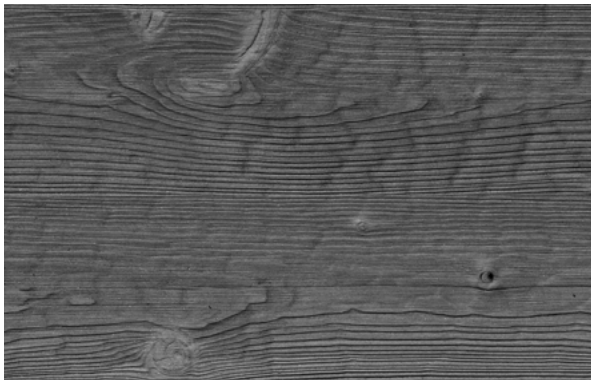
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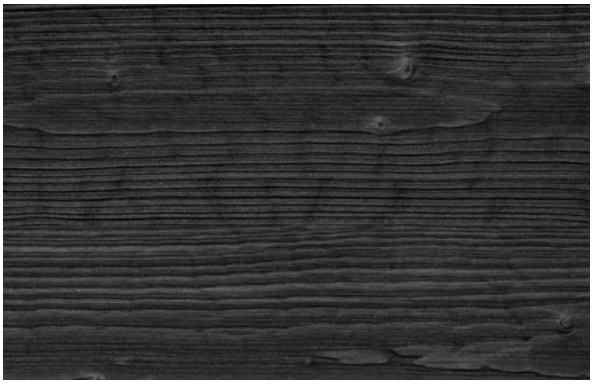
Sunburned Deep Charred®



