

焼杉

YAKISUGI
JAPANESE CHARRED CEDAR



杉

JAPANESE CEDAR

The most familiar wood for Japanese people, which has been indispensable for Japanese life since long ago.

About Japanese cedar

Cryptomeria japonica, commonly called Japanese cedar or Sugi, is a slender, pyramidal, evergreen conifer with tiered horizontal branching, which is slightly pendulous at the tips.

Sugi is a commercially important softwood species widespread within Japan from the northern end of the main island to Yakushima Island, and is commercially grown for many construction purposes, accounting for 75% of the wood use in Japan.

Botanical name: *Cryptomeria japonica*. An evergreen tree from the *Cryptomeria* family, a specialty of Japan.

Sugi is a very large evergreen tree may attain 50 meters (164 feet) or more in height and a circumference of 5 meters (16 feet). It is pyramidal, with dense, spreading branches in whorls about the trunk.

The heartwood is typically light to dark reddish brown. Sapwood is straw colored and clearly demarcated from the heartwood. Knots are common.

The grain is straight; medium, even with texture with a moderate natural luster. It has a distinct, lingering, cedar-like odor.

The drying process is fast, and it is generally easy to work with hand or machine tools. Responds poorly to steam bending. Glues, stains, and finishes well.

Because the wood is soft and easy to work with and not difficult to obtain a straight log, it is widely used in Japan for construction such as, ships, bridges, lamp posts, siding, paneling, fences, furniture, barrels and small specialty items.

The bark is used for roofing. The leaves are very aromatic and are used as incense sticks. Trees are also often used as garden trees, hedges, bonsai, etc.

Japan boasts an abundance of old-growth trees of a variety of species. The best-known giant of the Japanese forests is undoubtedly Yakushima's ancient Jōmon Sugi, a towering Japanese cedar estimated to be between 2,000 and 7,200 years old and protected as a UNESCO World Heritage Site.

"The venerable Sugi of Mount Haguro" (Yamagata Prefecture); "Nikko Suginamiki Kaido" (Nikko Cedar Avenue) in Nikko City, (Tochigi Prefecture); "Sugi no Osugi" at Yasaka Shrine in Otoyo-cho (Kochi Prefecture); "Itoshiro no Osugi" in Gujo City, (Gifu Prefecture); and "Yakushima Old-growth Japanese cedar forest" (Kagoshima Prefecture), all of these famous specimens of old-growth Japanese cedar are have been designated as World Natural Heritage Site.

Akita, Mount Amagi in Izu, Tenryu River Basin, Kii Peninsula (Yoshino, Kumano), Kochi, Miyazaki (Obi) are famous production areas, and it is said that there are subtle differences as for the width and the wood itself. Akita cedar, Yoshino cedar and Yakusugi are the most well-known production areas.

Japanese Cedar is the national tree of Japan. Its significance extends beyond that, as its impact on Japanese culture is reflected by the fact that it is found planted at numerous sacred sites throughout the country.

There are many examples of shrines and temples using sacred tree throughout the country, and one of the most famous ones since ancient time is the Fushimi Inari Shrine in Kyoto City where branches of cedar called shirushi no sugi are sold during the Hatsuuma festival as a lucky charm. In Heian times, when the Kumano pilgrimage was popular, people starting out from Kyoto would stop off at Fushimi Inari to take a sprig of cedar from the hill, because it was considered sacred (the whole hill was imbued with Kami*).

They attached this to their robe as a sign they were on pilgrimage and showed it to the priests in Kumano to be blessed. On their return to Kyoto, they headed again for Fushimi Inari and planted the sprig on the hill. If it took root and started to grow into a new tree, then their wishes would come true.

The cedars of Miwayama in Sakurai City, Nara Prefecture are famous for being sung in the Manyōshū and Kokin Wakashū (Japanese classical poetry compilations) as well as the cedar with 500 branches of Toyouke Daijingu in Ise City, Mie Prefecture, the sacred cedar tree called Ayasugi at Kashiigu shrine in Fukuoka City, and the old cedar forest at Kashima Shrine in Ibaraki Prefecture which are also well known.

