Decking Installation

Before you start

When purchasing timber from a merchant or supplier it's worth asking the supplier to confirm how the product has been stored as this could affect the quality of timber prior to installation. To preserve the quality of the wood until it is required for installation, it should be protected from precipitation, sun, dirt and ground moisture.

DELIVERY

- Plan deliveries to match the pace of production – order materials in batches.
- Prepare for the arrival and storage.
- Inspect the wood when taking receipt of the delivery – does it match what you ordered, is it in good condition?
- Put in a complaint about the wood immediately if, on delivery, it has a moisture content or grade that does not match the order.

STORAGE

- Store outdoors away from direct sunlight, rain and dirt.
- If moisture content is higher than 20% measures must be taken to allow the product to dry before installation (*see below*: Moisture Content).
- Choose a storage place where water will not pool under the wood, the ground should be cleared of any snow.
- Support at least 300mm off the ground, preferably not on soil to avoid splash back.
- Lay flat, with enough clean support battens at intervals to prevent bending.
- Cover the wood (i.e. *with tarpaulin*) so that the air can circulate and so as to avoid high temperature or condensation.
- Ventilate between the wood and the tarpaulin and make sure that the tarpaulin ends a good way above the ground.

Moisture Content

If water has made its way into the pack, the wood must be dried before use. Break open and remove the packaging. Sticker the wood. Cover and leave to dry. Place it in an open location if during the summer. Wood that has warped should be discarded.

If possible, place indoors with a construction fan if it is a cold time of year. Check moisture content and surface moisture content before the wood is to be used.

TELL ME MORE >

To measure the average moisture content in wood, random tests on a number of pieces of wood should be conducted with a moisture meter.

Read more about moisture content here: **www.swedishwood.com**

TELL ME MORE >

Sustainable drainage systems (SuDS)

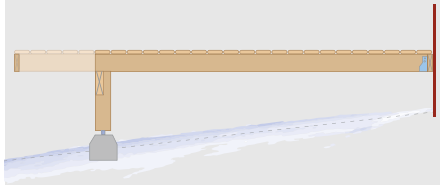
SuDS help to protect from flooding and prevent pollution. Permeable surfaces have a valuable role to play in a sustainable drainage system.

Because drainage gaps are left between boards, timber decking is an excellent choice for SuDS.

This is especially because of the likelihood of voids under the surface prior to a well compacted and permeable sub-structure that allows water to easily pass through and drain.

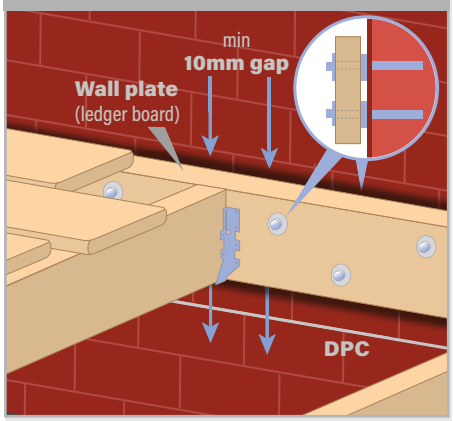
Read more here: www.susdrain.org

All drawings are for illustrative purpose only and are not to scale.



A positive fall away from adjacent structures or soak always should be created to prevent ponding of water under a deck.

Wall Plates *(Ledger Boards)*



Preparing the site

Before building your subframe, consideration should be given to the site where you plan to build your deck. If it's going to be elevated well above ground level (above 600mm) then you need only to dig the foundations for the supporting posts or piers (*other methods of securing are also appropriate dependant on ground type*). If it is at or near ground level (within 600mm) over lawn or soil, then certain steps should be taken to ensure a stable, free-draining and well ventilated structure can be created.

SOFT GROUND PREPARATION

- Clear all vegetation from the site (this includes grass) and at least some of the topsoil to a depth of approximately 100mm.
- If the deck is to be adjoined to an existing wall / house, a **positive fall away from adjacent structures or soak always** should be created to prevent ponding of water under a deck.

Position and install the support posts - see Installation: Building the Substructure

- Lay weed suppressing membrane (water permeable).
- Top with a 50mm layer of shingle or gravel and compact it to provide a firm, level free draining surface. This helps to keep membrane in place and discourages vegetation growth - it also hides the membrane if the under deck is visible.