Modern Brown Deep Charred®



Summer gray Deep Charred®



Great Black Deep Charred®



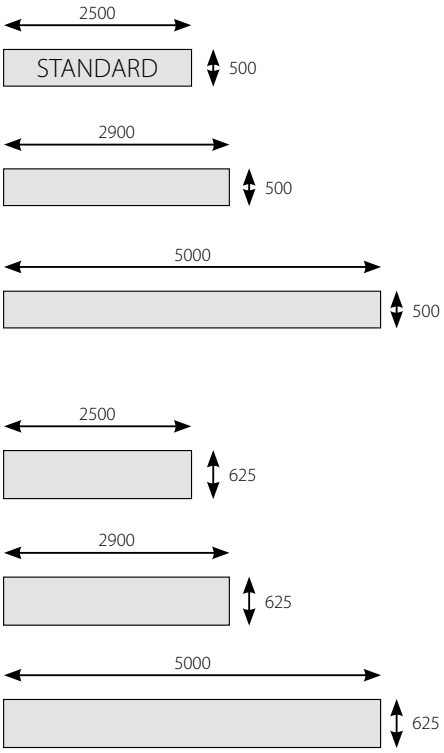
Carbonized Deep Charred®

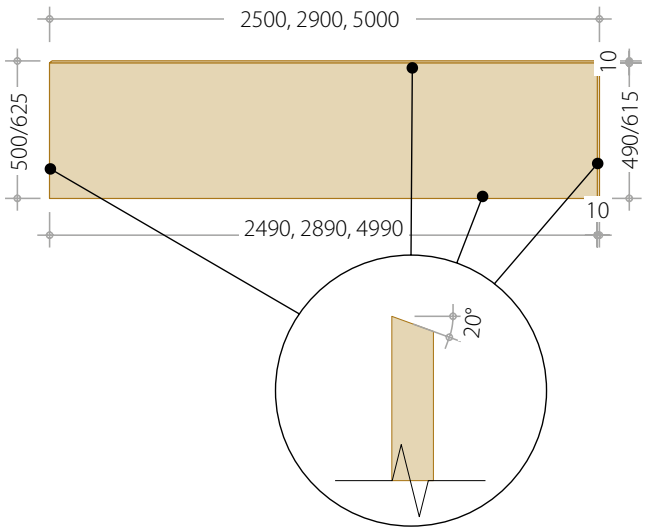
NOVATOP BY ENNOBLED FORMATS

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BASIC FORMATS

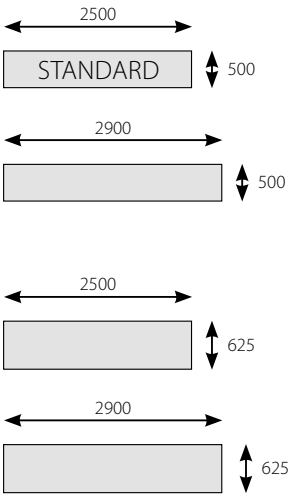
EXTERIOR





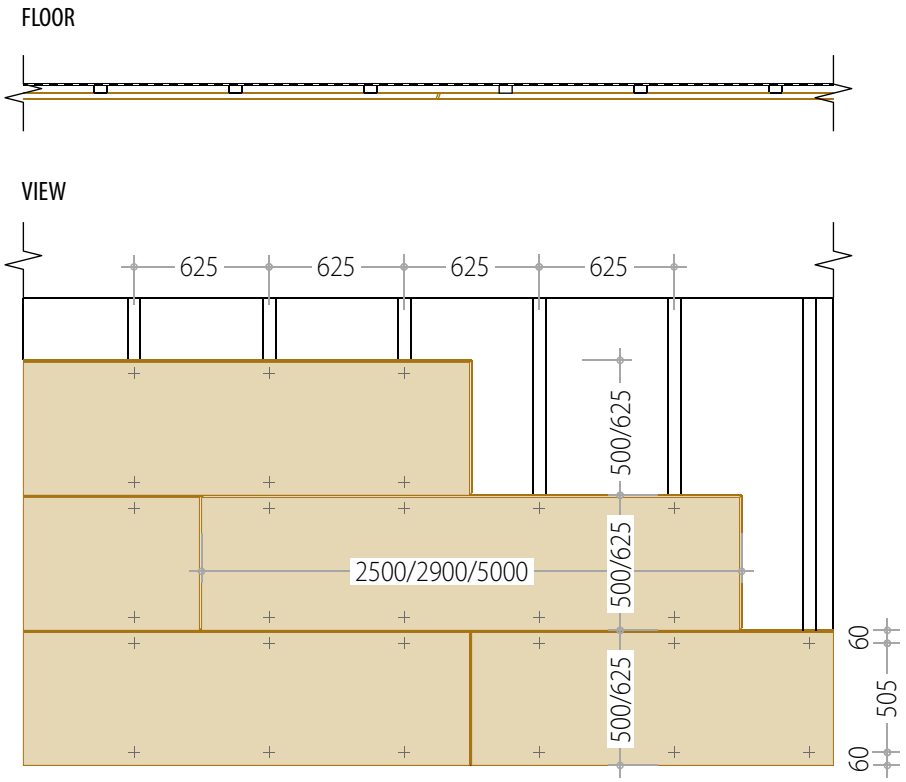
Widths (mm): 500, 625
Lengths (mm): 2500, 2900, 5000
Joint: chamfer cut – anchoring to the surface of the panel

INTERIOR



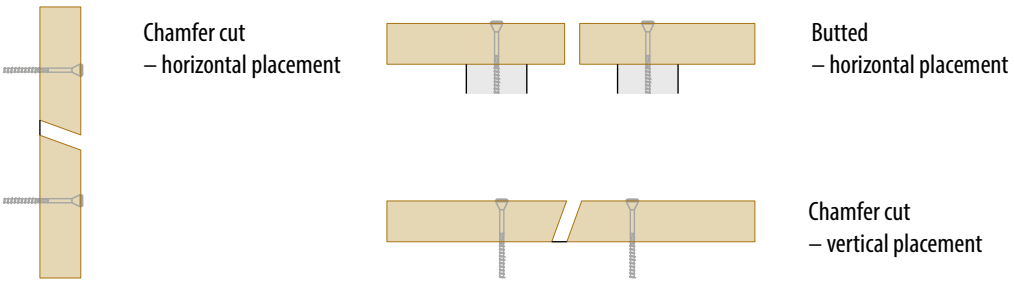
Widths (mm): 500, 625
Lengths (mm): 2500, 2900
Joint: on request.

