Shou Sugi Ban

Shou Sugi Ban

An ancient tradition

Shou Sugi Ban (‘charred cypress’) is a special Japanese charring technique, inspired by an ancient tradition. Three slabs of pinewood would be bound together into the shape of a chimney and a fire was lit inside the base.

This is how the facade parts of traditional Japanese wooden houses were given a fire-retardant, sustainable, and natural protective layer. Shou Sugi Ban is still being applied in Japan. It is also used for modern buildings, designed by well-known architects such as Terunobu Fujimori.

From Japan to Europe

Our founder, architect Pieter Weijnen, was the first person to bring Shou Sugi Ban to Europe. He then set out to master the traditional wood charring technique. In addition, he developed an efficient production process to guarantee the top-quality of our charred wood. Even and sustainable.

Old-fashioned craftsmanship, modern techniques

Our firemasters char all our wood, one by one, in a controlled environment in our own workshop in Leersum, a small village in The Netherlands. This way we can guarantee equal and uniform technical specifications.

In our test centre, we continue to pioneer and innovate to find new ways of charring, to identify new sustainable wood types and to create new finishes with biodegradable resin and oil.

Our team

Passion for wood and fire

Since 2012 we combine old-fashioned craftsmanship with modern technology (and a love of wood and fire). The result: a beautiful collection of black charred wood types of the highest quality. Exclusive, and each with their own beautiful texture, character, and finish. All orders are sized, sawn and carefully charred to your personal specifications.

Our Zwarthout team

Our team is made up from a diverse group of specialists: Architectural builders, product developers, carpenters, cabinet makers, designers, and artists. We all have a fondness for natural and fair materials: For wood with character and, of course, for fire!

Making beautiful things together

Since our founding, we have realised hundreds of beautiful projects all around the globe. Together with leading architects and designers. Clients who, like us, have a profound fondness for the perfect appearance, the highest quality and want to make a statement with a sustainable, exclusive, and natural product.

Sustainability

Sustainable building and living should be – if you ask us – the norm for a better planet.

Wood from sustainably grown forests

We consciously choose wood for our luxurious facade and interior cladding. Each wooden board stores CO2, and thus contributes to the reduction of CO2 in the atmosphere. Of course, our wood comes from sustainably managed forests and nearly all our products are bio-based and/or biodegradable.

Replanting trees, threefold

For every tree used, we replant two trees. The third tree is planted back by our suppliers. We replant in several ways.

All clients can join us on our annual Zwarthout tree planting day, where they can plant their own trees back on one of the estates that surround our company. This way, we can collectively watch our trees grow. We also work together with Treedom; a certified B corporation that plants trees all over the world.

CO2-neutral

We have the ambition to make our production process completely CO2 neutral. This is possible thanks to our newly designed oven combined with heat exchangers. In this way, the companies and homes on the estate where we are located are heated with the energy released during our production process. A Life Cycle Analysis is also being made of all our products. Our path to carbon neutrality is monitored and certified externally conform ISO 14040/EN15804.

Local collaboration

In Leersum, we have formed a collaboration with regenerative farm Schevichoven and Soil Heroes to create a resilient food system. This way we contribute to the local biodiversity, and soil and water quality. The progress of our efforts is measured annually by Soil Heroes.

SCHEVIC HOVEN

Soil Heroes

treedom

Our products

Cladding and interior


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Cladding

Only for outdoor applications


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Beautifully charred wood

Our exclusive Zwarthout | Shou Sugi Ban charred wood types each have their own unique characteristic texture and appearance.

On the following pages you will find an overview of all our beautiful products: As special facade cladding or striking eye-catcher in the interior.

Personal advice and perfect mounting

The application and assembly of Shou Sugi Ban charred wood is a profession of its own.That is why we like to think along about your design, detailing and implementation.

The experts of our Zwarthout mounting service can also assemble and mount our black charred wood in the most beautiful (and technically sound) way for you. So you can fully enjoy the stunning result for a long time.

Marugame

**Characteristic,
versatile,
silvery charred layer**

Marugame

This beautiful, charred wood has a characteristic and equally divided pattern. The silvery glow of the charred layer has a different look depending on the angle of the sunlight. The hard charred layer makes Marugame ideal as a sustainable cladding for roofs and facades. Marugame is also very suitable as an attractive eye-catcher in a special interior.

