



Specification Sheet:

Bamboo Poles



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About bamboo

Bamboo is a type of giant grass.

Its lightning-fast growth and rapid biomass generation is unrivalled by any natural lumber material. In the right conditions, some species can grow up to one metre in one day!

1,642 species of bamboo have been discovered, each with “remarkably different characteristics”¹. Bamboo is found around the world, particularly along the equator, with large concentrations in China, Africa, and Brazil².

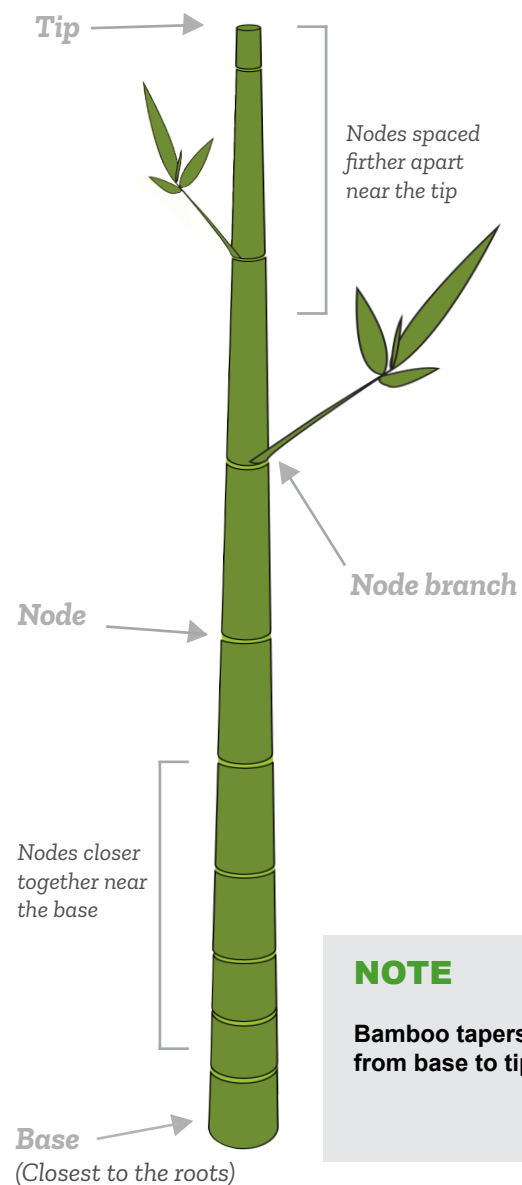
>> [Discover bamboo's eco-credentials.](#)

Fun Fact:

The tallest bamboo, *Dendrocalamus giganteus* or Giant Bamboo, is found in Asia and is in the Guinness Book of World Records measuring at 50 metres tall. Not bad for a giant grass!

The anatomy of bamboo

Depending on the species, bamboo typically matures in approximately 3 - 5 years. Emerging from its extensive root system rhizome, the woody culm (pole) grows fast and is characterised by the nodes - which start off closer together with a wide base and get further apart as the culm narrows and tapers towards the top. Nearing the top, bamboo also branches out to form dense leafy canopies in a forest.



NOTE

Bamboo tapers from base to tip.



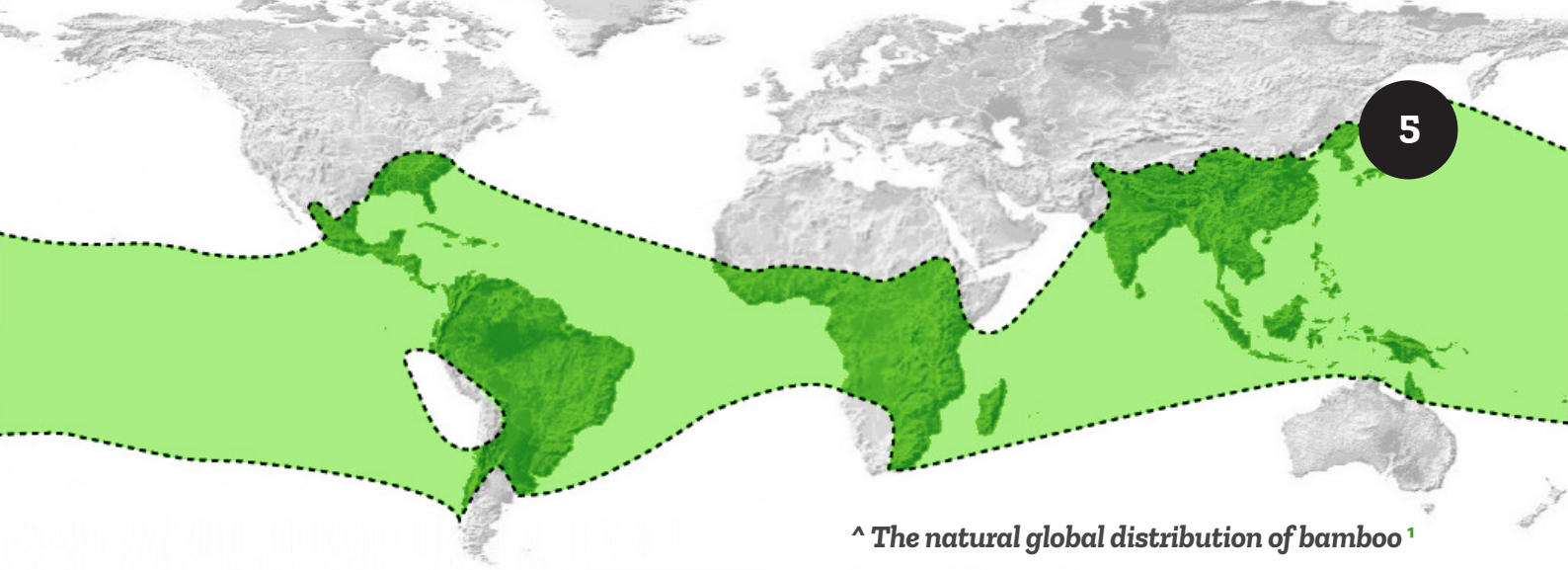
¹ Royal Botanic Gardens Kew, “[Putting bamboo and rattan on the map](#)”

