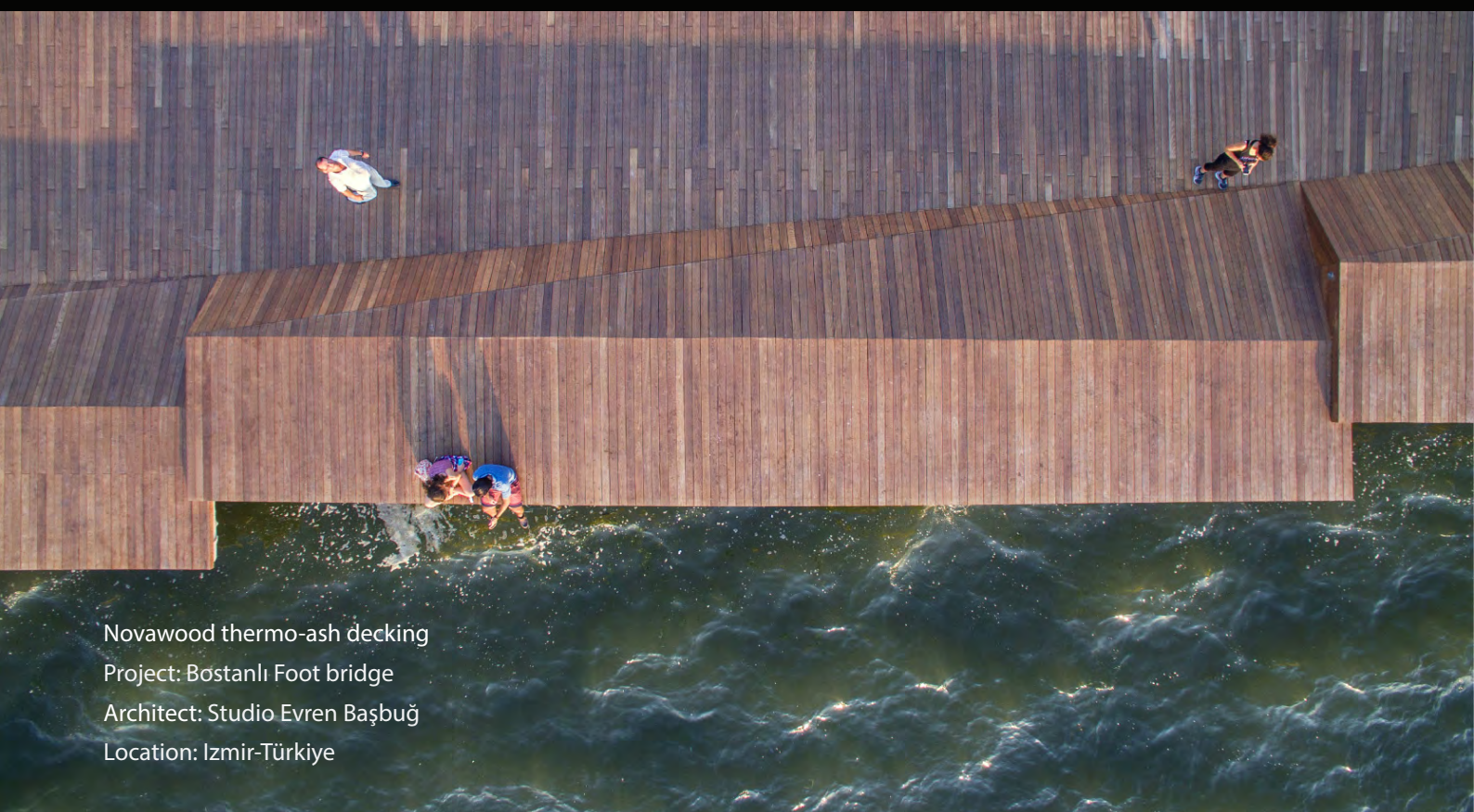




Novawood thermo-ash decking

Project: Bostanlı Foot bridge

Architect: Studio Evren Başbuğ

Location: Izmir-Türkiye

Please read this guide in full before commencing installation. Incorrect installation will void any applicable warranty.

IMPORTANT INFORMATION

Smartdeck supplies thermally modified ash and red oak for decking, from Thermory and Novawood in Europe, as well as premium engineered bamboo. Some profiles can be installed with hidden fastening clip systems, others require top fixing with screws or nails. This guide relates to profiles that utilise the Camo clip system and/or screws into timber or metal joists. **Thermo-ash** and **thermo-oak** are dense hardwoods, almost identical in appearance and performance. **Thermo-spruce** is a softwood decking option available by special order. Appropriate termite protection methods must be used with all species. Thermal modification increases resistance to termites in ash, oak and spruce but none are completely resistant to termite attack.