In the olden days, sake brewers would hang one Sugidama, (literally cedar ball) outside their door to signal that fresh production was on its way. Boughs of fresh cedar branches tied together and clipped into a perfect sphere. Sake makers would hang up a fresh green Sugidama in November or December, right after they pressed sake made from the new rice harvest. Customers knew that a few months later, when the Sugidama turned completely brown, the sake was ready to drink. These days, you are most likely to spot a Sugidama outside your better class of sake seller and restaurants that pride themselves on a great selection of nihonshu (sake).

*Kami = Japanese gods, spirits, that are venerated in the religion of Shinto.



Sacred tree



Sugi logs



Sawing cedar timber



Bento Box made by bending very thin boards of Sugi



Sugidama & Japanese Sake Barrel



Soy sauce Barrel



焼杉 YAKISUGI

About Yakisugi

Yakisugi (焼杉) is a traditional Japanese method of wood preservation by slightly charring the surface of the wood to increase durability.

In the West, it is also called Shou sugi ban (焼杉板).

For hundreds of years Yakisugi was primarily used in Western Japan for exterior siding and fencing on traditional Japanese houses.

However, this charring technique was not transmitted to Eastern Japan. In the Kanto region they were using black paint to achieve the same look finish.

The technique of burning the surface of the wood improves the weather resistance performance, prevents decay, rot, and insect infestation, and makes the wood more resistant to fire than a non-heat-treated cypress plank. It is often said that this authentic traditional Japanese heat treatment process is a



Traditional process

Traditionally, it used to be craft manual burnt on site by carpenters.

- In the traditional procedure, three boards of Japanese cedar (Sugi) are bound together with a wet rope to form a triangle pillar shape.
- After binding the boards tight, fire is lit on the very bottom with some rounded paper or newspapers. In the past, sawdust was used instead of newspaper.
- When the triangular pillar is put up, it takes a minute or two for the fire to proliferate, usually it starts to spread fairly quick due to the chimney or stack-effect from the triangle of boards.
- When the surface of the plank is sufficiently burnt, the triangular pillar is open and the fire extinguished by applying water to cool it. The combustion time is about 5 minutes.

It was originally used for traditional Japanese architecture (exterior siding and fences), but due to changes in Japanese housing styles and construction methods things changed.

In recent years, not only the exterior but also the interior wood material has attracted attention not only from Japanese architects but also from overseas for residential and commercial projects due to the weather resistance performance and unique design of the yakisugi.

Benefits of Yakisugi

Yakisugi is used today to not only create a dramatic and highly chic elegant visual with an often-reptilian texture but also has some incredible scientifically proven benefits as well.

Durable and long lasting

The life expectancy of Yakisugi is estimated at more than 80-90 years when properly maintained. You can still see some old Japanese houses with over 120 years old Yakisugi structure.

Weather resistant

The carbon layer produced by charring the wood is resistant to weathering and fading very much the same way that stains or sealants would. The sun's rays do not fade. Resistant for all kind of climate which can be humid or dry with extreme temperature fluctuations between seasons. This charring technique provide a cost-effective way of weatherproofing homes.



architect/Takanobu Kishimoto (CONTAINER DESIGN)
photo/Eiji Tomita



Fire-Retardant

By slightly charring the surface of the wood, you essentially get rid of the wood's softer outer layer. When the wood is being burned, the porous material within the wood's inner layer starts to close its pores and becomes much more stable and durable. This first step of the process will also make the wood more stable and stronger overall. This carbonization process of the outer layer of the wood, creates a layer of carbon that prevents the wood from burning quickly, which is what makes the Yakisugi flame-retardant.

Water-Resistant

When the wood is being charred, the pores within the wood start to shrink and close. What this means, is that it becomes much more difficult for the board to soak up and take on water.

Pest/Insect-Resistant

Termites and other wood-consuming insects hate the layer of carbon produced by charring. Indeed, this process gets rid of soft wood cellulose, turning it to char. As a result, Yakisugi resists bugs without pesticides or other potentially harmful chemicals.