² Iowa State University, “[Global distribution of bamboo - Maps](#)”

Section 1

The characteristics of bamboo





^ The natural global distribution of bamboo ¹

+ Each bamboo pole is unique

Variations can occur in the following:



Colour

Many factors affect the colour of the bamboo pole aside from species; such as, exposure to sunlight in the forest, and the time the poles spent drying during the harvesting process.

Allowances for colour variation should be factored into your project.



Wall thickness

Wall thickness is not consistent throughout the pole. It is common for the walls to be thinner nearer the tip (as the bamboo tapers) and much wider at the base, as seen in the image.

This is why internal diameter cannot be measured.



Straightness

Bamboo is a natural product and not all poles are straight or cylindrical, as seen in the image.

Not hollow all the way through!

While the space between the nodes are hollow, the nodes themselves are hard woody membranes which can vary in thickness ²

See [Section 2](#) on how to remove nodes, if required.



^ Cut sections of bamboo poles showing the internal node.

¹ Wikimedia Commons, "[Bambusoideae World map](#)".

² Depending on the bamboo species purchased from UK Bamboo, some of the nodes may be pierced.



Scorch marks

(Natural bamboo poles only)

Sometimes poles need a little help to be straightened.

Bamboo is not perfectly straight. Some natural poles may have scorch marks in places where heat has been applied to straighten the pole after harvesting.

This is purely aesthetic and does not affect the pole's integrity.



Blemishes

Natural imperfections are beautiful.

While we strive for consistency, natural blemishes, surface scratches from harvesting, and variations in colour do occur. Light scratches may also occur while the poles are being transported.



Colour change

Like wood, sun can bleach bamboo to even out colour.

The image above shows an extreme example of *Phyllostachys vivax*, still slightly green after import (all bamboo poles are dried prior to import). The image below shows the same bamboo, now fully dried - note the even tone achieved through extensive exposure to the sun.



^ A man straightening Moso bamboo poles. The curved section of the pole is heated and then straightened out using a shaping anvil.



^ A close-up of a bamboo pole growing in the forest with naturally occurring blemishes.



*^ Fully dried *Phyllostachys vivax*, following extensive sun exposure.*

Understanding UK Bamboo's pole diameter ranges

As a natural product, bamboo poles can taper. In extreme cases this can be up to 60% of the thickest part of the pole, with variations also occurring in the wall thickness.



Our bamboo poles are sold in external diameter ranges, e.g., 50/55mm. Each pole is expected to be within +/- 5% of the range diameter it is sold in.

The measurement (e.g. 50/55mm) is taken from the thickest part of the pole (often just above the base).

The tip will have a smaller diameter.



- We endeavour to supply bamboo poles that do not taper to extreme degrees. However, out of the thousands of bamboo poles stocked, a pole with significant tapering is a possibility.
- If a particular minimum diameter is required, we recommend ordering the next size up.
- For projects requiring poles that are less likely to taper, we recommend the Guadua bamboo.

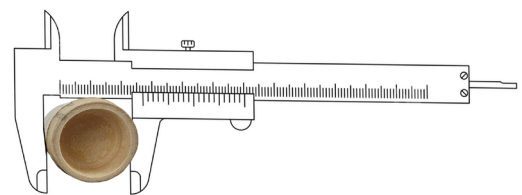


Measuring the diameter of a pole

1

Using Vernier Callipers

Open the calliper's teeth wider than the pole, then finding the widest part of the pole, close the teeth. You may need to rotate the bamboo, as poles can be more elliptical in shape.



2

Using a ruler

Measure across the widest parts of the outer rim. Repeat several times in different places and take an average to find the diameter.