Wood type

The wood used for Marugame is Accoya® of the Pinus Radiata tree, a fast-growing pine species. The wood is modified through a non-toxic acetylation process. Accoya® is labelled with durability class 1 and other quality certifications (i.a. KOMO, RAL, BBA, WDMA), and a cradle-to-cradle gold certification. The wood has a lifespan of at least 50 years above ground, and 25 years when in contact with soil and fresh water.

Fixation

In addition to the carbon-only version, we can also supply Marugame that has undergone treatment with Bito White, a colourless resin, which is water based. This coating will tone down the outer surface, make it slightly tougher and prevent the carbon from staining. This makes the treated Marugame product extremely suitable for interior applications.

Technical specifications

Interior and exterior
(including roof applications)

Durability class: 1
(European standard – EN350)

Fire class: D
(European standard – EN13501)

New Zealand
(FSC® certified forests)

Maintenance free

Dimensions

Thickness: 10 mm | 23 mm
Width: 100 mm | 150 mm | 200 mm
Length: 2400 mm | 3000 mm |
3600 mm | 4200 mm | 4800

Other profiles and dimensions are possible in consultation.

Marugame

The Hub Woodstoxx, Gent (BE)
Photographer: Cafeine

→

Villa, Lège-Cap-Ferret (FR)
Architect: Florent Pasquier
Photographer: Maxime Gautier

Kazura

This robust charred wood type has a tough marking with large scales. The angle of the light can make the scales have an oil-like appearance. This gives a unique look to the interior and exterior. The intense black carbon layer has a solid structure, which means that Kazura can also withstand harsh weather conditions. This is what makes Kazura ideal as sustainable cladding.

Wood type

Kazura is made from the Pinus Radiata, a fast-growing pine species from FSC® certified forests in New Zealand. The wood is thermally modified by heating it up to 230° Celsius. Because of this process, the wood type has a durability class 1 (EN350) certification.

Fixation

In addition to the charred version, we can also fixate Kazura with Bito White, a colourless water-based resin. This fixation makes the carbon layer darker and matt. The carbon layer then no longer stains, making it ideal for interior applications.

Technical specifications

Interior and exterior
(including roof applications)

Durability class: 1
(European standard – EN350)

Fire class: D
(European standard – EN13501)

New Zealand
(FSC® certified forests)

Maintenance free

Dimensions

Thickness: 21 mm
Width: 68 mm | 92 mm | 142 mm | 192 mm
Length: 3600 mm | 4200 mm | 4800

Other profiles and dimensions are possible in consultation.

Kazura

Alpin Garden Luxury Maison, Ortisei (IT)
Photographer: Andreas Senoner

Nakatado

**Special flame pattern,
brushed,
lively grain structure**

Nakatado

After this beautiful type of wood has been carefully charred by our fire masters, Nakatado is brushed and treated. This is how the lively grain structure becomes visible, with a height difference of 1 to 2 mm between the higher and lower parts of the grains. The flame pattern on the wood creates a calm and rustic pattern. Nakatado is resistant to all weather conditions and does not stain.

Wood type

Nakatado is made from Pinus Radiata, a fast-growing pine species from FSC® certified forests in New Zealand. The wood is thermally modified by heating it up to 230° Celsius. Because of this process, the wood type has a durability class 1 (EN350) certification. Nakatado has a lifespan of at least 30 years.

After-treatment

Nakatado is treated with Bito Black matt. We recommend reapplying Bito Black matt every three to five years for colour retention and extra protection.

Technical specifications

Interior and exterior
(including roof applications)

Durability class: 1
(European standard – EN350)

Fire class: D
(European standard – EN13501)

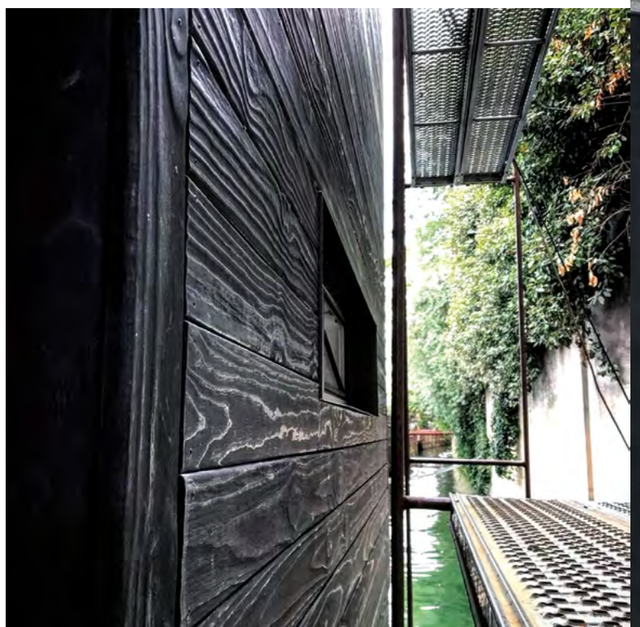
New Zealand
(FSC® certified forests)

Maintenance every 3 to 5 years

Dimensions

Thickness: 21 mm | 27 mm
Width: 68 mm | 92 mm | 142 mm | 190 mm
Length: 3000 mm | 3600 mm | 4200 mm | 4800 mm

Other profiles and dimensions are possible in consultation.