Rot-resistant

Burning the wood is another choice for preserving the wood from decay since carbon does not rot.

Aesthetics Appeal

Striking. Very eye catching. A fusion of the modern and the elemental. Highly chic and elegant, enigmatic with a touch of drama and a kind of mattness and fineness of grain in the charring that is unlike anything else in the building industry.

You can get a variety of beautiful colors out of it depending on how deep you burn and how deep you brush, to further alter or enhance colors - and it can be stained as well.

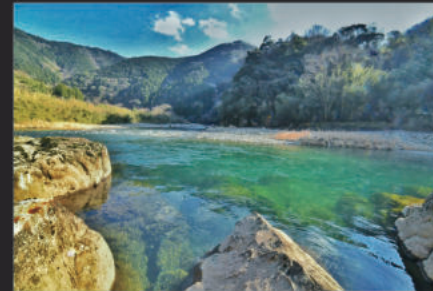
Maintenance:

If the intended use is to have it outside and exposed to weather (siding, fences, etc.), it should be oiled about every 10-15 years, which is fairly standard for exterior wood treatment. It will retain its colour better and will remain water-resistant longer if it is well-maintained.

For interior purposes where it will mostly be seen and not touched, it will require virtually no maintenance.



Our sawmill has been operating for over 75 years specializing in producing charred cedar timber. Our activities focus on the vertical integration of the entire charred cedar manufacturing process starting from our own forest in Japan



