



Hi!L

# Charred to life.

Sustainable charred wood products for construction.

EXTERIOR CLADDING • INTERIOR CLADDING • DECKING





# Welcome to the world of Hiil

We believe that everyone should have the opportunity to build responsibly and in a way that is more sustainable for nature. We aim to bring our Hiil wood to every builder in the world who values a personal wood surface and has a sense of responsibility that is more than surface-deep.

We enhance the surface of wood by charring. Even with different qualities of lumber, real fire and linseed oil give the wood natural protection and a beautiful, personalised finish.

We welcome you to discover wood that has been charred to life.



Hiil is a Finnish company specialising in surface charring of wood. We enhance the properties of wood by charring it with real fire and impregnating it with linseed oil. This ensures durable protection and gives the wood a natural, unique texture. We char the wood on a processing line of our own design, suitable for large batch production.

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## CircuWood® at the heart of carbon-wise and resource-efficient construction

Beauty is an important criterion for choosing building materials, but in modern use, it is not enough. The environment must also be constructed sustainably and ethically, for both people and the planet. Our charred wood is a cost-effective way to reduce the carbon footprint of construction. We char wood with technology developed in-house, without fossil fuels, without toxins, and carbon-negatively, so that more energy is produced than consumed. We also recycle all the side streams from our production.

CircuWood® is our own trademark. It is made from by-products of the Finnish wood and construction industry, as well as wood streams that are not commonly utilised in construction in the long term. The raw material is often Finnish pine, and upon request, we can also char other wood types.

By building with Hiil wood, you cause less harm and do more good. And that, if anything, is wise.



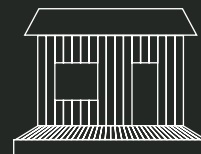
Unused lumber  
is saved from destruction



The wood is brought to our  
charring plant  
for enhancement



It is charred with real fire  
and pre-finished



The wood gets a new and  
long life in walls or exterior  
structures.



# Our charred wood collections

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## Iki collection

The Iki collection consists of three different natural surfaces, obtained by charring, washing and brushing the wood. The shades of the products come purely from wood and clear linseed oil, without added tints.



### Hiili (carbon)

**Surface:** Charred, oiled

**Profiles:** UTS, STS, PHL

**Use:** Exterior cladding, interior panelling

**Weathering:**

Stays black under UV exposure

Hiili is strongly moulded by fire and has a highly granular surface.



### Savu (smoke)

**Surface:** Charred, washed, oiled

**Profiles:** UTS, STS, PHL

**Use:** Exterior cladding, interior panelling

**Weathering:** Turns grey around the black char lines

Savu captures delicate beauty with shimmering dark tones.



### Kaarna (bark)

**Surface:** Charred, washed, brushed, oiled

**Profiles:** UTS, STS, PHL

**Use:** Exterior cladding, interior panelling, patios and decking

**Weathering:** Turns grey with time

Kaarna reflects the warm brown hues on the rough surface.

## Hetki collection

The shades of the Hetki collection are inspired by Finnish forests and seasons. The colours of the collection are achieved with burnt wood and a small amount of pigment mixed with special linseed oil.



### Kelo (snagwood)

**Surface:** Charred, washed, brushed, oiled, tinted grey

**Profiles:** UTS, STS, PHL

**Use:** Exterior cladding, interior panelling, patios and decking

**Weathering:** Turns silver grey

The Kelo shade captures the calm grey tones of snagwood, evoking the timeless, clear aesthetics of the northern wilderness.



### Kuura (frost)

**Surface:** Charred, washed, heavily brushed, oiled, tinted white

**Profiles:** UTS, STS

**Use:** Exterior cladding, interior panelling

**Weathering:** Darker areas turn grey

Kuura blends subtle elegance with the rugged beauty of charred wood for a partly pale, partly burned finish.



### Noki (soot)

**Surface:** Charred, washed, brushed, oiled, tinted black

**Profiles:** UTS, STS, PHL

**Use:** Exterior cladding, interior panelling, patios and decking

**Weathering:** Dark colour was preserved the best in a test environment

Noki represents a deep and dark shade that embodies the harsh strength of northern nature.



### Sammal (moss)

**Surface:** Charred, washed, brushed, oiled, tinted green

**Profiles:** UTS, STS

**Use:** Exterior cladding, interior panelling

**Weathering:** The green tone fades and the wood turns grey

Moss is like the forest's green and soft carpet.