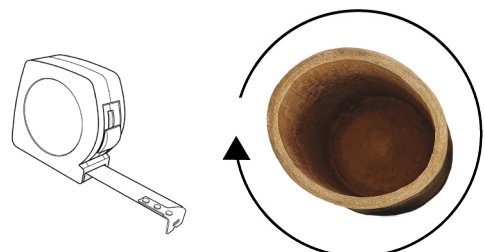


3

Using a tape measure + calculator

Wrap a flexible measuring tape around the outside of the widest part of the pole. Take a note of the measurement and use a calculator:

Outside circumference \div π or 3.1415 = diameter



Bamboo poles stocked

Also available as half round poles

All bamboo poles stocked are grown in managed forests. For your convenience the bamboo poles have been grouped into three 'families' based on shared characteristics; such as, colour, species, and diameter ranges.

Other species of bamboo are available upon request, such as *Tamvong* and *Tonkin*, subject to a special order (minimum quantity applies).



Species

Phyllostachys edulis
Phyllostachys vivax

Phyllostachys nigra
Gigantochloa atrovioleacea
Phyllostachys bambusoides f. *lacrima-deae*

Guadua angustifolia

Pole diameters (mm)

25/28 50/55 90/120
30/35 60/70 120/150
40/45 70/80

20/25 50/60
30/35 60/80
40/50 80/100

60/80
80/100

Colour

Natural golden / beige

Natural shade of dark-to-mid brown

Natural mid-to-light beige with dark brown spotting

Country of origin

China, Africa

China, Indonesia

Colombia

Natural surface finish

Satin sheen with a smooth, glassy skin

Satin sheen. Larger diameters (60/80, 80/100mm) have a matt, smooth skin.

Matt

Nodes & Node protrusion

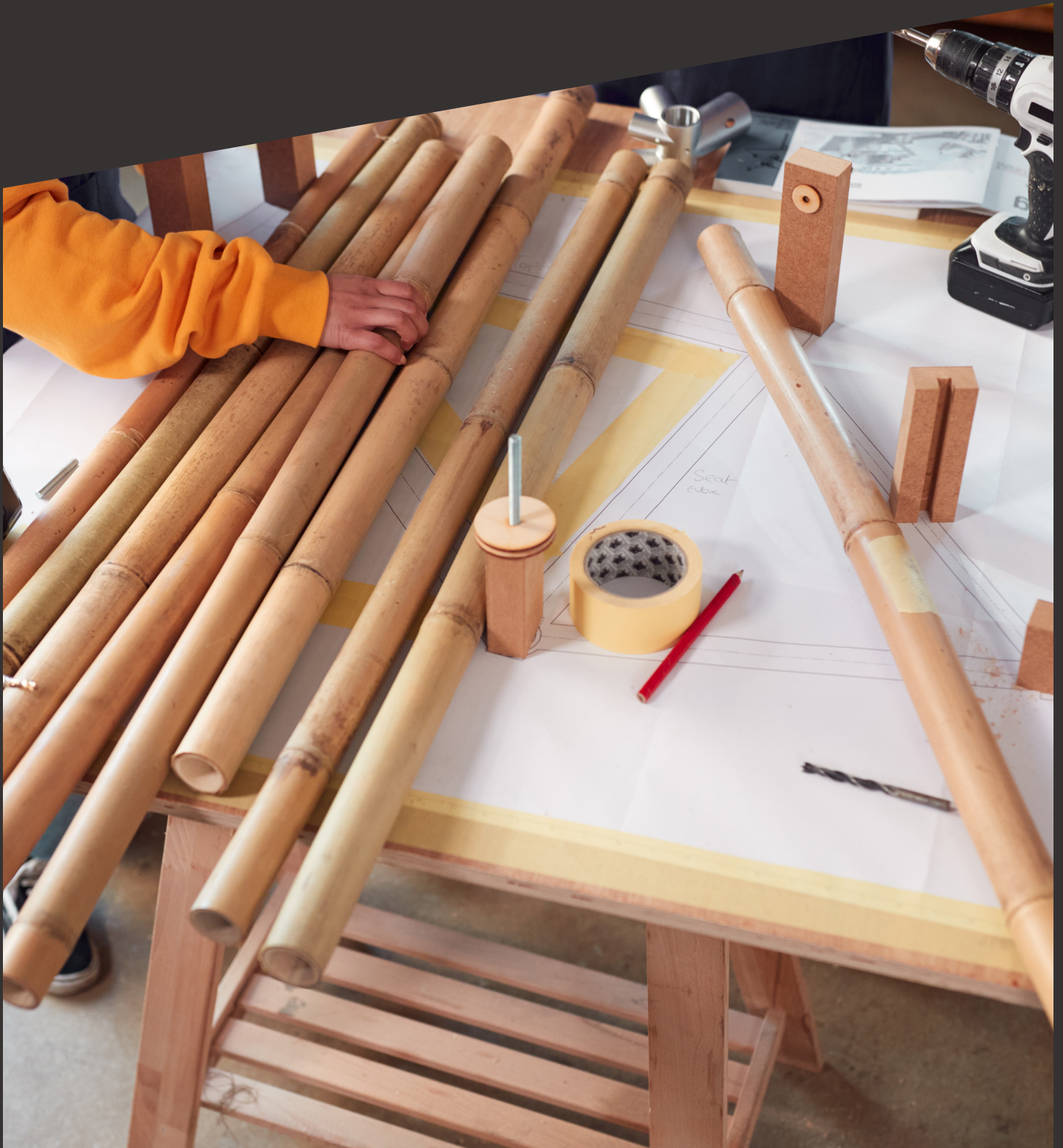
Fairly prominent, gentle lip on larger diameters with a single joint line. Nodes are easily knocked out.