ATTACHING A DECK TO A PROPERTY *(only if the supporting wall is structurally sound)*

- Wall plates *(ledger boards)* are used where a deck is partially supported by and attached to a property using masonry bolts. They are made from timber equal to or greater than the size of the joist. Leave a **minimum 10mm gap using** washers or packing pieces between the property and the wall plate to allow rainwater to drain freely (*deckboards should not be butted up to the wall, as this would close the gap already created.*). **Take care not to damage or bridge the damp proof course (dpc) of the property.**

Make sure it's Use Class 4 DECK SUBSTRUCTURE

TELL ME MORE >

Use Classes and preservative treatments

Learn more about the Use Class system and preservative treatment of wood.
www.thewpa.org.uk/make-sure-its-4

All deck substructures should be built with **strength graded** timber:

- **C16** is the **minimum strength** class
- **C24** is recommended for **decks that will carry heavy loads.**

Building the Substructure

A substructure should be fit for purpose and match or exceed the desired service life of the selected deck board. The most popular choice of material for the substructure is **pressure treated softwood**, being economical, widely available at timber merchants and easy to use. **The appropriate specification for all treated substructure components is** Use Class 4 (UC4).

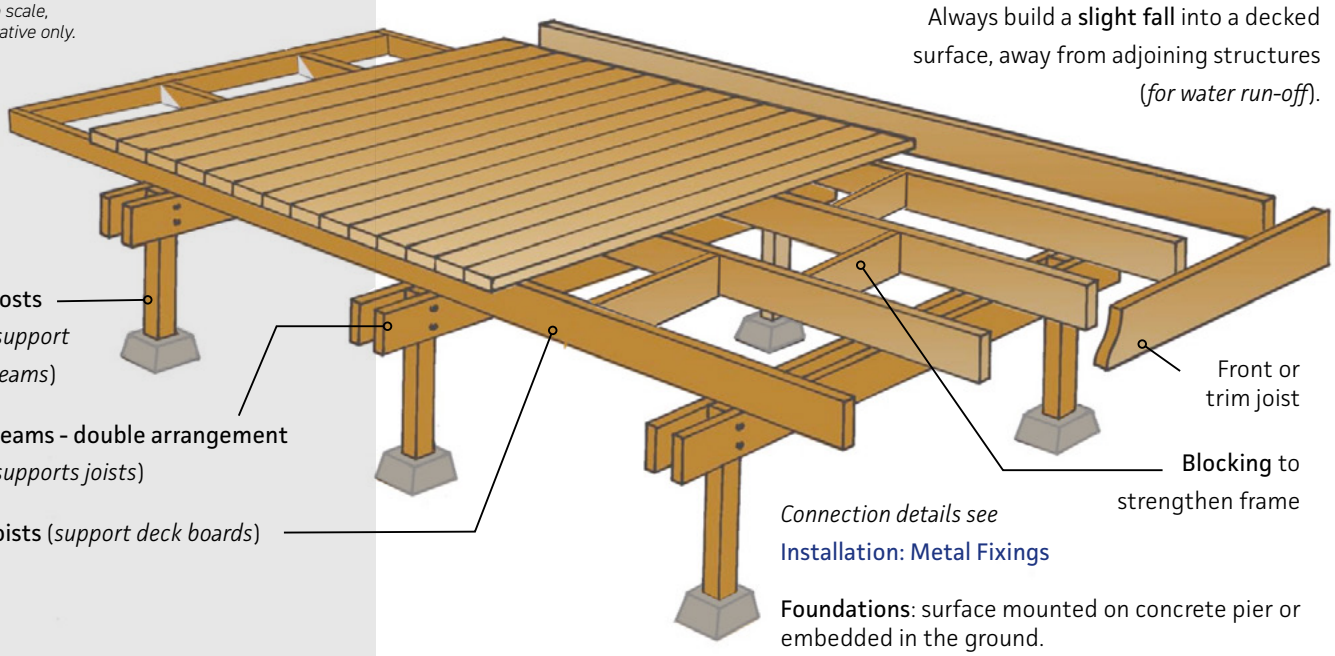
If you buy or use wood that is not treated to the correct standard, it is likely to fail prematurely. Obtain and keep safe documented evidence of any timber treatments.

The decking substructure provides a support framework onto which the deck boards are fixed. A typical substructure comprises the following series of components:

- Posts: initial column supports secured onto or into the ground with foundations.
- Beams: an assembly of joists secured to a post to create the first support 'layer'.
- Joists: fixed perpendicular to the beam, they form a frame for deck boards.
- Blocking (Noggin): fixed in between parallel joists to strengthen the frame structure.
- Bracing: fixed diagonally to provide lateral stability between tall posts and frame.

The basic principles of a raised deck substructure construction

Not to scale, illustrative only.