In Europe, natural uncoated thermally modified wood does not require any special care other than cleaning, however in Australia's harsher climate **we strongly recommend pre-coating all decking boards on all sides prior to installation** with a penetrating oil such as Equisol® or Cutek®. This minimises surface and end-checking. See the separate maintenance guide for recommended coating protocol after installation, particularly if the requirement is to maintain the colour of the timber.

Thermally modified decking is durable and remains weather resistant for decades. **WHEN USING THERMALLY MODIFIED DECKING OUTDOORS, THE SURFACE OF THE BOARDS WILL NATURALLY TURN GRAY OVER TIME, JUST LIKE ANY OTHER WOOD PRODUCT.** This process begins immediately after the products are installed and can take anything from a few months to several years depending on the species and intensity of UV radiation they're exposed to.

STORAGE

Whenever possible, packs of unoiled boards should be stored indoors. Boards should also be kept away from direct sunlight as UV rays will cause the color of the boards to fade where exposed.

If stored outside, the boards should be elevated at least 150 mm from the ground, stacked evenly, and protected with a waterproof, light-impermeable cover. Leave the ends of the cover unfastened to allow for ventilation while still preventing moisture damage.

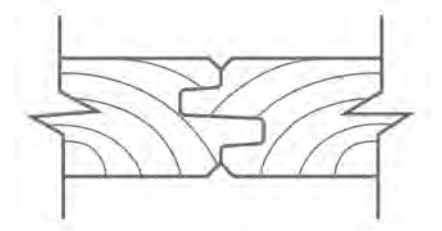
VENTILATION – AVOIDING MOISTURE DAMAGE

It is a factory recommendation to leave a gap of at least 300 mm between the ground and decking in areas of high moisture, and to ensure that the ground falls away from the house or pool to prevent water pooling underneath. It is also important to prevent any plants growing nearby from restricting ventilation under the deck. It is possible to install decking as close as 100mm to the ground but adequate drainage and ventilation is very important, as with all timber.

SMARTDECK provides a pre-oiling service which ensures maximum protection for any timber, and saves time on site. We recommend oiling on all sides prior to installation, with an additional coat after installation if maintaining colour with a colourtone.

END-MATCHING JOINTS

The dimensional stability of thermally modified timber makes end-matching possible. With end-matching, the ends of the decking boards do not need to rest on joists. This creates less waste, reducing labour costs and shortening the installation time. Each board must be resting on, and fastened to, a minimum of two joists. Do not position end joints adjacent to each other. Where possible, distribute the end joints evenly across the deck for a uniform end result.



PRE-DRILLING

Thermo timbers are 100% solid timber and can be drilled, cut, sanded and worked as per normal hardwood material. Use sharp blades and drill bits to reduce the potential for chipping and splitting of the timber. For **thermo-ash** or **thermo-oak** decking, any required pilot holes (along leading edges or if top fixing a standard profile) should be predrilled. The pilot holes should be equal in diameter to the screw's nominal diameter to allow for any necessary board movement and prevent shear stress on the screws. Pre-drilling and countersinking is necessary if fixing nails or screws directly into thermo ash or red oak to minimise the potential for splitting.

Some self-tapping screw brands, such as **Wurth ASSY**, may be suitable for use without predrilling, but if using these with thermo-ash or thermo-oak decking you should try them out prior to installation and use at your own risk.

HIDDEN FASTENING

Smartdeck has transitioned to Camo clips as these are readily available for both timber and metal joists, and Camo is the fastest installation system when using the Camo drive and lever tools. Even without these tools installation is much faster than traditional top fix methods.

Occasionally we source Thermory ash in a 132mm profile, which uses stainless steel T4 clips.

Thermory Benchmark
Thermo-Ash decking

Designer:
Mike Cass Studios

Builder:
Design-It Landscapes

Location:
Sydney, NSW



Check the boards thoroughly for possible transport-related damage prior to installation, and never install defective boards. **ONCE INSTALLED, PRODUCTS ARE DEEMED TO HAVE BEEN ACCEPTED IN TERMS OF QUALITY.** Sometimes a board will have a crack or split in the end. This should be docked and the cut end sealed with a penetrating oil prior to installation. A small crack or damage that is not visible when installed is acceptable, however a visible crack or flake that exceeds 100mm in length should not be installed. Either cut this section out of the board and use the remainder, or set the board aside if there is insufficient useable board. **Please photograph and document all boards deemed defective and notify Smartdeck as soon as possible,** and within a month of receiving the boards. If we request it, please keep all defective boards for collection.