Nakatado

Houseboat (FR)

→
House and garage (NL)
Architect: Zondervan Architectuur

Omiyama

Hard charred layer, irregular pattern, matt appearance

Omiyama

Omiyama's hard charred layer gets a beautiful bronze glow in the sun. The charred layer is burnt deep and has a natural uneven structure. This variant is resistant to heavy weather conditions. This makes Omiyama very suitable as a durable finish on facades. Omiyama is also a powerful eye-catcher indoors. Fixated, Omiyama becomes deep matt black in colour.

Wood type

Omiyama is made from Frake; a fast-growing limba from Cameroon. For Omiyama, a hydrothermally modified variant of Frake is used. By heating up the wood, the cell structure changes, making it more sustainable.

Fixation

Omiyama can be used either with or without a fixation agent. The fixated variant of Omiyama is treated with Bito White, a water-based resin. The charred layer becomes a bit more matt in appearance and does not stain. Once fixated, Omiyama can be used for interior applications.

Technical specifications

Interior and exterior
Durability class: 2

Durability class: 2
(European standard – EN350)

Fire class: D
(European standard – EN13501)

Sustainably managed forests in Cameroon

Maintenance free

Dimensions

Thickness: 21 mm | 30 mm | 41 mm
Width: 95 mm | 110 mm | 145 mm | 195 mm
Length: up to 5000 mm

Other profiles and dimensions are possible in consultation.

Omiyama

Farmhouse, Leusden (NL)
Architect: BLAUW Architecten

→

Residential villa, Waalre (NL)
Architect: Lichtstad Architecten
Photographer: Bas Gijselhart

Shodoshima

Lively flame pattern, robust, versatile, contemporary

Shodoshima

For Shodoshima, the wood is sawn parallel to the growth rings (dosse). This creates a beautiful flame drawing. After burning in the oven, the wood is brushed and treated. The robust and lively grain structure is clearly visible and shines beautifully in the sun.

Wood type

Shodoshima is made from the Douglas fir, which comes from sustainably managed European forests. Thanks to the durability class 3, Shodoshima is very suitable as beautiful, durable facade cladding. The knots in the wood give an extra irregular effect.

After-treatment

After charring Shodoshima, it is brushed and treated with Bito Black semi-gloss or matt. Bito Black offers a solid protection against water, dirt, and fungi. We recommend repeating this treatment every three to five years. Shodoshima is weather resistant and does not stain.

Technical specifications

Interior and exterior

Durability class: 3
(European standard – EN350)

Fire class: D – B after impregnation
(European standard - EN13501)

Sustainably managed
European forests

Maintenance every 3 to 5 years

Dimensions

Thickness: 23 to 30 mm
Width: 60 mm to 250 mm
Length: up to 5000 mm

Other profiles and dimensions are possible in consultation.

Shodoshima

Poolhouse, Groesbeek (NL)
Architect: Atelier Broer
Photographer: Luc van Stralendorff

→
Fire station, Maarn (NL)
Design: Mies Architectuur

Restaurant Nomads, Amsterdam (NL)
Design: Beers Brickworks
Photographer: Dinand van der Wal

Sakaide

Sakaide has a beautiful, contrasting flame pattern, giving the wood a rustic, warm appearance. The planks are sawn flat (with the annual rings), and then charred one by one in our oven. The planks are then carefully brushed and treated.

Wood type

Sakaide is made from the Douglas fir. A type of wood originating from sustainably maintained European forests. The knots give the wood an extra uneven effect. It has durability class 3, which makes it ideal for sustainable cladding.

After-treatment

After burning and brushing, Sakaide is treated with Bito Clear or Bito Orange. Bito Clear is a transparent oil used for interior applications.

For exterior applications, Sakaide is treated with Bito Orange. This is a water-based oil specifically developed for exterior use.