Yakisugi Manufacturing Method

1



2



3



4



5



6



茶
Sumi

It is like observing the
ripples of a full moon night





炭

Sumi

EXTERIOR

Finish Charred
Coating 2 times Polyurethane
Size 18 x 165 x 1970/3970mm

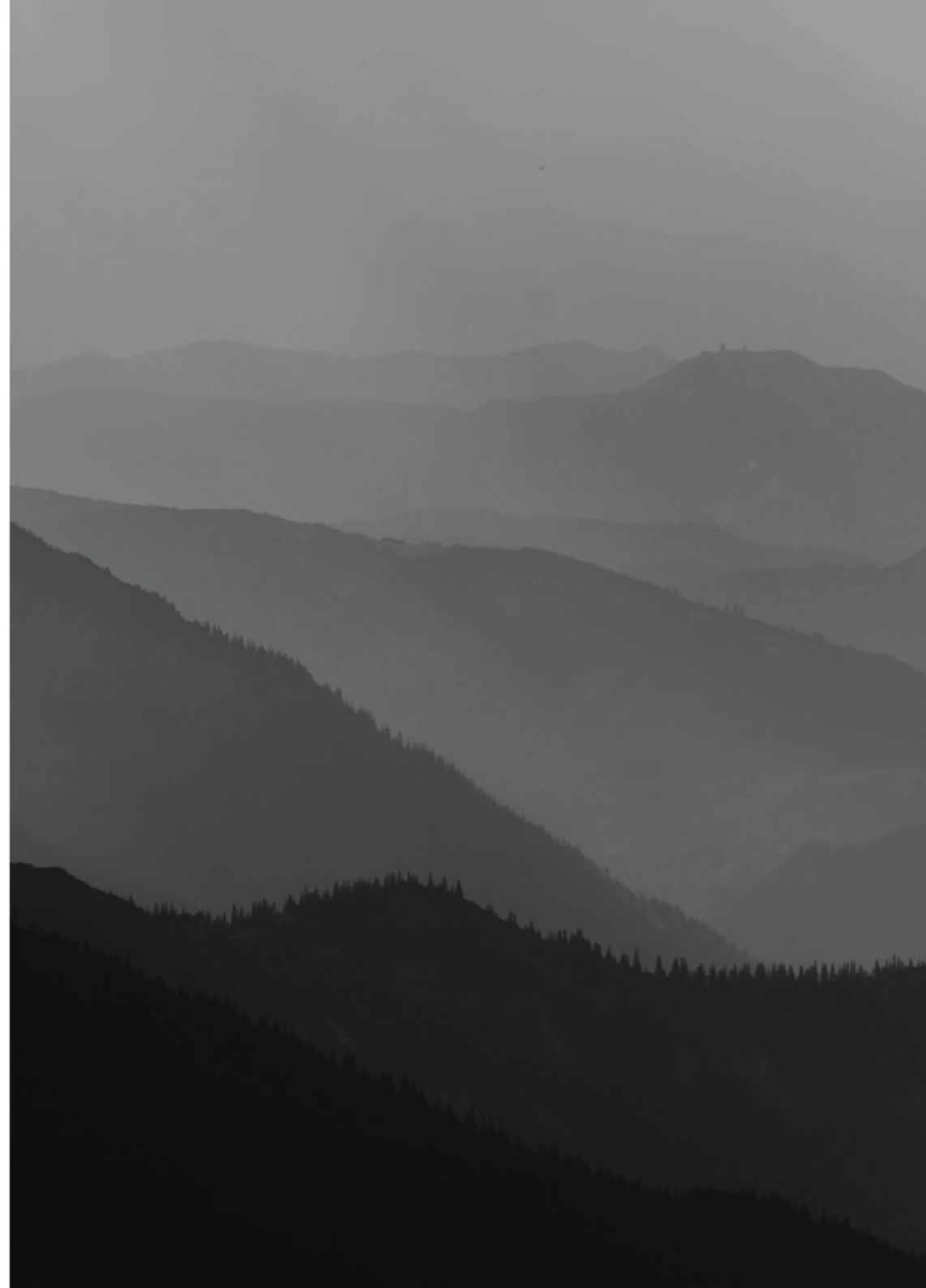
INTERIOR

Coating 3 times Polyurethane
Size 10 x 135 x 1970/2970/3970mm
15 x 165 x 1970/2970/3970mm

麻
名

Migaki

The wood grain is like a
ridge in a dark night





麻石

Migaki

EXTERIOR

Finish Charred & Brushed
Finish 2 times Polyurethane
Coating 18 x 165 x 1970/3970mm

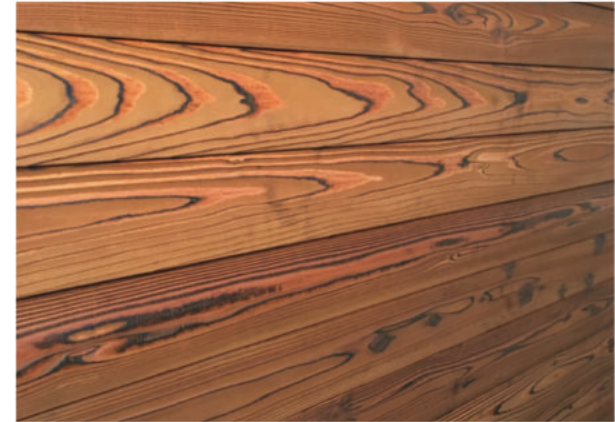
INTERIOR

Finish 3 times Polyurethane
Coating 10 x 135 x 1970/2970/3970mm
15 x 165 x 1970/2970/3970mm



采 Sai

The Japanese share a year on the 24 seasons since ancient times. Each season has its own name, distinctive signs and individual color scheme and we have rediscovered 4 of them...



Sai

EXTERIOR

Finish Charred & Hard Brushed
Finish OIL finish
Coating 18 x 165 x 1970/3970mm

INTERIOR

Finish OIL finish
Coating 10 x 135 x 1970/2970/3970mm
15 x 165 x 1970/2970/3970mm



Kohaku / 琥珀
Amber



Shikkoku / 漆黒
Black



Toumei / 透明
Clear



Taisha / 代赭
Yellowish brown



RESONA C[®]

RESONA C is a naturally derived colored paint made from linseed oil. It has excellent coloring properties and the wood grain is not noticeable. It will be finished in a natural texture and it can be used for Interior & Exterior applications. It is possible to create custom color should you need it.