Fairly prominent. More pronounced nodes are found on smaller diameters and tip ends. Nodes are easily knocked out. On larger diameters, nodes are sometimes pre-knocked through.

Fairly flat nodes, with natural double joint lines. Nodes can be hard to remove.

Pre-Installation

How to prepare



Steps to minimise cracking & splitting

Applies to full round bamboo poles used in both interior & exterior applications



You will need:

- A power drill
 - A standard 3mm wood drill bit
- OR
- A hammer
 - A broom handle or metal rod

As bamboo dries out it expands and contracts, like wood.

All bamboo poles are dried 6 - 8 weeks prior to export, however they may contain residual moisture. Once installed in the UK, fluctuations in temperature / humidity cause the bamboo to expand and contract. This can occur regardless of whether the poles are used inside or outside. While a hairline crack does not affect the overall integrity of the bamboo, there are a couple of methods to minimise¹ the chances of the bamboo full round pole cracking or splitting. The goal is to release the pressure build up inside the pole.

A) Pierce the nodes



Using a broom handle or metal rod, knock the nodes through to allow airflow inside the pole. For tougher/thicker node walls, you may need to tap the end of whatever tool you have used to knock out the nodes with a hammer.

- If the poles are being installed upright outside, be sure to leave one end node in tact. This acts as a natural rainwater plug and does not allow water ingress.
- The poles with knocked through nodes can also be soaked in wood preservative.

B) Drill breathing holes



Using a power drill with a standard 3mm wood drill bit, drill a breathing hole just above the node. Repeat at each node, varying the location around the pole.

Do not drill all breathing holes in the same location at each node, as this can make the pole prone to splitting.

¹ Cracking or splitting unfortunately cannot be completely eliminated and the above steps cannot guarantee against any cracking or splitting occurring during the product's lifetime.

Half round poles and slats are much less prone to cracking, as they are not enclosed cylinders where pressure can build up.



How to cut bamboo

Applies to both full round and half round poles

11

To cut bamboo as cleanly as possible, we recommend a fine-tooth wood saw or slowly using a circular chop saw. Fraying is inevitable, so have some medium grit sandpaper to hand!



You will need:

- A fine-tooth wood saw
- Medium grit sandpaper
- **OR** a circular chop saw
- Safety goggles

Q: Can I cut more than one pole at a time?

Yes, but it depends on the thickness of the pole and the cutting tool you have.

A circular chop (mitre) saw makes light work of this. Bundle the poles together tightly and securely with strong tape or binding first before cutting.

Q: Can I split the poles in half lengthways?

This is not recommended as the bamboo has been dried and is very difficult to cut lengthways safely and cleanly. Rather, it is best to purchase a half round pole from our store - we can cut cleaner and straighter using our bandsaw with a custom-made jig.



Node removal & sanding

Applies to half round bamboo poles

For projects using the half round poles as gutters or water features, knowing how to remove the nodes is essential.

Removing the internal nodes of the half round bamboo poles can be achieved with a hammer and chisel. A few taps will remove the node, leaving a ridge that can be sanded. Smoothing off can be done by hand (wood file + coarse grit sand paper), or with a sanding attachment for a power drill ¹.

If using as a water gutter:

Coat the inside of the freshly sanded half round pole with wood preservative and allow to dry before installation.

You will need:

- A hammer
- Coarse grit sandpaper
- A chisel
- (or a drill with a sanding attachment)



¹ Only sand the inside of the half round pole. The exterior of the bamboo is naturally waxy, which doubles as a natural water repellent. Sanding the exterior removes this quality of the bamboo. For this reason, we do not recommend sanding the exterior of a bamboo pole (as it is not a perfect cylinder, the result would also be patchy!).

Section 3

Installation

A guide to installing bamboo





Installing bamboo¹

Depending on your project, there are several methods available for joining bamboo. As bamboo is not a perfect cylinder, joining can be a challenge - but the results are worth it. The following are recommendations. You may have your own method.

A) Hand-tying

Ideal for fencing + trellises

Simple and effective. Tying bamboo together using palm fibre twine creates an oriental aesthetic. Hand-tying is useful for projects such as trellises and fences. While there are many different styles of knots, we recommend the 'lbo knot' - a variation of the standard looped square knot and a standard used in Japanese landscaping. Before tying knots, soak the twine in water first. When it dries, the knot pulls tighter and therefore makes a stronger knot.