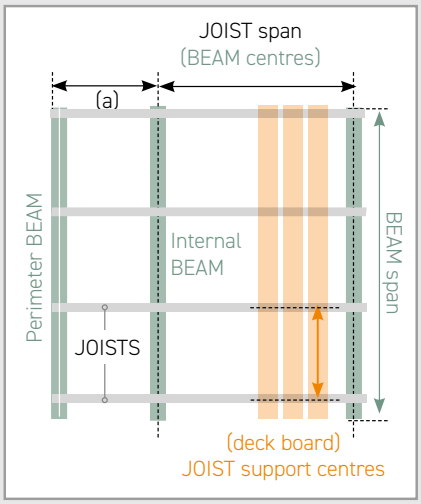


Spacing and spans

Joist and beam arrangements should provide a structurally sound support frame for the deck boards. Different spacings are required dependant on the **board timber species, component dimensions** and **strength grade.** Tables 2 & 3 illustrate common span arrangements for domestic decks using treated softwood substructure components.

Refer to Timber Decking: The Professionals' Manual (TRADA) for further span calculations for components not shown in Tables 2 & 3.

- The use of **double member beams** allows wider spans to be used for the support joists.
- The joist span centres of **perimeter beams** (a) should be half that of the internal beams.



Tables 2 & 3 NOTES:

Reference: Timber Decking: The Professionals' Manual (TRADA)

These calculations assume an imposed load of 1.5kN/m^2

This information is for guidance only. For high level raised decks all calculations must be verified by an appropriately qualified engineer.

All drawings are for illustrative purpose only and are not to scale.

Post in ground/concrete foundation

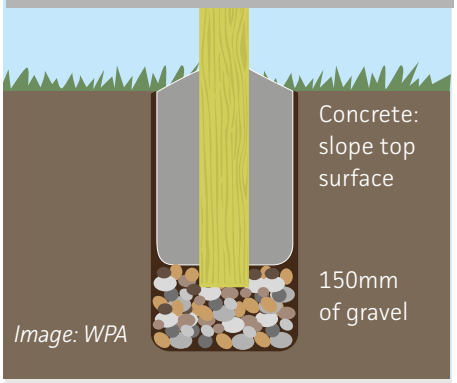


Table 2: Double assembly beam spans for domestic decks *(metres)*
Constructed with two joists 150 x 50 mm nominal (*typically* 145 x 45 mm *finished*)

BEAM CENTRES (m)	1.2	1.8	2.4
Maximum effective span (BEAM)			
C16 Strength class	2.59	2.16	1.87
C24 Strength class	2.89	2.51	2.27

Table 3: Maximum joist spans for domestic decks *(metres)*
Joist size = 150 x 50 mm nominal (*typically* 145 x 45 mm *finished*)

JOIST CENTRES (mm)	400	500	600
Maximum effective span (JOIST)			
C16 Strength class	2.97	2.76	2.59
C24 Strength class	3.32	3.07	2.89

Tables 2 & 3 illustrate common span arrangements for domestic decks using treated softwood substructure components.

POSTS & FOUNDATIONS

Deck support posts are usually square but rounds may be used if appropriate to the design. Traditionally posts are solid wood but laminated columns are sometimes used, especially for high level decks where a bespoke post size may be required. *Refer to* Timber Decking: The Professionals' Manual (TRADA).

- Posts should have a load bearing capability/size/spacing arrangement appropriate to the scale and end use of the structure. The most commercially available decking posts for domestic projects are **100 x 100mm** (*nominal size*).
- Timber posts can be embedded in a hole in the ground and backfilled with poured concrete (DO NOT *make a 'boot' for a post out of concrete)*. Ensure water can drain away from the foot of the post by adding **150mm of gravel** to the bottom of the hole for drainage. Always finish the mix level **above ground** and **slope the top surface** of the concrete to shed water away from the post.
- For extended life, keep the timber out of direct contact with the ground by surface mounting the posts on pre-cast concrete piers and/or metal post bases.

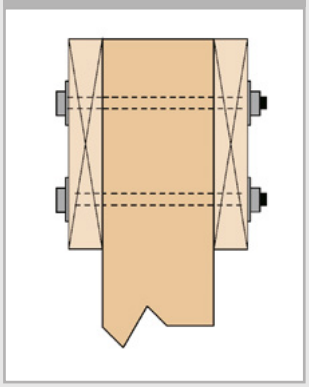

Pre-cast concrete pier


Post base: Simpson StrongTie


Adjustable post base: Rothoblaas

On raised decks it is advised that support posts are not carried through the deck to serve as newel posts for a parapet – these should be considered as a separate component (*see* Parapets, steps and ramps).