HORIZONTAL FIBRE DIRECTION, CHAMFER CUT



1:35

Types of connections

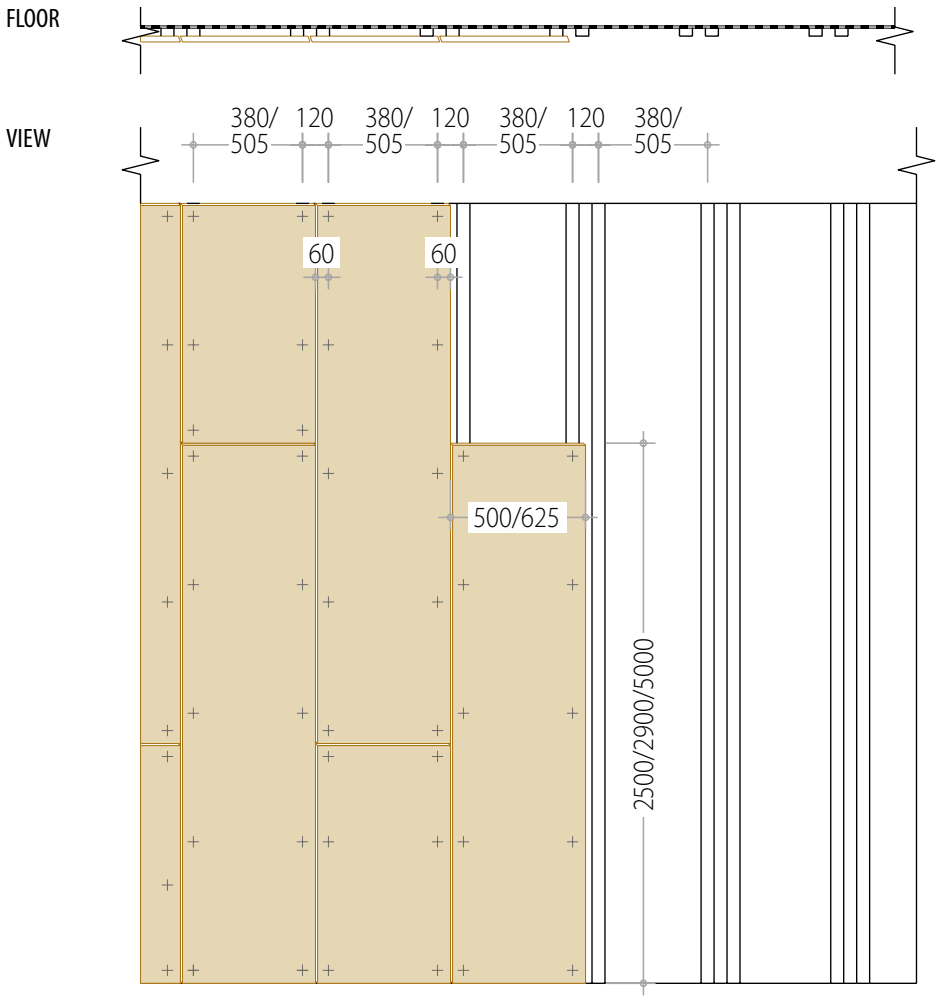


1:5

ANCHORING USING FACADE
SCREWS 5 x 60 mm by 312

THE ANCHORING MUST BE ASSESSED BY A STRUCTURAL ENGINEER WITH REGARD TO THE SPECIFIC SCREWS AND LOADS.