[Explore hand-tying bamboo >](#)

B) For temporary structures

Securing bamboo uprights

If your project involves a temporary structure, burying the bamboo pole in a container, such as a large bucket or oil drum, filled with a heavy material for ballast can be a great solution. Materials such as wet sand or stones work well as counterbalances.

Weight distribution is a key factor in securing the poles using this method. The height of the bamboo pole must be considered, alongside the weight of the pole against the ballast material. Depending on how secure you have made your bamboo pole, weather conditions should be factored in - are you prepared for a windy day? A great example to illustrate fixings can be found here on the below link.

[Take a look at Event Flag Hire's methods for securing bamboo >](#)

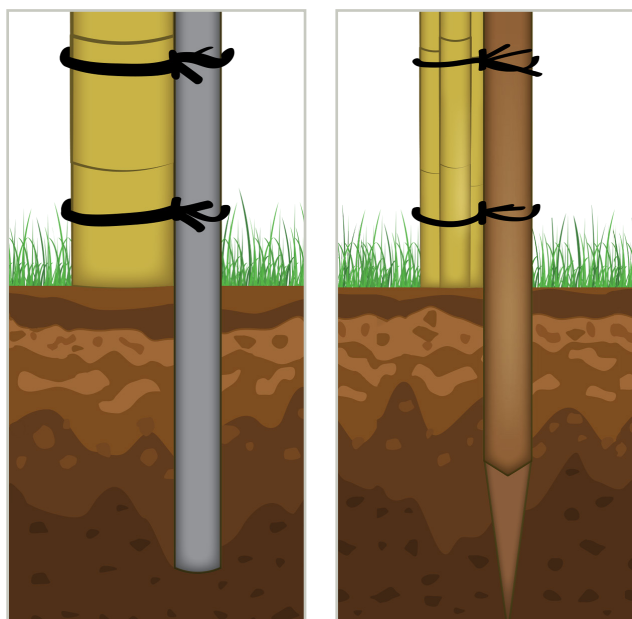


[^] Black and palm fibre twine is popular for oriental fencing

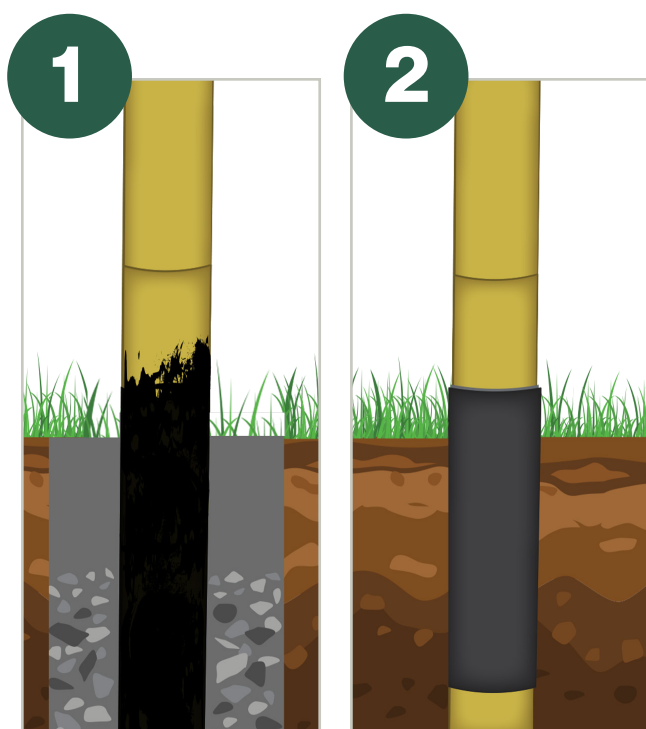


[^] Bamboo pole uprights in a container of wet sand (left) and an oil drum filled with stones (right) to secure the pole.

1 NOTE: Bamboo should **never** be nailed together. Nailing is ineffective (given the pole is hollow) and causes splitting.



^ A large bamboo pole secured to a metal scaffolding pole with cable ties (left) and a bundle of smaller diameter poles secured to a wooden stake (right).



^ Left: **Method 1**

A buried bamboo pole, painted with bitumen to prevent rotting and secured into the ground with concrete.

Right: **Method 2**

A buried bamboo pole with a Postsaver applied. Postsaver is plastic sleeve coated inside with bitumen that shrinks to fence posts when heat is applied. The product has been designed to prevent the action of water, oxygen, and fungi that leads to rotting.

[Visit Postsaver's website >](#)

C) For semi-permanent structures

Securing bamboo uprights

A user-friendly method for securing bamboo pole uprights for semi-permanent structures.

You will need either a metal pole (such as scaffold) OR a wooden stake, a club hammer/mallet, cable ties, and a bit of muscle.

Start by hammering the stake or metal pole into the ground. How deep you go depends on the weight and size of the bamboo pole, but we recommend at least 45cm. Grab your bamboo pole and position into place alongside the support. Using cable ties, tie into position, weaving between the pole and the support in a figure of eight. Repeat this last step for as many times as you see fit to adequately secure the pole.