### Ruska (autumn glow)

**Surface:** Charred, washed, brushed, oiled, tinted red

**Profiles:** UTS, STS, PHL

**Use:** Exterior cladding, interior panelling, patios and decking

**Weathering:** The dark red colour turns lighter red

Ruska brings the northern autumn's glow to the surface of the wood.



### Korppi (raven)

**Surface:** Charred, oiled, tinted blue

**Profiles:** STS

**Use:** Interior panelling

**Weathering:** Turns dark violet/black in exterior use

Korppi combines the ruggedness of charred surfaces with the mystical beauty of glossy blue hues.



### Sysi (charcoal)

**Surface:** Charred, washed, oiled, tinted black

**Profiles:** UTS, STS, PHL

**Use:** Exterior cladding, interior panelling

**Weathering:**

Retains the dark shade for years

Sysi has a coarse, roughly granular and black-tinted washed surface that strongly highlights the grain pattern of the wood.



### Savu+ (smoke+)

**Surface:** Charred, washed, oiled, tinted brown

**Profiles:** UTS, STS, PHL

**Use:** Exterior cladding, interior panelling

**Weathering:** The brown colour turns a lighter shade

Savu+ adds a colour pigment to the washed and rugged Savu surface to protect against greying.



### Kaarna+ (bark+)

**Surface:** Charred, washed, brushed, oiled, tinted brown

**Profiles:** UTS, STS, PHL

**Use:** Exterior cladding, interior panelling, patios and decking

**Weathering:** The brown colour turns a lighter shade

Kaarna+ adds a colour pigment to the brushed Kaarna surface to protect against greying.

Our charred wood collections are inspired by Nordic nature. The earthy tones in our collections can be seen and found throughout the Finnish landscape year-round. Our wood is available in boards, planks and profiled panels and is suitable for exterior cladding, interior cladding and decking.

Our wood comes in standard thicknesses of 22 mm, 28 mm and 45 mm and standard widths of 95 mm, 120 mm, 145 mm, 170 mm and 195 mm. The wood in our collection is Finnish pine or CircuWood® pine, always from PEFC-certified sources.

# Why choose Hiil and our charred wood?

## Carbon-negative

Wood sequesters carbon throughout its life cycle and only releases it back into the atmosphere when it decays or burns. Hiil's method consumes and produces very little carbon dioxide and provides a permanent place for carbon in a durable building product.

## Waste-reducing

In its production, Hiil does not create waste, but uses what already exists. CircuWood® production uses surplus and waste wood from the lumber and construction industries. The wood's own energy and, if necessary, biogas generated from food waste are used as the energy source for charring. In the production process, biochar is produced as a by-product of pressure washing and used as a soil improvement product. The result is less waste and larger amounts of usable wood.

## Non-toxic

Hiil manufactures its wood without harmful chemicals. The surface is treated with real fire and finished with non-toxic linseed oil.

## Easy installation and maintenance

Hiil wood is supplied by the metre and pre-finished. It is ready to install and easy to work with standard tools. Exterior and interior cladding generally do not require re-treatment, but for patio or decking use, the product should be re-oiled within 5-10 years of installation.

## 10-year guarantee

All Hiil wood comes with a 10-year non-decay guarantee. The guarantee is valid when the products have been installed and maintained according to the instructions.

## Energy positive

The Hiil wood manufacturing process generates more energy than we consume. The heat released from the charring process is recovered and reused in our wood production.

## Weatherproof

Hiil wood is naturally weather-resistant. The charred surface naturally protects against moisture, UV rays, insects and wood-rotting organisms. The linseed oil also penetrates under the charred layer and protects it against harmful contact. This ancient method helps withstand harsh conditions to this day.

## Charred with real fire

All Hiil wood is charred with real fire at our own charring plant. Depending on the product, the surface is treated by fire, washing, brushing or tinting. Finally, the surface is treated with natural linseed oil. This binds the soot firmly to the surface and strengthens its lifetime.

**Our product is 97 % manufactured  
in Finland and from Finnish-made raw materials.  
Only the linseed oil comes from Sweden.**





# Wood charring

An ancient method for protecting wood takes on a new, ecological significance with Hill's energy-efficient technology and circular economy approach. Charring enhances the properties of wood, transforming otherwise wasted wood material into something usable. The charred layer protects against decay, increases weather resistance, and gives the wood surface a unique texture. We use minimal resources, eliminate waste, and create durable surfaces that are a pleasure to look at and touch.