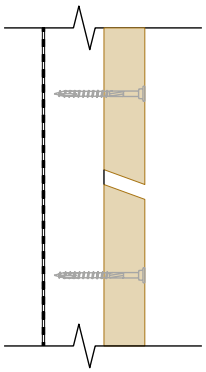
VERTICAL DIRECTION OF THE FIBERS, CHAMFER CUT



1:35

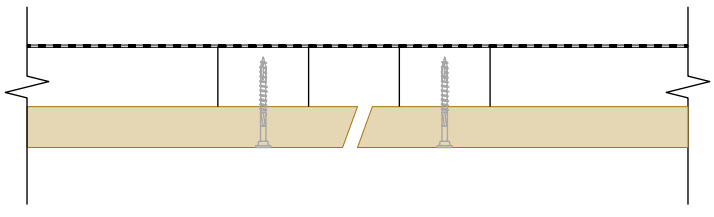
Types of connections

HORIZONTAL JOINT:



1:5

VERTICAL JOINT:



1:5



Chamfer cut
– horizontal placement



Butted
– horizontal placement



Chamfer cut
– vertical placement

1:5

ANCHORING USING FACADE
5 x 60 mm á 200 mm

THE ANCHORING MUST BE ASSESSED BY A STRUCTURAL ENGINEER WITH REGARD TO THE SPECIFIC SCREWS AND LOADS.

Production and quality control

Ennobled by NOVATOP three-layer panels are made from lamellas of solid spruce wood. The lamellas in the individual layers are glued together in both the longitudinal and transverse directions. The layers are rotated 90° relative to each other and then glued together. On one side, the surface of the panels is treated with patented Ennobled Deep Charred® technology.

The panels are made with exceptional care, the wood is dried to 8 +/-2 %, the lamellas are sorted, the surface is closed and straightened. This guarantees the long-term stability of the panel in the exterior, but it is still necessary to take into account the properties of natural wood. All machining of panels is performed on CNC machines. Each panel undergoes individual final quality control.

Warning: Due to the natural properties of wood, the panels can respond to changes in temperature and relative humidity with volume changes, especially shrinking, swelling or twisting. These phenomena are part of the natural behaviour of the material.

Surface treatment

The surface of the panels is treated with patented Ennobled Deep Charred® technology.

ENNOBLED Deep Charred® technology is based on the traditional Japanese Yakisugi method – deep charring of wood using a flame. At temperatures around 900 °C, a charred layer, 2–3 mm thick, is formed. This forms a natural protective barrier against moisture and significantly extends the life of the material. The surface is then treated with a special oil that provides long-term protection and enhances its colour depth.

Natural aging

The surface of the panels treated with the patented Ennobled Deep Charred® technology naturally changes over time – a fine patina is created, which can acquire greyish tones depending on the type of exposure, both indoors and outdoors.

The manufacturer defines permissible defects within the specified quality of the panels; natural signs of these defects are not grounds for complaint.