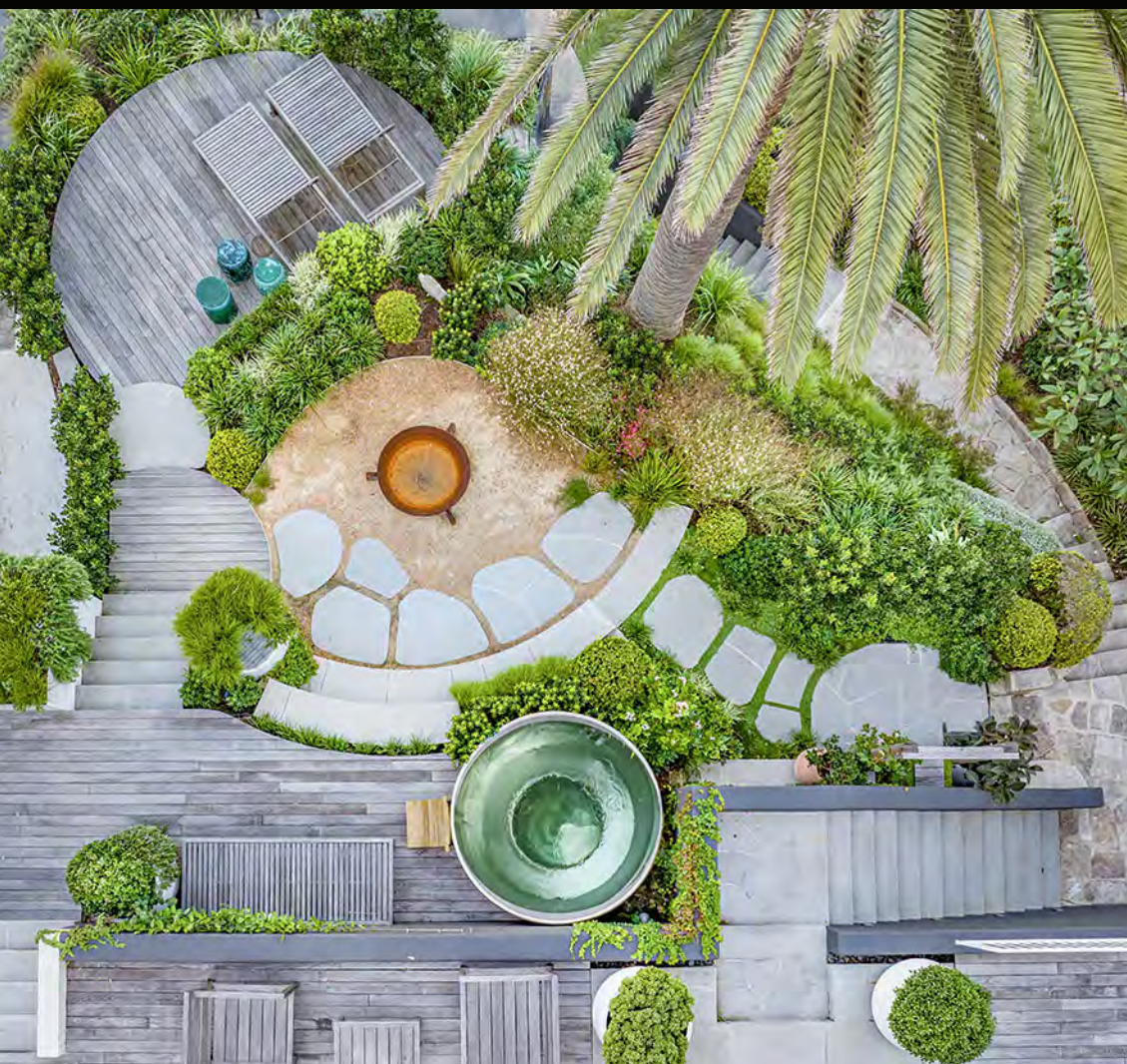
TIMBER COLOUR EXPECTATIONS

Wood is a natural material and will silver over time. Each board ages in its own way, and different orientations will age differently depending on the sun and rain they're exposed to. Decking boards can be coated with a UV-resistant pigmented finish such as a stain or penetrating oil to maintain a natural looking colour.