# A beautiful and durable surface for indoors and outdoors.

Charred wood can be used practically anywhere wood is visible, both indoors and outdoors. Whether you are building a deck, a sauna, or interior or exterior cladding, we can offer you an ecologically manufactured, waste-reducing and toxin-free solution that is durable and eye-catching. Our customers are proud of what they have built.

They know that by choosing Hill wood, they have done a great service to themselves and the environment.





# Working and installation

Apart from the surface, charred timber behaves just like ordinary wood. Our products can be sawn, drilled and machined just like uncharred wood. If products are ordered with specific dimensions, the ends of the products are also treated with charring and surface treatment. Otherwise, cut surfaces should be protected with a black or brown surface treatment agent, available from the factory on delivery.

During the transport and installation of charred surface products, the sensitivity of the surface to dents and scratches must be considered. Depending on the surface and dimensions of the product, the material can be fastened either by nailing through the groove side of the panel's tongue-and-groove joint or by screwing through the surface. We recommend using self-cutting stainless steel screws with heads that match the colour of the product.

For more detailed instructions, see Hiil's installation and maintenance guide.



# Maintenance and re-treatment

Structurally, the cladding product does not require re-treatment. For more heavily used surfaces, such as decking, we recommend re-treating the product with linseed oil every 5-10 years. If you do not want the shade of the product to age, you may need to re-treat more frequently.

Washed and brushed surfaces (Savu, Kaarna) change colour outdoors due to UV radiation and rain.

Products treated with colour pigments (Sammal, Ruska, Kuura, Noki, Kelo, Kaarna+, Savu+ and Sysi) will fade, but will not turn grey as quickly due to the pigment. Products with the black Hiili surface will retain their black colour for years. The Korppi surface, which has been charred and tinted blue, will lose its blue sheen under UV exposure.

For more detailed instructions, see Hiil's installation and maintenance guide.





## Technical specifications

| Characteristics                       | Pine                                                                                            | Standard                                |
|---------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------|
| Density                               | 520 kg / m3                                                                                     | EN 350:2016                             |
| Width                                 | 95-195 mm                                                                                       |                                         |
| Thickness                             | 22-45 mm                                                                                        |                                         |
| Length                                | Up to 5,100 mm                                                                                  |                                         |
| Reaction to fire                      | D-s2,d0 (The product can be treated with fire retardant to meet fire protection class B-s1,d0.) | EN 14915:2013 + A2:2020                 |
| Thermal conductivity                  | 0.13 W/(m*K)                                                                                    |                                         |
| Sound absorption                      | 0.1-0.3                                                                                         |                                         |
| Water vapour permeability             | 50 µ                                                                                            |                                         |
| CO <sub>2</sub> emissions (GWP total) | -603 kg CO2 eq                                                                                  | Hill EPD (calculated, not yet verified) |

## Profiles

**The available profiles for the product are:**

Exterior cladding: UTS (panel), PHL (board)  
 Interior cladding: STS (panel)  
 Decking: PHL (board and plank)

## Dimensions

The standard thickness for exterior applications is 28 mm and for interior applications 22 mm. For interior applications, products with a width of 170 and 195 mm require a thickness of 28 mm.

Thickness: 22, 28, 45 mm  
 Widths: 95, 120, 145, 170, 195 mm  
 Length: Up to 5,100 mm



# Applications

Hiil wood is suitable for both indoor and outdoor surfaces. It can be used for outdoor cladding, decking, fences or noise barriers, for example.

Indoors, the products are suitable for wall panels, ceilings, and interior decoration, as well as sauna benches and walls.

Thanks to its natural surface, charred wood is a particularly suitable choice for structures designed to retain a natural look.

# CE marking

Hiil's products have a CE marking based on the manufacturer's product type definition and factory control (performance category 4).

# Raw materials

Hiil uses non-toxic raw materials and PEFC-certified Finnish pine.

## Finnish pine (*Pinus sylvestris*)

Hiil's production process utilises high-quality class I-V timber and lower-quality class VI timber, which can be used for exterior cladding and interior panelling when charred. These products are supplied under the name CircuWood®.

## Linseed oil

Hiil sources specially formulated natural linseed oil from Selder & Company, hailing from Sweden.

## Colour pigments

In its tinted products, Hiil uses colour pigments manufactured by Vibrantz in Finland.





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For up-to-date contact information, please visit:

**[hiil.fi/en/](https://hiil.fi/en/)**