Double beam arrangement



TELL ME MORE >

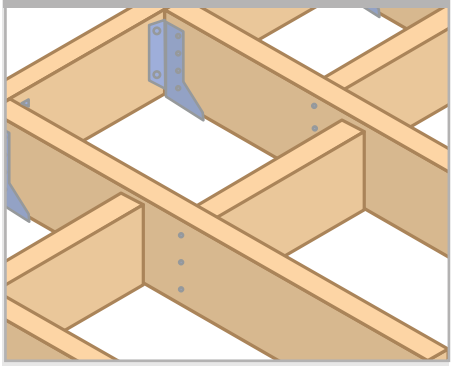
If required, main support beam assemblies may be made from double sections of the same size / strength component mechanically joined together.

Fixings

Go to **Metal Fixings** section for full details.

All drawings are for illustrative purpose only and are not to scale.

Blocking reinforces the frame structure



Stagger blocking between joists for effective reinforcement and to prevent joist twisting.

BEAMS

- Beams are typically joist components attached to support posts in a double arrangement using **through bolts** with washers at the bolt head and nut.
- **Raised decks:** minimum size for each element in a **double beam assembly is 150 x 50mm**
- **Ground level decks:** minimum size for a **single solid** bearer is **100 x 50mm** (to limit the overall depth of a low level deck, **joists** can be **set between the beams** rather than on top of them *see* Simple ground level decks).

JOISTS

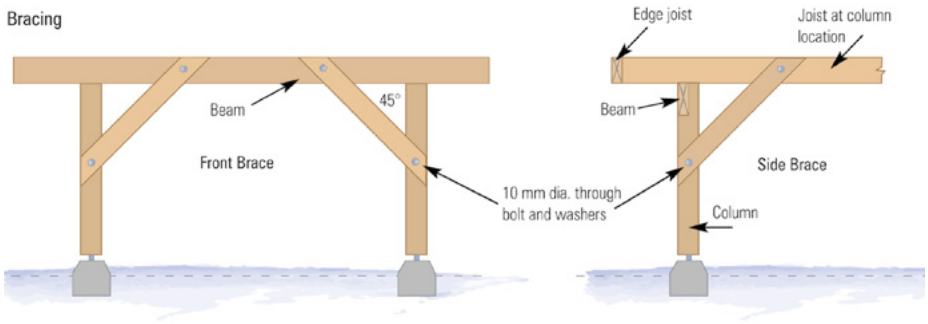
- The recommended **joist size is 150 mm x 50 mm** or larger, installed at **400mm to 600mm centres** depending upon the size of deck board.
- As a general rule, it is good practice to **increase the frequency of the support joists** rather than the thickness of the deck board.
- When fixing a deck to a property, joists may be mounted on top of the **wall plate** or the outer perimeter beam, but not both. One end shall be face fixed (*with joist hangers*) to prevent turning.
- When joists are placed on top of beams they must be secured by diagonal screwing/ nailing at either side of the joist or the more preferred solution, a **metal fastener (tie)** designed for the job (*the fixings used to install these should be the same metal as the tie itself to prevent galvanic corrosion*).
- Joists should be offset from the beam and post positions so they can be directly fixed to beams rather than the tops of posts.
- Joists may be cantilevered over a beam by up to 30% of their permissible clear span.

BLOCKING (strutting/noggins)

- Installed between joists to further reinforce the strength of the structure and prevent joists from moving in service. Remember to treat the cross cut ends of blocks with a suitable end grain preservative.
- As a minimum requirement, all joists with a span of more than 2.5m shall be blocked at mid-span.
- Staggering blocks makes them easier to fix and helps further stiffen the frame.
- To prevent water being trapped where a block coincides with the gap between deck boards, install the blocks 5mm below the surface of the joists.

BRACING

– Should be used on all decks that exceed 1.5 m in height, whether they are free standing or attached to a property.



All drawings are for illustrative purpose only and are not to scale.

Preservative treated timber components

All pre-treated wood products are impregnated in their finished form and are designed to be installed without modification.

– Re-working a pre-treated timber component at the installation site should be avoided and limited to **cross cutting, boring, drilling** or **notching**.

– Any new exposed surfaces should be given **two liberal brush coats of a suitable** end grain wood preservative, as recommended by the manufacturer of the industrial wood preservative used in the original treatment.

– If posts are being cut to height then where feasible, the post tops should be **cut at an angle to shed water.**

– Treated wood must **NEVER be rip sawn along its length** because it will expose untreated wood that cannot be effectively re-treated on site.