We DO NOT recommend the use of any water-based deck coating products due to a high potential for peeling and flaking over time, and potential for mold and fungal growth. Vegetable and natural linseed-based oils are not recommended, as they contain substances that provide a food source for biological organisms such as bacteria, mold, etc, however modified linseed oil based coatings with biocides, such as Equisol Pro E365, are recommended. Oil should only be applied to clean, dust-free surfaces. Before using a tinted finishing product, mix it thoroughly and test the suitability of the shade on a small area. Note that oils appear darker for several weeks after application. Always follow the application instructions provided by the manufacturer as application and drying times can vary.

OILED DECKING BOARDS

The expected service lifetime of pigmented oil is 1-2 years, depending on exposure and the orientation of the deck. The oil will continue to provide protection against moisture ingress beyond this timeframe, but the pigment will become powdery and the timber will need to be cleaned, generally with high pressure, before re-coating if using Equisol® or Cutek®.



Thermory Benchmark
Thermo-Ash

Designer:
Mike Cass Studios

Builder:
Design-It Landscapes

Location:
Sydney, NSW

INSTALLATION

NOTE:

Smartdeck thermo decking generally comes factory brushed on one face and should be installed with the brushed side facing up. The factory brushing removes mill glaze and creates a textured surface. This textured surface allows for faster penetration of oil and greater colour build when using the Equisol Colourtones.

NOTE:

Maximum joist spacing of 400mm centers on timber or steel joists with end-matched decking. Recommended joist spacing is 350mm for commercial projects.

TOOLS REQUIRED

- Screw gun with appropriate bits
- Drill with countersink bit, eg 'Smartbit'
- Drop saw or circular saw or handsaw + guide
- Rubber mallet
- Penetrating oil (Equisol Pro 365 recommended) and brush

Optional

Camo drive tool (for Camo Wedge clips)
Camo lever tool

Best practice:

Check all boards before installation and put aside any boards that are damaged or defective. **DO NOT INSTALL DAMAGED BOARDS.** Call Smartdeck for technical assistance or replacement if necessary. Boards that only have

Thermory Benchmark
thermo-ash decking, pre-weathered

Designer: reimagined habitat

Builder: #1Decks

Location: Forrest, ACT

partial damage can often be used towards the end of a job, as short lengths and last boards often require ripping down into a narrow width to fit. All decking comes with one brushed face which should be installed facing up – the smooth face will be the B side, and may have mill marks or shakes. If any ends are damaged or checked, they can be docked and used as starter boards. Two of these cut joins can be installed directly over a double joist or joist with block if necessary, using the Camo Wedge clips.

FOR BEST RESULTS:

Pre-oil all boards on all sides before installation, using Equisol Pro 365 clear.

Coat every cut end thoroughly with Equisol.

Apply a second coat to the top surface after installation, using a colourtone if maintaining colour is desired.

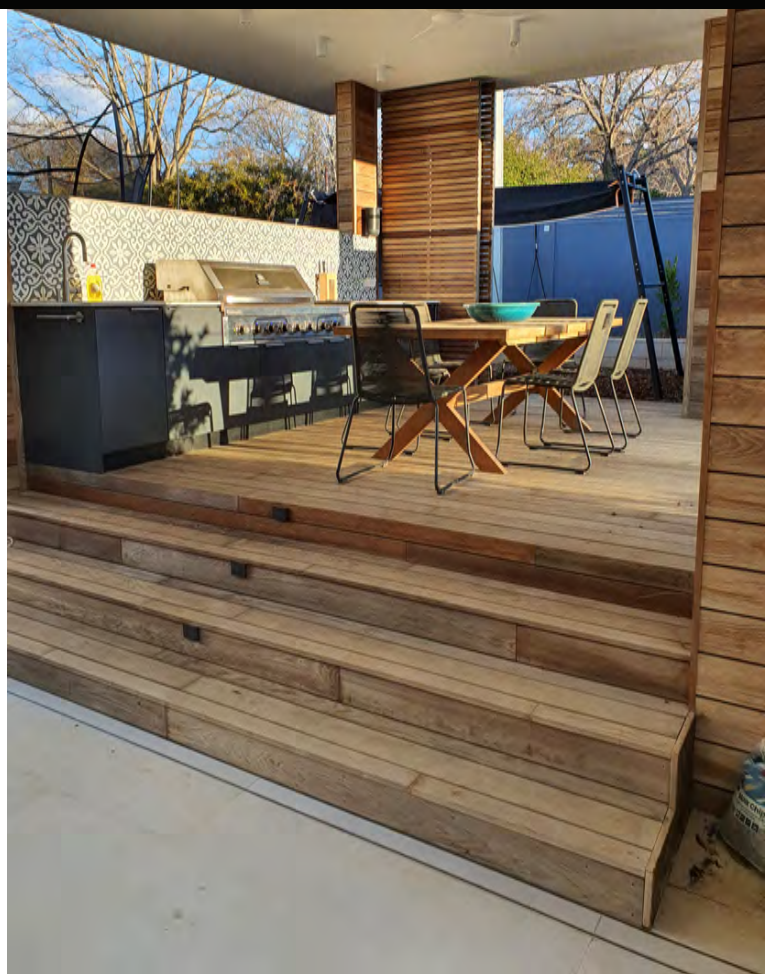
Joist spacing maximum 450 centres, 400mm is ideal and maximum if using end-matched boards.