Technical specifications

Interior and exterior

Durability class: 3
(European standard – EN350)

Fire class: D
(European standard – EN13501)

Sustainably managed
European forests

Maintenance every 3 to 5 years

Dimensions

Thickness: 23 mm up to 30 mm
Width: 60 mm up to 250 mm
Length: up to 5000 mm

Other profiles and dimensions are possible in consultation.

Sakaide

Villa, (NL)

Fireplace casing, Amstelveen (NL)
Design: Ewald Bosgoed Openhaarden
Photographer: Raymond van Zessen

Takamatsu

**Classic look,
fine linear structure,
quarter sawn**

Takamatsu

For Takamatsu, the wood is sawn on the annual rings (quarter/false quarter). This way of sawing gives Takamatsu its special, fine linear structure and a classic, modest appearance. After careful charring in our oven, the wood is brushed and treated.

Wood type

Takamatsu is made from the Douglas fir; a type of wood originating from sustainably maintained European forests. The presence of knots in the wood makes it more characteristic and are visible in the charred layer. During the charring process, knots up to 2 cm in size can fall out. This gives it an extra irregular effect.

After-treatment

After burning and brushing the wood, Takamatsu is treated with either our Bito Black semi-gloss or matt. Bito Black gives the wood a protective layer against water, dirt, and fungi. We recommend repeating this treatment every three to five years for optimal protection and colour retention and a longer life. Takamatsu is weather resistant and does not stain.

Technical specifications

Interior and exterior

Durability class: 3
(European standard – EN350)

Fire class: D – B after impregnation
(European standard - EN13501)

Sustainably managed
European forests

Maintenance every 3 to 5 years

Dimensions

Thickness: 23 mm up to 40 mm
Width: 60 mm up to 150 mm
Length: up to 5000 mm

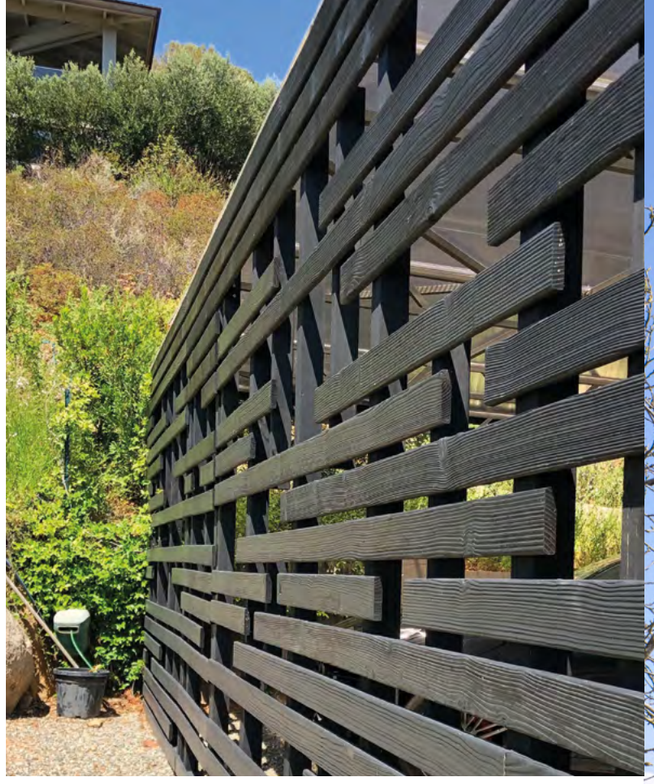
Other profiles and dimensions are possible in consultation.

Takamatsu

Villa, Oostduinkerke (BE)

Carport, Bonifacio (FR)
Design and photos: Alexandra de Lanfranchi

→
De Nieuwe Schuur, Herpt (NL)
Architect: Mecanoo
Photographer: Stijn Poelstra



Yoroi

**Deeply charred bamboo,
natural appearance,
refined pattern**

Yoroi

The hard charred layer and refined pattern of Yoroi has a silver glow in the sun. The deeply burnt bamboo has a natural appearance and is specifically designed for projects where fire class B is required, such as public buildings, tall buildings, and emergency routes. This makes Yoroi eminently suitable as sustainable cladding. Yoroi is also an eye-catcher when used for interior applications.

Material

Yoroi is made from FSC® thermally modified bamboo from China. It is made by pressing bamboo fibres into boards in a CO2 neutral way. The bamboo boards then receive their charred layer, one by one, in our oven.