– **NEVER put cut ends in the ground, even if end grain coated.**

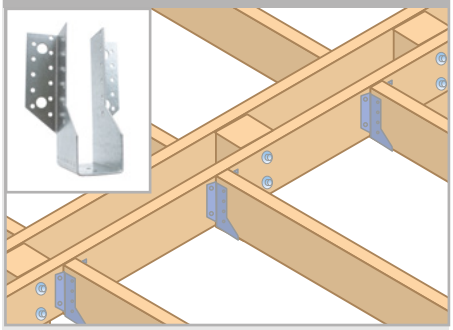
Brush cut ends of treated timber with an end grain preservative to maintain the integrity of the treatment.

Cutting support posts tops at an angle can be used as a further aid to shed water.

Simple ground level decks

Images: Hoppings

Joists set between beams using hangers



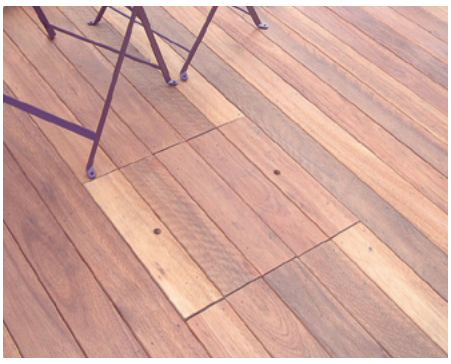
To limit the overall depth of a low level deck, the **supporting joists** can be **set between the beams** rather than on top of them, their top edges sitting flush with one another.

- Install the **supporting posts and foundations** and secure the beams to the posts with bolts.
- Fix the joists to the beams using stainless steel or galvanised **joist hangers** – but avoid the type that clip over the top as they can create an uneven surface and conflict with fixings used for the deckboards (*see* Metal Fixings).
- Fix the deckboards to the frame in the desired orientation (*see* Laying the Deck Boards) **with suitable fixings.**

EXISTING FOUNDATIONS

If the site is a flagged or concrete patio area and the surface is sound and relatively flat, then it can be used **as a foundation** for a ground level deck.

- Create a **sturdy frame** from suitable **exterior use joists, minimum size** 100 x 50 mm (*treated to* **Use Class 4**) with appropriately spaced **blocking** for extra strength.
- If not already present, build a **very slight fall** into the frame (*away from any adjacent structure*) to aid water shedding.
- Secure the frame to the foundation surface using **stainless steel angle brackets and fixings** on the inside of the structure to conceal *(leave a gap of no less than 10mm between frame and any adjacent property to allow rainwater to drain freely).*
- The use of **adjustable supports** can help to level a site and/or create a fall – fix the support into the ground and into the bearer.



Adjustable supports: Rothoblaas

If the deck is built over any manholes or utility service points, remember to allow for this by incorporating access facilities into the design.

Parapets, Steps and Ramps

PARAPETS

Parapets on decks can be simple decorative boundaries, such as a trellis, a seat, planters, or where necessary, full safety barriers - typically on raised structures and steps.


Deckbuilders


DesignADeck

Potentially, any deck poses a hazard from trips and falls if the deck surface is higher than the adjacent ground level. Even a small change in height can be significant, particularly for the elderly, wheelchair users, people with mobility issues or very young children. As the deck height increases, so does the level of hazard for all users.

For all but the most basic low-level deck, a parapet or edge protection should be considered and incorporated as part of the deck structure.

Building Regulations (*see* UK Planning & Building Regulations)

Timber decks on residential properties are not specifically referred to in current Building Regulations but it should be assumed that certain regulations do apply, particularly where safety parapets, steps and ramps are concerned.

As a general rule, Building Regulations should be taken to apply in the following situations: **decks attached to a property; decks which form a means of entry or exit from a property; raised structures.**

In terms of **parapets**, the regulations (**Approved Document K**) recommend that:

- Any (deck) structure **above 600mm in height** must be fitted with an appropriate '**guarding' system** – 'capable of preventing people from being injured by falling'.
- These (parapets) should be **1100mm in height** and be capable of withstanding particular point loads.

A minimum parapet height of **900mm for decks below 600mm** in height is acceptable under building regulations.

Increasingly, residential timber decks are being subject to Local Authority Planning and Building Control review and this may accelerate as deck structures feature increasingly on new build properties.

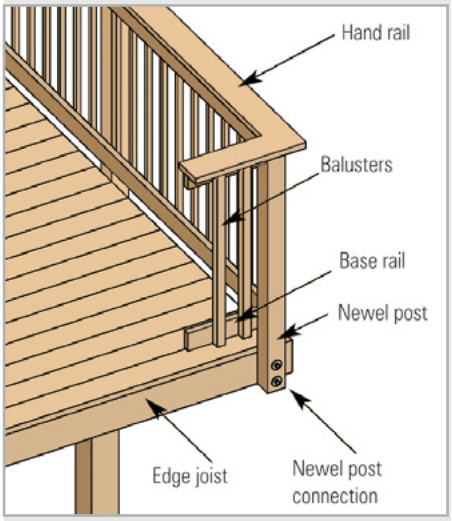
- All commercial decks require a structural engineering submission and consent from the Local Authority.