The first snowfall marks the arrival of winter,
and the thaw is the arrival of spring



Snow

	Finish	Charred & Special Brushed
EXTERIOR	Finish	OIL finish
	Coating	18 x 165 x 1970/3970mm
INTERIOR	Finish	OIL finish
	Coating	10 x 135 x 1970/2970/3970mm 15 x 165 x 1970/2970/3970mm



Kuroyuki / 黒雪
Black snow

Shiroyuki / 白雪
White snow

Haiyuki / 灰雪
Grey snow

Yakisugi Product Specification

Wood Species:

Common Name(s): Sugi, Japanese Cedar
 Scientific Name: Cryptomeria japonica

Fire Resistance

On demand, please ask us

Moisture content:

finish products KD 14% (+/-4%)

Grade:

Allows for up to 20 tight or 10 dead knots per 2M board length, unlimited combination of heartwood and sapwood, pith allowed.
 Checks allowed to 1/16 as long as plank stability, weather-resistance and cosmetics are not adversely affected.
 Allowed hole knots on tongue and groove, not on.
 Not allowed Rot, Crack, Worm, Bug Holes, Wane, Hit & Miss and Blue stain
 Our products have repaired hole-knots, dead-knots crack-live knots by hotmelt, but there may be slight dents and cracks.
 Twist, round and bended that do not interfere with the fixing of the profile board is allowed.

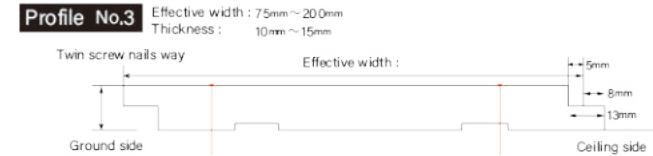
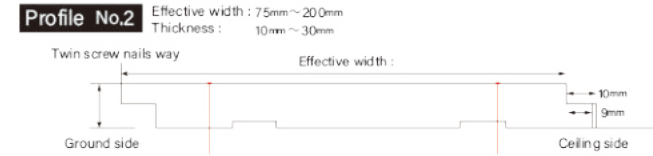
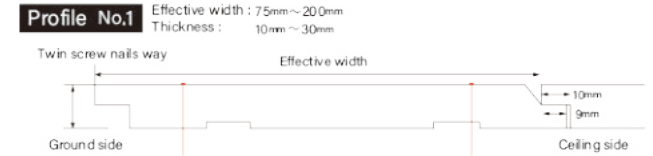
Series	Product	Finish	EXTERIOR 外=SOTO		INTERIOR 内=UCHI	
			Coating	SIZE	Coating	SIZE
炭 SUMI	炭	SUMI	Charred	Polyurethane 2 times	Polyurethane 3 times	10 x 135 x 1970/2970/3970mm 15 x 165 x 1970/2970/3970mm
磨 MIGAKI	磨	MIGAKI	Charred & Brushed	Polyurethane 2 times	Polyurethane 3 times	
彩 SAI	透明	TOMEI	Charred & Hard Brushed	OIL	Clear	
	漆黒	SHIKKOKU			Black	
	琥珀	KOHAKU			Amber	
	代赭	TAISHA			Yellowish brown	
雪 YUKI	黒雪	KUROYUKI	Charred & Special Brushed	Polyurethane 2 times	Black snow	
	白雪	SHIROYUKI			White snow	
	灰雪	HAIYUKI			Grey snow	

*SAI & YUKI series

The colors shown in the table are for regular products, so if you have a desired color, please consult your nearest dealer.
 Oil Brand name "RESONA C" is a naturally derived colored paint made from linseed oil.

*SIZE

Thickness & Width will be change according to Profile



Construction manual

Storage Precautions

Do not store the wood planks in uncontrolled environmental conditions: water, humid, or direct sunlight.
 For storage, place a crosspiece at the same length in a horizontal position and store it horizontally.