Fixation

We can fixate the charred layer of Yoroi with Bito White, a water-based resin. By fixating it, the surface becomes a bit more matt to the eye and does not stain. This makes the fixated variant ideal for interior applications.

Technical specifications

Interior and exterior

Durability class: 1
(European standard – EN350)

Fire class: B
(European standard – EN13501)

China
(FSC® certified forests)

Maintenance free

Dimensions

Thickness: 18 mm
Width: 100 mm up to 200 mm
Length: 1850 mm

Other profiles and dimensions are possible in consultation.

Mitoyo
Lively pattern,
small knots and gnarls,
strong structure

Mitoyo

Mitoyo has an even and lively pattern, varied with small knots and gnarls. Its silvery glow gives it a different appearance, depending on the light incidence. The strong structure and hard charred layer make Mitoyo ideal for cladding and roof applications. In addition, Mitoyo is very suitable as a special application in the interior.

Wood type

The wood used for Mitoyo is Accoya® of the Pinus Radiata tree, a fast-growing pine species. The wood is modified through a non-toxic acetylation process. Accoya® is labelled with durability class 1 and other quality certifications (i.a. KOMO, RAL, BBA, WDMA), and a cradle-to-cradle gold certification. The wood has a lifespan of at least 50 years above ground, and 25 years when in contact with soil and fresh water.

After-treatment

Upon request, Mitoyo can be fixated with Bito White, a water-based resin. This fixation agent makes the charred layer a bit darker and more matt.

Technical specifications

Interior and exterior
(Including roof applications)

Durability class: 1
(European standard – EN350)

Fire class: D
(European standard – EN13501)

From diverse
FSC® certified forests

Maintenance free

Dimensions

Thickness: 18 mm
Width: 70 mm | 95 mm | 145 mm | 195 mm
Length: 4000 mm
Other profiles and dimensions are possible in consultation.

Naoshima

Characteristic, irregular pattern, nice patina

Naoshima

Naoshima has a natural and irregular pattern that shines beautifully in the sun. The brittle charred layer weathers and ages, giving it more character over the years. This fits within the Japanese philosophy of Wabi Sabi, a philosophy that embraces the calming beauty of the transient and the imperfect.

Wood type

Naoshima is made from the Douglas fir. A type of wood originating from sustainably maintained European forests. The presence of knots in the wood makes it more characteristic and are visible in the charred layer. Naoshima is labelled with a durability class 3 certification and can be used as a sustainable choice for cladding.

After-treatment

In addition to the variant that is only charred, we can also supply Naoshima fixated. We then treat the charred wood with Bito White, a water-based resin. This ensures that the black carbon layer becomes somewhat matt and emits less.

Technical specifications

- Exterior
- Durability class: 3 (European standard – EN350)
- Fire class: D (European standard – EN13501)
- Sustainably managed European forests
- Maintenance free

Dimensions

Thickness: 23 mm up to 30 mm
Width: 60 mm up to 250 mm
Length: up to 5000 mm

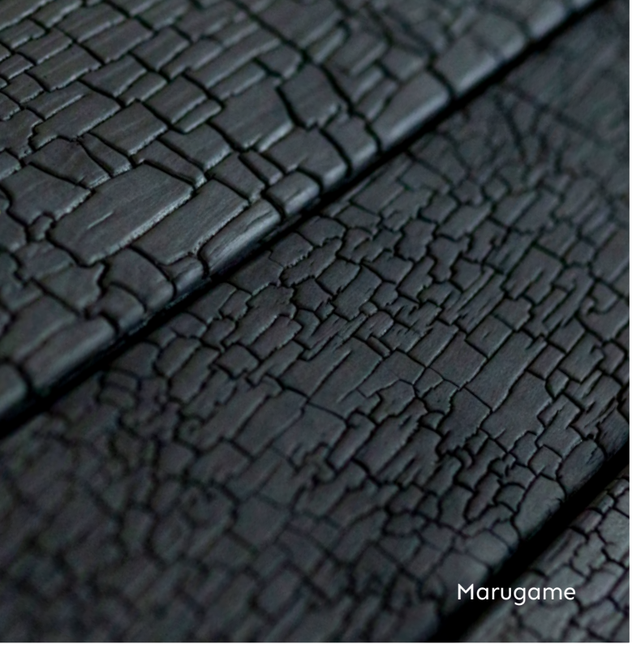
Other profiles and dimensions are possible in consultation.