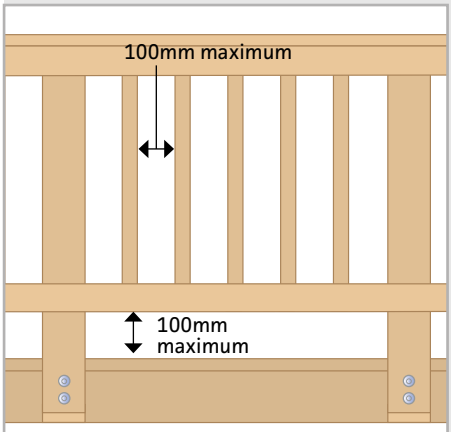
TELL ME MORE >

Raised timber decks and balconies on new homes

For new homes, the **National House Building Council** (NHBC), requires that all raised deck structures and balconies must comply with TDCA good practice design and build standards and provide long service lives.

Details of these specifications are available in **Codes of Practice** available from: www.tdca.org.uk/publications





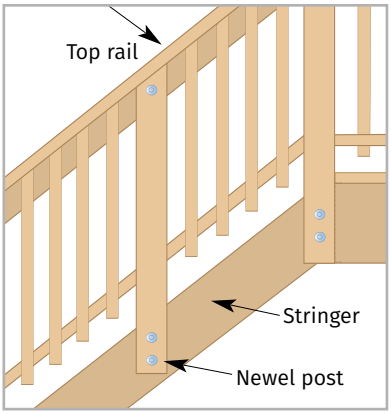
Secure newel post connections with bolts

All drawings are for illustrative purpose only and are not to scale.

Parapet design detail

The design and construction of a parapet should be treated as an integral part of the overall project and not a feature to be added later, especially where steps are concerned. All parapet components should be regarded as having structural significance to the overall performance of the deck – this includes fixings and all connections.

- On raised decks, **Newel Posts** must be **completely separate** from the principal **deck support posts –** and fixed directly to edge joist / front header joist.
- Typically, newel posts are secured using **two 10mm through bolts** with washers – **nails are not considered appropriate** for any part of the parapet construction.
- Modular balustrade systems (incorporating glass and metal balusters or panels for example), must have **third-party load testing accreditation** to confirm it is fit for purpose.
- Parapet in-fill should consist of **vertical components** or panels designed to **discourage climbing**.
- Space between components (balusters for example) should **not exceed 100mm.**
- **Cap all vertical timber components** (with handrail or post caps for example) to prevent moisture penetration of the end grain.
- If using timber, specify heartwood classified as **naturally durable** or **pressure treated to a Use Class 3** specification.
- For custom-built timber safety parapets use a minimum **C16 grade strength** timber (or hardwood equivalent) and on high level raised decks **C24,** unless all the components are part of a **strength assessed parapet system.**
- **Handrail newel posts** must always be **fixed to the stair** stringer, never to stair treads.



TELL ME MORE >

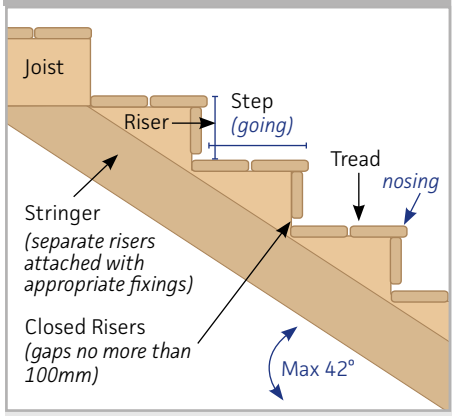
Deck Parapet Design and Construction

For more detail refer to the **TDCA Technical Bulletin 04**
www.tdca.org.uk/publications

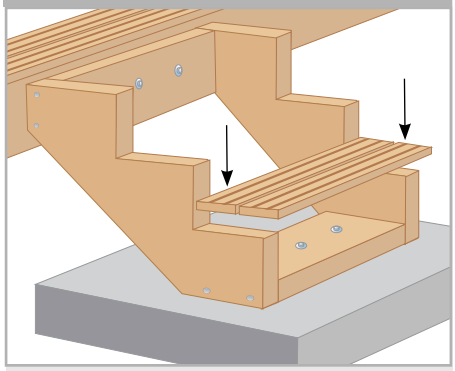
Cheshire Mouldings Ltd

Richard Burbidge

Stringer, Risers, Steps and Tread



Ready-made Stringer on concrete footing



All drawings are for illustrative purpose only and are not to scale.