Pre-construction inspection

Due to the nature of wood, do not leave it on the side for a long time after unpacking, or cracking, twisting, etc. may occur depending on the environment of the construction site, so please be careful. This product is for exterior use only, so please refrain from interior use.

Set up

Because wood is a natural material, the color, the grain, etc. might be different from one another. Please make a temporary line before starting to install, check the balance of the color and wooden pattern, and also, in the case of painted products, please check the quality to see if there is any uneven paint processing or scratches for each plank.

※If you notice any defect such as processing defects or paint defects, please contact us before installation.

※Dead knots, black knots, crack knots, and chips were all treated by putty but minor cracks and dents may be included.

In the case of unpainted products, it is highly recommended to protect the surface with a clear protective finish in advance.
 For storage before use, please keep away from direct sunlight, humidity, rain, moisture etc.

Color difference/burn

Due to the nature of the wood, the color and grain varies from each piece. In addition, sunlight (ultraviolet rays) causes sunburn and discoloration as well as human skin. Therefore, the color may be different between the exposed part and the non-exposed part.

Longevity and maintenance for exterior

The exterior cladding will weather and change over time. The degree of change will vary depending on local environmental conditions and location conditions such as direct sunlight (ultraviolet rays), rainwater (acid rain etc.), cold and warm environment and wind. Therefore, it is not possible to say "how many years before to see a change in color tone", but if you perform appropriate maintenance (re-painting) regularly, you can delay the weathering process due to the natural environment and maintain the feel of the product. It is recommended that you apply a maintenance coating to keep the color consistent over time. We recommend a clear permeable protective coating that does not interfere with the breathing of the wood.

For our SUMI type coated products are coated with the purpose of suppressing stains during construction, so the coating strength is not as strong as the normal type.

When painting, be sure to follow the paint manufacturer's instructions.

All painted products will need to be repainted once in while due to aging. In that case, if you perform appropriate maintenance on a regular basis, you can delay weathering due to the natural environment and maintain the feel of the product.

When handling, be sure to use protective gloves to prevent injuries caused by thorns and to prevent stain on the product. When cutting, be careful of injuries and wear protective glasses and dust-proof masks.

Wooden products are soft and easy to break, so please handle them carefully when storing or moving them. Because wood is a natural material, the grain and coloration are all different. Make sure to do a temporary lay-out before installing and check color uniformity.

For exterior application make sure to use a waterproof sheet layer as a base.

For exterior application make sure to use a drainer. If it is not used, there is a risk that wood or charcoal adheres to the foundation etc. and stain it.

For the nails, use flat head screw nails that are more than 3 times the plank thickness; nails for burnt cedar, etc. Do not use ordinary nails.

Please screw nail with a 45 degrees angle to ground when use Profile No.4,5 and hide nail head.

As it is a solid-sawn wood product, it expands and contracts depending on the humidity of the site.

The expansion and contraction ratio will be different for each plank, so please be sure to mark them out at the time of construction.

When attaching a signboard, etc. after construction, put a reinforcing material etc. in the base and attach it to a place with sufficient strength.

If it is fixed only to the product, there will be a lack of strength.

For SUMI, the charcoal on the surface is brittle and peels off due to shock or friction, so be careful.

Although it is not noticeable when it peels off, but it gradually deteriorates over time and only that part fades away.