Allowed



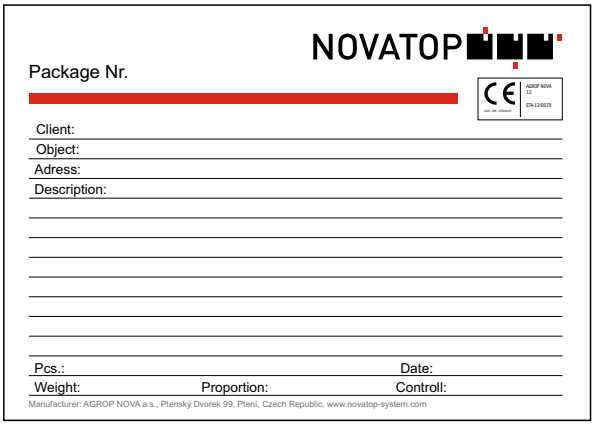
Allowed

NOVATOP BY ENNOBLED OTHER

Packaging

- After the output inspection, the panels are placed into packages in wooden crates.
- In the package, the panels are stacked with the higher quality side facing up, and the top panel with the higher quality facing down.
- The bottom panel is placed on timber beams with a spacing of approximately 1 m.
- The package is wrapped in PE foil on all sides.
- The fronts of the package are covered with cardboard.
- The package is secured around its circumference with a strapping band.
- The package has edge protection and a stand in the middle of the package made of SWP panel.
- The identification label is placed on the longitudinal side of the package.
- The panels are individually interleaved with Mirelon (insulation material made of lightweight polyethylene foam).
- Packaging in a crate provides protection against contamination, and offers partial protection against mechanical damage.





Transport

The standard method of transportation is in covered trucks or 20ft or 40ft containers. The approximate capacity of a truck or a 40ft container is approximately 40 m^3 of panels.

Handling

The packages are designed for handling using front or side forklifts, or, possibly, cranes.

Storage

- Store the panels in dry, closed and well-ventilated areas.
- Lay the panels horizontally, supported by timber beams with a recommended spacing of approximately 1 m.
- After removing the protective PE packaging, carefully cover the panels.
- During storage, protect the panels from rain and running water, dirt and direct sunlight.
- It is not permitted: to step on or place other materials or loads on the packages.
- The visual surfaces of the panels must be kept clean to prevent damage.

Warning:
During transportation, handling and storage, it is necessary to ensure the protection of packaging material and panels from mechanical damage and adverse weather conditions.

Machining

The panels can be machined using standard woodworking tools and machines, just like solid wood – they can be drilled, cut, milled, sanded, or repaired. Wood dust is created while machining.

Application

For installation, we recommend using anchoring screws of matching colours and oil for treating cut edges, which can be supplied together with the panels (0.3 l or 0.9 l packaging).

Warning:

- During installation and maintenance, it is essential not to damage the charred layer, which provides the protective function of the material and is very fragile.
- Due to the natural properties of wood, the panels can respond to changes in temperature and relative humidity with volume changes, especially shrinking, swelling or twisting; these phenomena are a natural property of the material.
- When using the panels outdoors, the natural reactions of wood to climatic conditions must be taken into account.
- Wood exposed to weather conditions is naturally subject to greying, surface erosion, and the formation of fine cracks.
- The panels cannot be used in a marine environment, i.e., within 10 km from the coast.

Exterior

- Facades, cladding

Outdoor durability is primarily affected by the type of exposure, joints, anchoring, etc. In order to maintain a long lifespan, it is necessary to follow the principles of structural protection and maintenance (e.g. removal of dirt from joints, climbing plants, nests, repairs of other defects – gutters, window sills, sheeting, etc.). During installation and maintenance, it is essential not to damage the charred layer, which provides the protective function of the material and is very fragile. At the same time, the natural properties of wood must be taken into account. The surface changes over the years and acquires greyish tones depending on the type of exposure.

Interior

- Cladding of walls, ceilings, furniture

The old technology was rediscovered by architects for its visual uniqueness. The charring treatment not only gives the wood a distinctive texture, but also a characteristic aroma, which may be noticeable indoors at first but gradually fades. The surface of the panels is additionally treated with oil, which protects against dirt and the formation of undesirable odours. During machining, it is essential not to damage the charred layer, which provides the protective function of the material and is very fragile.