STEPS

Where raised decks have stairways or ramps, the installation shall be in line with **Approved Document M** (*access to buildings*) and where relevant **Document K** (*protection from falling*).

Although these regulations do differ from each other in places, depending on application, we recommend the following summarised guidance:

- Stairs for decks **up to 1.8 m in height** can be accommodated in a **single run** – but no more than 16 stair treads. For higher decks or to make stairs look less imposing, then a **half landing** or change of direction should be incorporated.
- Maximum pitch for a private stair is **42°**.
- For steps to be safe and comfortable the **riser height** and **step (going)** must maintain a consistent relationship - typical dimensions being **150 : 250mm** respectively.
- **Treads** must have a minimum **16mm Nosing (overhang)**.
- **Risers can be left open** for residential dwellings but any openings must be **less than 100mm**. Closed risers prevent the fall through of items/debris.
- Stairs wider than 900mm will need to add a **central step riser(s)** for support.
- Stairs with three or more risers **must have a graspable handrail** to one side or **both sides if wider than 1m** (*see also* Parapet section).

Ready made stringers incorporating risers are widely available. If custom made ensure appropriately durable and strength graded timber is used.

- Attach the stringers to the **outer deck joist** using **appropriate hangers** or by securing with **additional timber supports and fixings.**
- A **concrete landing pad** can be created at ground level as a footing for the stairs if not already on hard standing.
- Alternatively, two posts installed at each side with a beam in front to form the first rise can be used. The stringers are attached with joist hangers as this is subject to a vertical load.
- It is good practice to only use **solid stringers** on high level raised decks.

Typically two deck boards are laid across the riser as a tread (see Installation: Laying deck Boards),

- **DO NOT rip saw to size, any preservative treated board along it's length.**
- It is a good idea to incorporate **anti-slip measures** on steps, such as boards with built-in aggregate strips (*usually required on commercial specifications*).

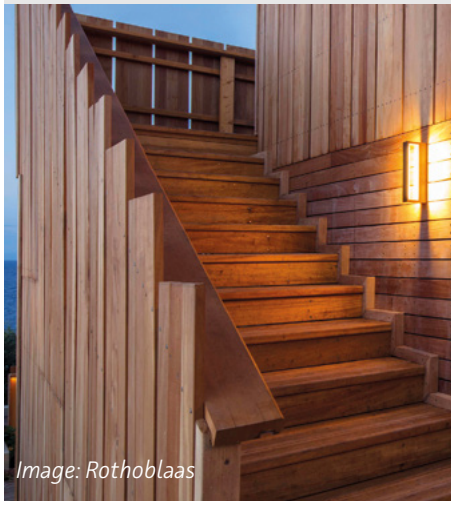
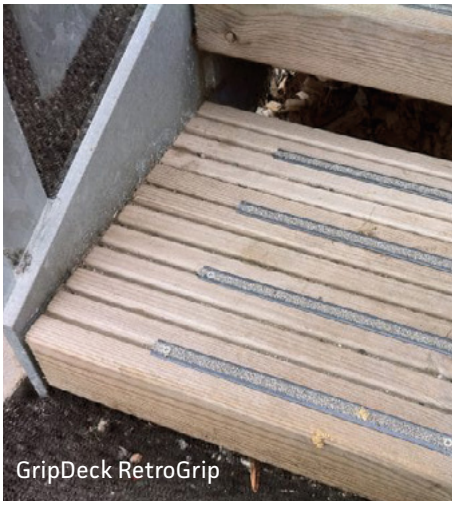