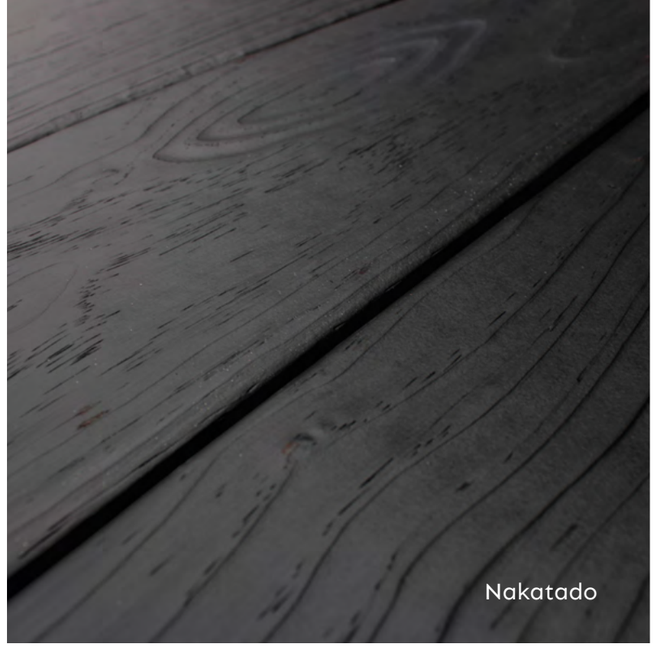
Naoshima

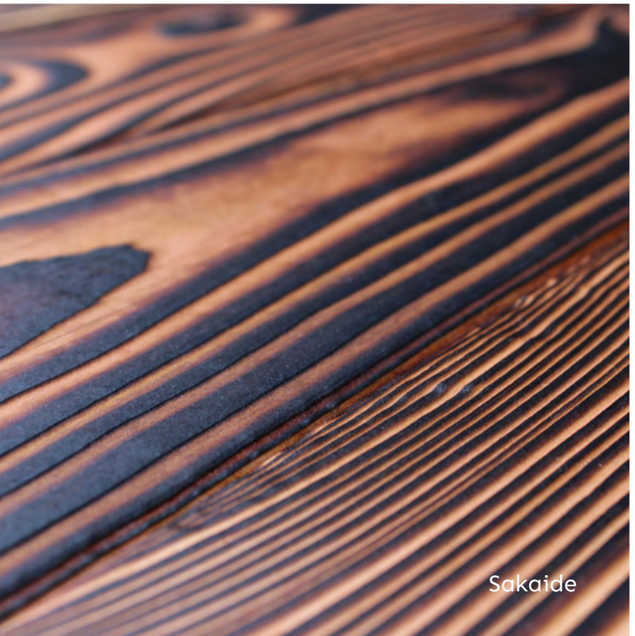
Treehouse Sables D'or les Pins, Fréhel (FR)
Design: Victoria Migliore
Photographer: Cyril Folliot

→

Residential building Westbroek (NL)
Architect: ORGA Architect


Marugame


Nakatado


Sakaide


Shodoshima

Our furniture panels

Sanuki is the collection of furniture panels that are made to your specific requirements by our cabinet maker. These panels can be applied as cabinet doors, kitchen fronts, and tabletops.

There are four different appearances that we can offer as a panel. These are: Marugame, Nakatado, Sakaide, and Shodoshima.

After-treatment

To protect the charred wood, the panel is treated with a special fixation agent, oil, or resin. In addition, this after-treatment ensures that the cabinet doors, kitchen fronts or tabletops can be easily cleaned.

Dimensions

Thickness: minimum of 23 mm
Width: maximum of 1100 mm
Length: maximum of 3000 mm

Other profiles, dimensions, and after-treatment are possible in consultation.

→
Restaurant Alchemist, Copenhagen (DK)
Design: Studio Duncalf

The Zwarthout mounting service

Designing with charred wood requires special knowledge and skills. Because of our broad experience with hundreds of projects, we can give you thorough advice on aesthetic and technical design choices. You can also make use of our very own professional Zwarthout mounting service.

Professional advice from our specialists

Our team is made up of a diverse group of specialists. Thanks to their unique backgrounds, we can always – depending on the design of your project – give out the right advice on detailing and finishes. On request, we can also create a mock-up for you.

The Zwarthout mounting service

The experts of our Zwarthout mounting service can help you assemble our wood in the most beautiful (and technically best) way possible. So, you can optimally enjoy the wonderful result. The Zwarthout mounting service is available for projects in the Netherlands, Belgium, France, Germany, and Switzerland.

Shou Sugi Ban

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Further examples?
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