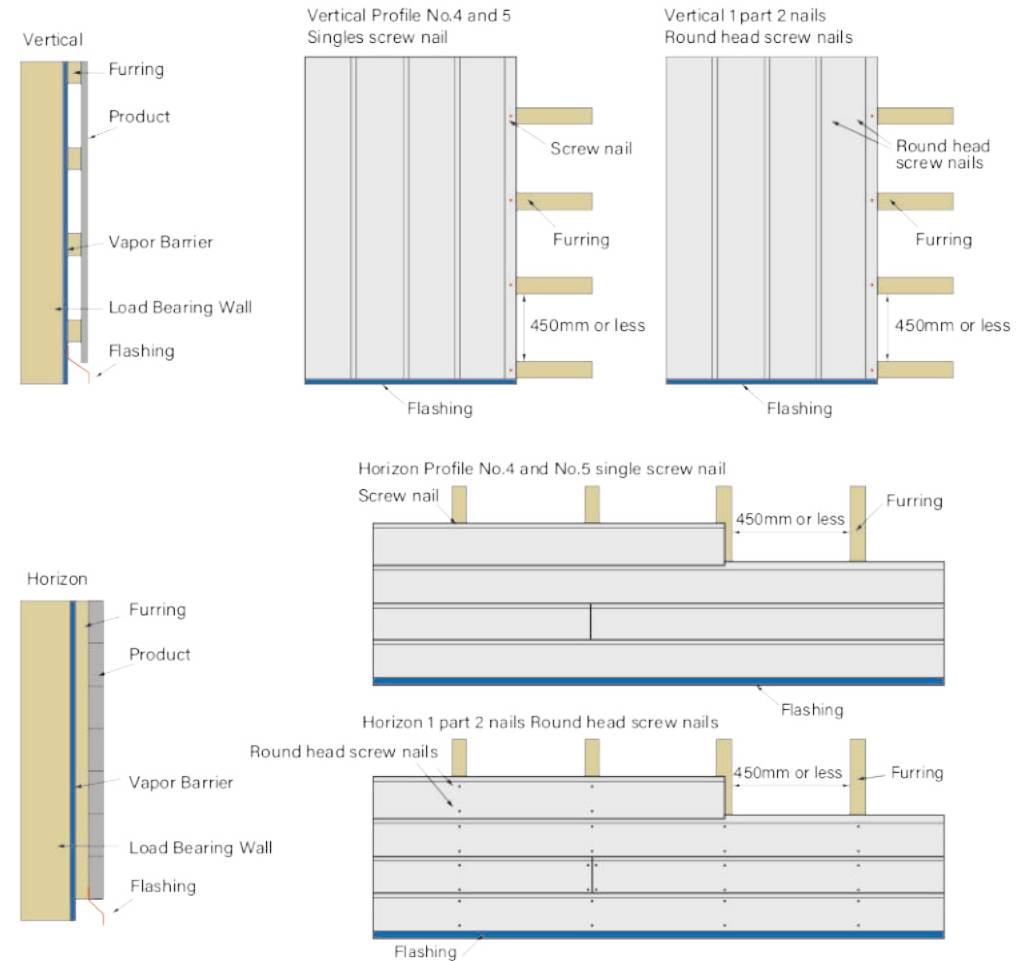
When hitting a nail on the surface, especially for SUMI, the charcoal on the surface tends to peel off, so do not screw the head of the nail strongly.

Construction Method for Interior

1. Please use stud and furry that are not bent and dry stud for wall substrate material and finished at intervals of 303 to 455mm. Use screw nails that are more than twice the thickness of the product.
2. Please mark the position of the stud or furry on the base plywood or plaster board.
3. Changes in humidity may cause expansion and contraction of the wood. When construction is applied to a place where warping is likely to occur, apply adhesive to the back side.
4. Use a flat head screw nail that is more than twice the thickness of the board, nails for Yakisugi, etc., and do not use regular nails. In principle, please screw nails in two places of width. Please screw nail with a 45 degrees angle from ground when use Profile No.4, 5 and hide nail head.
5. Please make a clearance of about 5 mm on both ends of the paneling in the width direction. Use screw nails that are more than twice the thickness of the product.
6. When finishing the upper part of the wainscot with plaster, it is easy to cause warts and expansion due to moisture, so be careful.
7. If you apply a polyurethane coat on an unpainted product, be sure to do so before construction. It is recommended to coat on both sides to prevent warping, bending, etc. In the case of an oil-based paint, it is possible to coat the wood even after construction.

Curing

- Do not attach the curing tape directly to the wall, as it may damage the surface.
- For SUMI, the charcoal on the surface is brittle and peels off due to shock or friction, so be careful.
- Cover the entire wall with a curing sheet. If some of them are exposed, they may get sunburned and have a different color than others.



Sample request & contact

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