There are many different types of ground stakes and fixings available online. As an example, [look at this website for some ideas](#).

D) For permanent structures

Securing bamboo uprights

For permanent structures outside, depending on the method chosen you will need a shovel and various products. The aim is to not only secure the pole, but to prevent the buried section of the pole from rotting.

Method 1 - Wood preservative, bitumen & concrete

1. Start by digging a hole slightly larger than your bamboo pole's diameter and at least 60cm (2ft) deep
2. Soak the base of the bamboo pole in a wood preservative of your choice. Allow to dry.
3. Paint on a thick coating of bitumen on the outside of the bamboo pole. Allow to dry.
4. Insert the pole into the hole you have dug.
5. Stabilise the pole in the hole using concrete (wet or dry mix) or foaming post fix. Allow to dry.

Method 2 - Postsaver

1. Start by digging a hole slightly larger than your bamboo pole's diameter and at least 60cm (2ft) deep.
2. Slide a Postsaver rot protection wrap onto the base of the pole.
3. Heat the Postsaver using a heating device like a hairdryer, garden blowtorch or hot air gun.
4. Bury the bamboo pole.

[Video: How to apply Postsaver >](#)

Joining bamboo

- **Always pre-drill pilot holes first for screws.**
- **To avoid splitting, do not screw bamboo directly, or use nails.**
- **The more holes that are drilled, the more prone the pole may be to splitting.**

Large structures

Where a structure is intended to be self-supporting or load-bearing, a firm grounding and extra fixings will be required to fully secure the structure. Designing in cross-bracers, ladder or A-frames can give strength to a bamboo structure.

While UK Bamboo Supplies do not provide advice on engineering bamboo, there is a wealth of content online from expert architects and designers. You can also view our Case Studies to see how bamboo has been used in structures.

[Read more about the types of components for joining >](#)

- Always consult a structural engineer or architect that specialises in bamboo. You may also need planning permission from your local authority.
- Unfortunately UK building regulations do not cover bamboo. Talks with the government are in progress to have bamboo recognised, with bamboo's strength being demonstrated in Asia where it is used as scaffolding, for example.



^ Atlas domes use metal hubs and clamps screwed into the bamboo poles to build large geodesic domes for events.

Aftercare

Looking after your bamboo



Maintaining bamboo used in outdoor projects

Most species of bamboo have a natural waxy exterior, which repels water. Over the course of a year being exposed to the elements, this starts to break down. Like wood, annual or bi-annual maintenance is required to keep your bamboo looking its best.

Removing mould

After an extended period of saturation and bad weather, mould can start to build up on the surface of the dried bamboo poles. Occasionally inspect your bamboo to spot for signs of mould, as leaving mould increases the chances of it penetrating the outer protective skin.

1. On a dry day, apply a vinegar solution with a sponge and wipe away the surface mould (a specialist mould & mildew remover, such as Barrentine Mould & Mildew spray, can also be used. Ensure you follow your chosen product's instructions).
2. Leave to dry.
3. If required, carry out the process a second time. Leave to dry.
4. Apply a coat of wood preservative, varnish or wood oil (adhesion may be affected by how much of the outer skin remains intact).

UK Bamboo are committed to quality; however, there may be time when poles are shipped out with surface dirt or mould.



Maintaining half round bamboo poles

Often used for water features & gutters

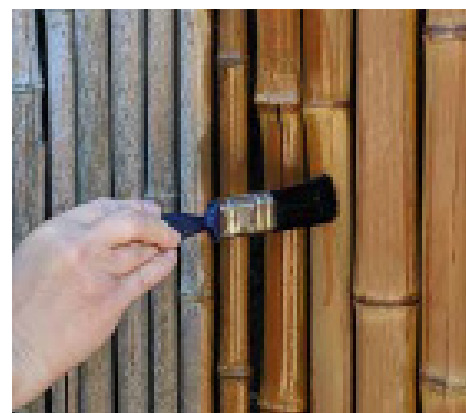


1. Ensure the half round bamboo pole is dry. Clean with a mild detergent and remove any mould.
2. Fill in any hairline cracks with clear silicone. Allow to dry.
3. Apply a wood preservative, or a fish-safe oil at least once a year to **either** the inner or outer wall (applying to both walls will trap in residual moisture that will lead to mould stains).

Restoring silvered bamboo poles

Similar to wood, bamboo poles can turn silver-grey - a process known as 'silvering' which is the result of natural weathering and UV exposure.

1. Clean the bamboo pole with a mild detergent (follow the above steps 'Removing mould' if required).
2. Leave to dry.
3. Apply a wood preservative with water resistance and UV protection (following the chosen product's instructions).
4. Allow to dry.
5. Inspect your bamboo occasionally, staying on top of maintenance. Repeat these steps every year or when required.



NOTE: Bamboo is a natural material, which will inevitably age and change over time. These measures are provided for guidance and do not guarantee the bamboo will stay the same indefinitely. Ensure you have followed the pre-installation and installation advice contained in Sections 2 & 3.