NOVATOP BY ENNOBLED OTHER

Principles of exterior structural protection

- A ventilated gap of at least 40 mm thick must be provided behind the cladding, with proper connection to the external environment. The depth of the ventilation depends on the type of structure, composition and size of the ventilated area.
- The panels must be installed at least 300 mm above ground level to ensure protection against water spray.
- The supporting grid must be oriented perpendicular to the direction of the panel fibres.
- The method of anchoring and the amount of fasteners depends on local conditions and static assessment.
- When using a grid made of materials other than wood, it is necessary to take into account the different thermal expansion and related measures (e.g. by pre-drilling of the openings for screws, leaving a dilatation clearance, enlarging the joints between the panels).
- In the case of horizontal battens, sufficient ventilation must be provided (e.g. by a gap behind the battens or by adding vertical battens).
- The placement of the panels must minimize the exposure of horizontal faces:
  - use of panels over the full height of the wall,
  - use of spring and groove joints and edge protection,
  - sheeting of front sides between individual floors.
- The uniform exposure of individual facade surfaces to external conditions contributes to consistency in colour. It is recommended:
  - for low walls, design a larger roof overhang,
  - for higher walls, a small or no overhang,
  - a plinth of at least 300 mm,
  - minimizing the overlap of sill panels,
  - preventing local water running down the surface of facade panels.
- Vegetation must not limit the function of the facade; the recommended minimum distance is > 1 meter. Climbing plants are undesirable.
- **Cutting edges**

– All cutting edges of the panels must be protected against water penetration.

- During application, the cutting edges must be thoroughly treated to maintain the protective function of the surface treatment. The ideal procedure is to burn the edges with a gas burner and then treat them with special ENNOBLED oil, which can be supplied together with the panels (0.3 l or 0.9 l packaging).

Maintenance principles

Carbonized panels do not require regular maintenance. The surface naturally changes, similar to other wood materials, and these changes are a natural part of the aging process of wood and are not considered a product defect. Over time, the charred layer may peel off slightly, but this does not affect the durability of the material. The Carbonized Deep Charred® surface gradually acquires a subtle silvery to graphite tone, which gives the facade a characteristic and aesthetically valuable appearance. Experience from implementations shows that, after 7 years, the panel retains an overall black appearance with an elegant, slightly metallic shade.
When using refined versions treated with Ennobled oil, it is recommended to follow the oil manufacturer's instructions: after 5–7 years, the surface can be re-treated with special Ennobled oil, which will restore its original rich colour and velvety sheen. However, practice shows that re-oiling is not necessary – even without intervention, the surface retains its dark and attractive appearance on a long-term basis.

- **Warning:** The panel is susceptible to mechanical damage.

Exterior
- The functional life of the panels is mainly influenced by the type of exposure, the structural details, and the method of anchoring.
- For a long functional life, it is necessary to follow the principles of structural wood protection, regularly remove dirt, and promptly repair local surface defects.

Necessary measures:
- Regular removal of dirt.
- Cleaning of surfaces infested with fungi and algae.
- Protection against mechanical damage.
- Regular inspection of surface finishes and timely repair of damage.
- Insect infestation and hail damage must be dealt with by a specialist.
- Enabling the rear ventilation to function properly.
- Replacement of deformed or damaged panels.
- In the event of detecting damp areas or having a suspicion about water ingress, it is necessary to call an expert.

Interior
- Recommended climate in the interior: relative humidity 40–60 %, temperature of approx. 20 °C. Low humidity may cause cracks in the wood.
- For routine wood maintenance, use a soft dry cloth or a soft sponge. It is essential not to damage the charred layer.
- In case of moderate soiling, cleaning agents intended for wooden surfaces can be used.
- Repairs are usually visually noticeable.

Warning:
- Do not use excessive amounts of water.
- When placing decorations, paintings, shelves, etc., it is necessary to take into account that UV radiation may change the shade of the surrounding surface („burning out" of the contours). Repairs are usually visually noticeable.
- The panels must be protected from direct exposure to moisture, such as condensate from air conditioning, running or dripping water, etc.

NOVATOP BY ENNOBLED OTHER

Warranty

The warranty for NOVATOP by Ennobled panels is governed by the valid General Terms and Conditions of the Manufacturer – AGROP NOVA a.s. The warranty is provided for 5 years on the functionality of the panel, assuming proper machining, use, compliance with the principles of structural wood protection and maintenance.