Site needs to be **well draining**, with at least 100mm spacing between ground and decking.

Use standard **termite protection** measures.

If top-fixing to timber joists, **install a joist strip** such as Grace Deck Protector before installing boards.

Pre-drill and countersink if top-fixing, and for the outer edge of the starter board when using camo clips. Stainless steel 7 or 8 gauge 40–50mm trim head screws are recommended, a minimum of 20mm from the edge.



When using Camo clips, 1 screw for each clip is provided. The first board needs to be top-fixed along the leading edge.

Follow the instructions in the Camo installation guide found at www.camofasteners.com/wp-content/uploads/2014/03/3441-CMO-Edge_Wedge-Instructions-Insert.v14.pdf

If using T4 clips in the 132mm boards, the first board needs to be top-fixed along the leading edge with a spacer below to match the clip thickness between joist and substructure. Tap a clip into the groove in the side of the first board with a rubber mallet or hammer at every joist, then screw off with the provided stainless steel screws. Tap the next board into the clips with a rubber mallet to give a 4mm spacing, then insert clips at each joist and continue. Screwing the clips down can be done very quickly, saving considerable time.

On completion, ensure the deck is clean and dry then apply another coat of oil to the surface.

Board spacing, moisture and ventilation

Most Smartdeck thermo decking is factory milled for use with fixing systems which don't require top fixing by nails or screws. The Camo wedge clip provides a 5mm gap to provide adequate ventilation.

Site layout considerations

In damper climates and low to the ground situations, the under deck space must be designed to ensure water can drain to allow the ground to dry out quickly. If in doubt, please contact our technical department for further consultation, as there may be circumstances where we would not recommend installing any timber material.

Maintenance and ongoing care

For best long term performance and simple ongoing care, we recommend pre-oiling thermo timbers on all sides of the board prior to installation using Equisol Pro 365. Boards can be easily pre-oiled, wet stacked and set aside.

It is standard practice that timber decks are cleaned and coated again after installation which will protect and enhance the look of the grain.

What to expect

Thermo timbers are very stable, but are still a natural material and will be subject to weathering over time which includes lightening and eventual silvering. This process will take place much faster in full direct weather exposed settings. Many customers desire silvered timbers which can look natural and beautiful, but for those wanting to reduce the potential for silvering, we recommend ongoing care with Equisol Pro 365 with an added Colourtone.

Using just the clear oil alone will allow the wood to naturally lighten to a natural hue and silvering will be significantly delayed. The natural look of thermo timber can easily be restored with a simple clean and further coat of clear oil. Where maintenance of the rich dark tone of thermo ash or red oak is desirable, use of a Colourtone (Dark or Medium Brown) is recommended. The added pigment will enhance the natural timber colour for longer, and ongoing care is a simple clean and further application as required (generally twice in the first year, in full exposure, and then annually).

Being a natural material, some degree of surface checking should also be expected. Equisol Pro 365 will minimise checking and end splitting, while increasing the life of the wood. We want all our customers to have a great experience using these beautiful timbers, including easy maintenance that provides long term protection.

NOTE: Decking surfaces that are installed in full weather exposure and receive a high amount of foot traffic will require more ongoing care if trying to maintain the rich dark look of the ash or red oak.

Protected areas where less UV light, rain and traffic occur will retain their tone for much longer so far less care will be required.

Low Maintenance option: Using Equisol Pro 365 as clear oil only represents the most cost effective and low care option for thermo timbers long term. The clear oil will allow the timber to lighten and silver but the protection that Equisol Pro 365 provides is still present regardless of the natural silvering of the timber.

If you have any questions, please don't hesitate to call Peter on 0412 068 464 or Jules on 0423 568 086