^ A customer project using Natural bamboo poles to clad a front of a bar

Maintaining bamboo used in indoor projects

Bamboo is ideal for interior decoration. Always ensure the bamboo has been installed correctly, following the advice contained in 'Section 2 - Pre-Installation: How to prepare' and 'Section 3 - Installation'. This is particularly important for bamboo installed inside, as dry heat fluctuations can lead to cracking and splitting.

How to maintain full round + half round bamboo indoors

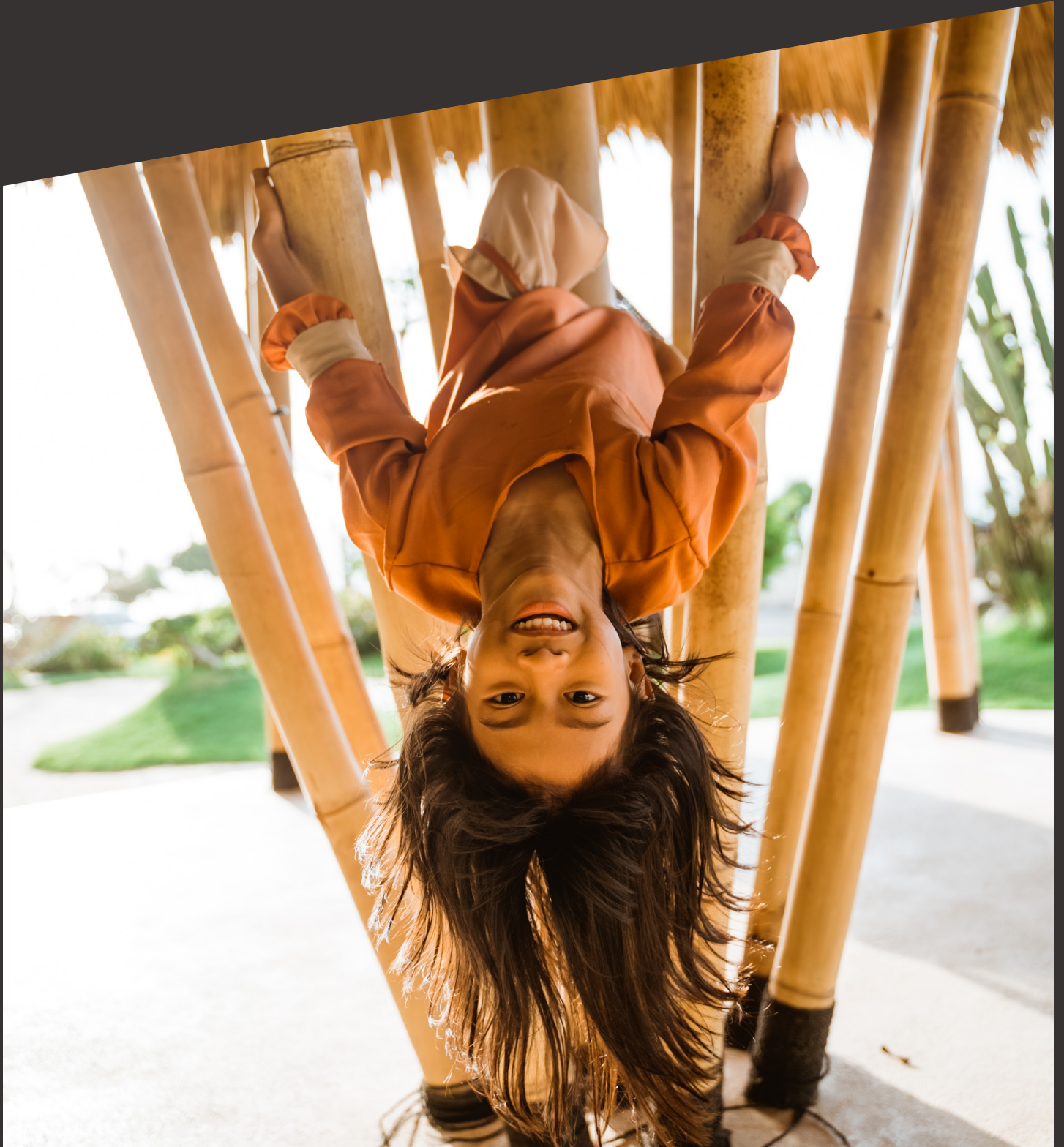
1. Occasionally inspect your installed bamboo.
2. Remove dust and dirt with a damp cloth.
3. Allow to dry and apply furniture polish or pure beeswax to maintain an attractive finish.
4. If hairline cracks have appeared, apply a wood oil to the affected area.
5. After a year, inspect the bamboo and apply a few layers of your chosen protective product (e.g., varnish, wood oil, beeswax etc.). The colour of bamboo installed indoors may fade over time through UV exposure (particularly if installed near a window).



NOTE: Bamboo is a natural material, which will inevitably age and change over time. These measures are provided for guidance and do not guarantee the bamboo will stay the same indefinitely.

FAQs

Top questions answered



FAQS - Frequently Asked Questions

> I want to make an arch. Can I bend the poles?