The manufacturer guarantees that during the warranty period:

- there is no degenerative damage to the wooden material,
- no more than 5 % of the total facade area will be affected by the lamellas coming loose from more than 30 % of their surface area,
- there is no extensive flaking of the carbonized surface,
- new panels will only be delivered to replace defective or damaged items.

The warranty does not cover especially:

- mechanical damage,
- damage caused by hail or windstorm,
- exposure to chemicals or aggressive gases,
- damage caused by fire and other extraordinary influences,
- durability of joints and edges of the panels, if they have not undergone surface treatment and have not been provided with adequate structural protection (e.g., sheeting, dilatation joints).

Warning: The manufacturer does not assume liability for any damage caused by:

- incorrect handling,
- improper storage,
- incorrect machining,
- improper use and maintenance.

Business documents:

Complaint report

General terms and conditions

NOVATOP BY ENNOBLED ASSEMBLY INSTRUCTIONS

CONTENTS

The assembly instructions contain basic information and recommendations. Responsibility for the correct execution is assumed by the implementing company that complies with the current technical standards.

1 ASSEMBLY TOOLS

- Burner / charring tool, fire extinguisher.
- Screws. (We recommend using anchoring screws of matching colours, which can be supplied with the panels).
- Oil for treating cut edges, which can be supplied together with the panels (0.3 l or 0.9 l packaging).
- Drills, screwdrivers, measuring tools, carpenter's squares, flat squares.
- Bars for delimiting the dilatation joint between the panels.
- Ladders, lifting platforms, mobile scaffolding
- The recommended number of workers: min. 2.



Warning: During installation and maintenance, it is essential not to damage the charred layer, which provides the protective function of the material (the charred layer is very fragile).

2 GENERAL INFORMATION

- The panels should be machined with all standard woodworking tools and machines and their surface can be treated by conventional procedures as for solid wood.
- Carefully follow the principles of structural wood protection.
- When working, wear gloves to avoid contaminating the panels and to prevent injury.

We do not recommend:

- Treading on visual surfaces or otherwise polluting them. The charred surface is particularly sensitive to mechanical damage.
- Exposing the panels to direct sunlight before proper surface treatment, this will prevent possible colour changes and differences.

3 STORAGE

- The panels must be stored in a dry place and protected from the weather.
- The panels must be stored on hard and flat surfaces with the possibility of secure access and manipulation.
- Disposal of packaging materials must be carried out in accordance with the local regulations and directives on waste management.
- The panels are particularly sensitive to mechanical damage
- During storage, wood may warp due to differences in surface moisture content.

4 SAFETY IN THE WORKPLACE

When handling the panels, it is necessary to:

- Thinking about the procedure, the necessary tools and materials, the method of handling and the number of workers for the assembly.
- Comply with all occupational safety measures.
- Use protective equipment.
- Extreme care must be exercised when working at heights and on lifting platforms.
- Secure the boards against falling or mechanical damage.
- Special caution must be exercised when charring, as there is a significant risk of fire. We recommend working with water or a fire extinguisher.

NOVATOP BY ENNOBLED ASSEMBLY INSTRUCTIONS

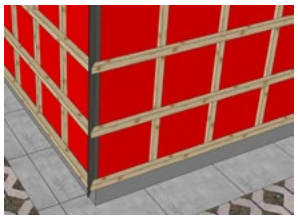
CONTENTS

5 ASSEMBLY

Before assembling the substructure, we recommend creating a plan for laying the panels and the substructure.
The assembly description begins with the supporting structure for the facade (wall, prisms, profiles…).