No. Our bamboo poles are dried 6-8 weeks prior to shipping.

By the time our products reach the UK, the bamboo has had several months to dry. Although the bamboo has a small amount of flex, the minimal amount of moisture in the poles means that bending beyond a certain point will not work. This should be taken into account when designing your project, as a tightly curved arch made from one pole is not possible with our bamboo. Bamboo architecture in tropical destinations like Bali are constructed using recently harvested (green) bamboo - with the poles being bent and dried into specific shapes.

> How much do bamboo poles taper?

Each bamboo pole is unique, so an exact figure cannot be given. Tapering varies a lot between species, with some of the thinner poles tapering down as much as 60%

We try our best to stock quality poles that do not have extreme tapering (we expect an average of 30%), but as bamboo is a natural product and there is no way to control nature or tapering, any projects have that have a focus on diameter need to factor this in - perhaps by ordering the next size up. For projects requiring poles that are less likely to taper, we recommend Guadua bamboo from our store.

> I need an exact internal diameter. Can you help?

No. There are many factors that influence a bamboo pole's internal diameter such as wall thickness and node size/density. This means internal diameter is impossible to measure.

Bamboo poles are not perfectly cylindrical - wide at the base and tapering towards the top. Each pole is unique and the degree of tapering can also depend on the species. If ordering for a project requiring an exact internal diameter, we recommend selecting a pole several sizes up (however, UK Bamboo cannot guarantee even this will meet your exact project requirements given the uniqueness of each pole).

> Can I paint my bamboo?

This depends on the species of bamboo.

Bamboo from our Natural Bamboo Poles category have a naturally waxy exterior that will resist the application of paint. The same applies for the Dark Bamboo Poles category, aside from the larger diameter poles (60/80mm and up) as they have a naturally matte exterior. Guadua bamboo has a matte exterior and customers have reported success with painting their bamboo. If you are wanting to paint your bamboo, get in touch with the team for more advice (sales@ukbamboo.com).

> How can I get an even colour on my bamboo?

If your bamboo pole has weathered, then paint or stain will adhere well.

Poles recently supplied will eventually bleach from exposure to sunlight (UV), which will even out colour over time. If you want to paint your bamboo choose 60 - 100mm Dark Bamboo poles or Guadua, rather than Natural poles (the bamboo's naturally waxy exterior will repel paint).

> Pandas eat bamboo. Are you stealing their food?

No. Our bamboo comes from sustainably managed forests.

Our stock of bamboo from China (*Phyllostachys edulis*, *Phyllostachys nigra*, *Phyllostachys bambusoides f. lacrimatae*) grows in Anji County, in the north-west of Zhejiang province. Over a thousand kilometres away in the mountainous regions of the provinces of Sichuan, Shaanxi, and Gansu, [the natural habitats of giant pandas are found](#). The Chinese government have placed large areas of bamboo forests under protection to safeguard the species. As such, no pandas are harmed by our activities.

> I ordered a 50/55mm bamboo pole and the widest part is 48mm?

Each pole is expected within +/-5% of the range the diameter is sold in.

Bamboo is a natural product and each pole is unique. As such, a degree of tolerance is needed when it comes to sizing. While the example of receiving a 48mm diameter pole is below the stated 50/55mm, it is within the tolerance allowance stated.

> Does your bamboo come from the UK?

No. The UK's climate is sadly not suitable for growing commercial-sized bamboo.

Bamboo can grow very fast, but in order to do so, the plant requires a lot of rainfall, sunlight, and a warm or tropical climate. While we may have species of bamboo in our garden, it will not grow to large diameters like 120/150mm Natural bamboo poles. Iowa State University in the United States [have a handy map that shows the global distribution of bamboo](#).

> How strong is Guadua bamboo?

Very strong. Research has shown Guadua bamboo to have a similar tensile strength to steel and to be the world's strongest bamboo.

Our friends over at Guaduabamboo.com in Colombia have a great page summarising research into the strength of their native bamboo, Guadua, citing extensive research conducted by the Larenstein University in The Netherlands.

On the page you will discover the mechanical properties, density, Janka hardness, and strength MOE (Modulus of elasticity) of Guadua bamboo, in comparison to Moso bamboo.

[Discover their Guadua Bamboo research >](#)

> Do you sell green bamboo?

No. It is virtually impossible to import cut green bamboo (high moisture content) from our supply partners around the world without it spoiling, due to the duration of shipping.

Our bamboo poles have been carefully dried 6-8 weeks before being shipped to the UK. This prevents too much moisture being present within the shipping container, which leads to mould.

> I have a question not answered here. Can you help?

Of course. Take a look at our extensive range of FAQs on our website by clicking on the below link. The site's FAQs are constantly reviewed and updated.

[Explore the FAQs >](#)



Customer support

If you can't find what you're looking for, contact our friendly team of experts:



sales@ukbamboo.com



[01825 890041](tel:01825 890041)



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Open: Mon – Fri 9am – 4:30pm (Excl. bank holidays)