- Preparation of instruments and materials
- Preparation of scaffolding / platforms
- Substructure preparation: alignment, cleaning, possible application of diffusion foil
- Machining, formatting of panels, indication of anchoring positions, etc.
- Surface treatment of any panel cuts:
  - o Light charring of edges – take extra care to prevent the wood from burning or glowing. It is advisable to darken it only slightly.
  - o Coating with recommended oil (to be defined – to be added)
- Photo documentation (passages, punctures, installations)
- Preparation of potential sheeting
- Installation of panels:
  - o Creating a threshold
  - o Placement of the spacer in the future groove
  - o Adaptation to window and other openings
  - o Fitting the panel and fixing it in its position (with clamps or holding). The spring and groove of the panels are designed to have as little clearance as possible. However, the charring process is not homogenous, so it is possible that sometimes it is necessary to lightly sand off a piece of knot, etc. in the spring.
  - o Optional insertion of sheeting
  - o Anchoring
  - o After attaching the panel, checking the flatness and accuracy of the attachment – after checking the attachment with the remaining fasteners (the number and type of fasteners depends on the recommendation and calculation regarding the statics).
  - o Continuing with other panels (after installation, take care not to damage the panels already installed).
- Installation of cover grills of the ventilated gap (or the installation is to be performed concurrently with the panel)
- Inspection of dilatation joints, flatness, compliance with design principles, etc.









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Spruce – Sunburned Deep Charred®



Spruce – Modern Brown Deep Charred®

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Spruce – Summer gray Deep Charred®



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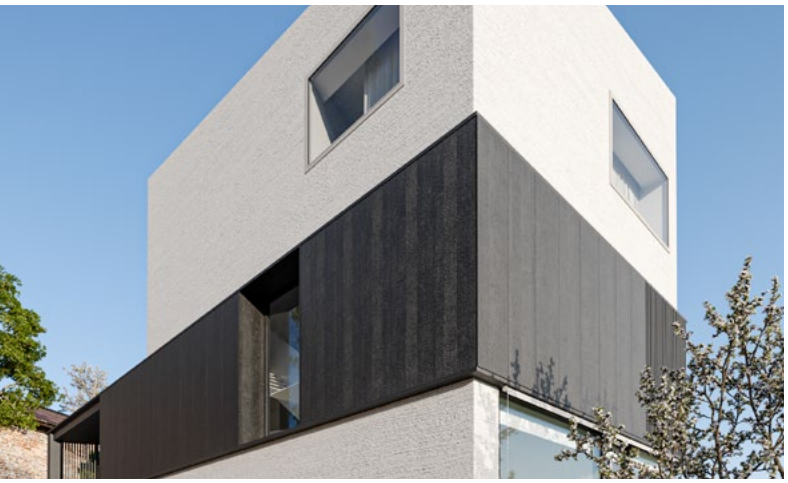
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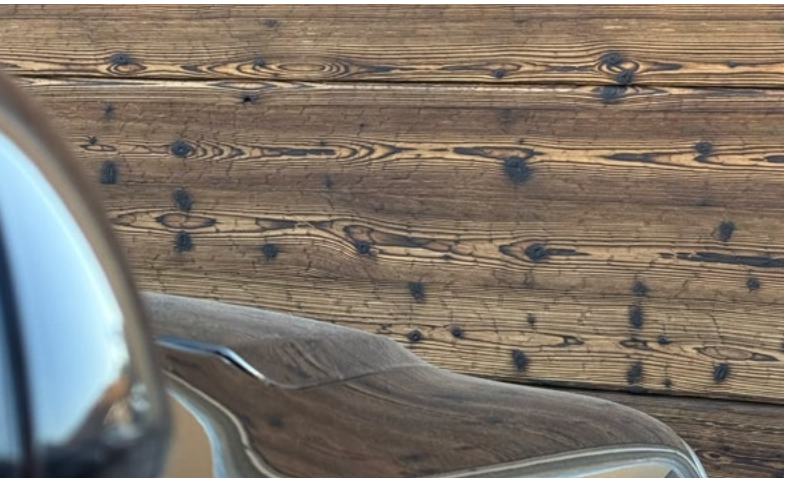
Spruce – Fresh Brown Deep Charred®



Spruce – Carbonized Deep Charred®









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Manufacturer certificates:

V: 01/26