Image: Rothoblaas


Silva Timber


GripDeck RetroGrip

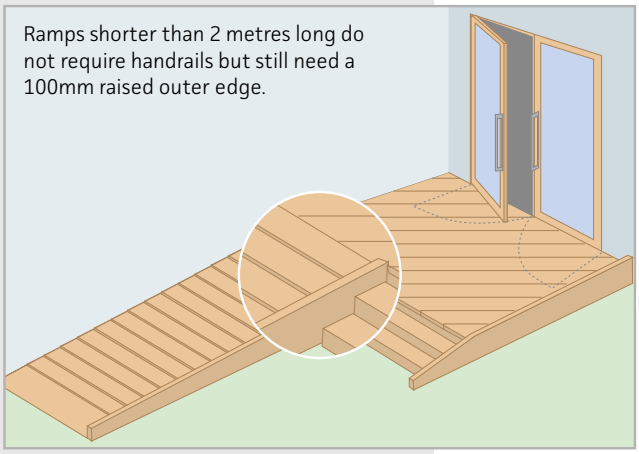
ACCESS RAMPS

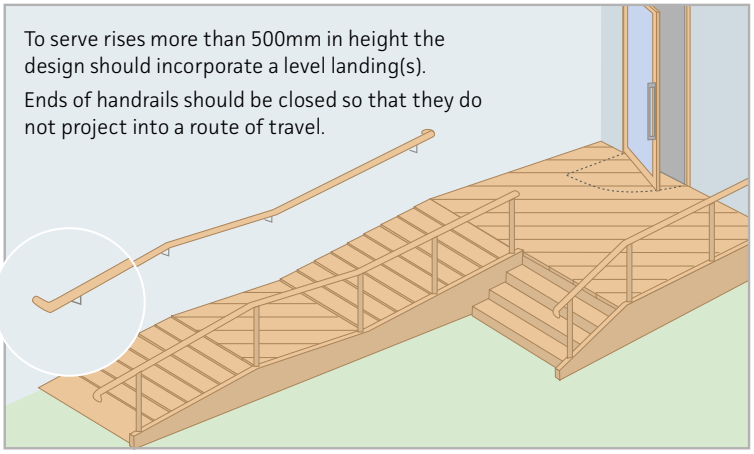
Ramps are required to provide easy access to a building for wheelchairs, pushchairs, trolleys and for those people who find stairs difficult.

Ramp designs should enable access without the need for additional assistance.

- Gradients should be as shallow as practicable, **slopes of 1:20** or less are considered the most appropriate for all users (*length is divided by height of each section*).
  - 5m maximum ramp length for gradients between 1 : 12 and 1 : 15
  - 10m maximum ramp length for gradients between 1 : 15 and 1 : 20
- Wheelchair users need **adequate space** to **stop on landings** and **access doors** properly.

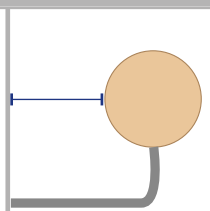
All drawings are for illustrative purpose only and are not to scale.





- Top and bottom **landings minimum length 1.2m,** intermediate landings **1.5m.**
- **Minimum** clear ramp **width 1.2m.**
- No single ramp rise should **exceed 500mm in height.**
- A **100mm raised edge** is required on the outer side (*to stop wheels slipping over and to provide a tapping edge for cane users).*
- **Handrails** are required on both sides of any ramp that is **more than 2 metres** long and should be easy to grip, preferably **round** (45/50mm diameter).
- Access steps must be provided as well as ramp where possible.
- Access should be **clearly lit** at night.

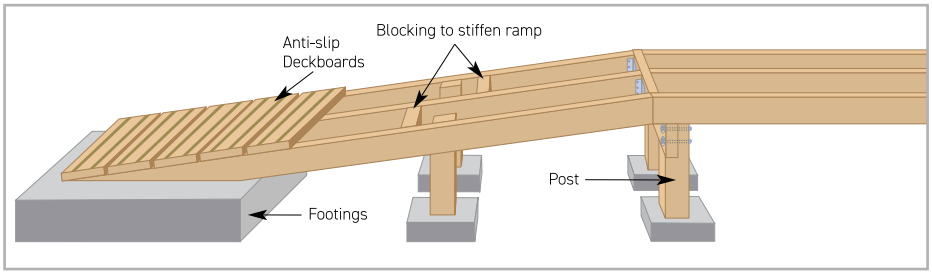
Round Handrails – 45/50mm diameter



There should be a clearance of 60mm (minimum) and 75mm (maximum) between the handrail and any adjacent surface.

A ramp made from timber is essentially a narrow deck on an incline and the same construction principles are followed.

- Deck boards should always be installed **across the width** of the ramp – never along its length.
- **Enhanced grip boards** incorporating anti-slip strips are recommended for this application.



TELL ME MORE >

Fixings

Stainless steel ring shank nails or screws are best for deck board fixing*. Screws allow deckboards to be removed more easily for access or maintenance purposes.

*For hardwood boards, always use **screws**. Go to **Metal Fixings** section for full details.

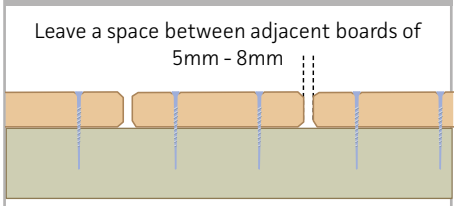
All drawings are for illustrative purpose only and are not to scale.

Laying Deck Boards

Whatever material or design pattern you choose for your deck boards, the most fundamental aspect of installation is to ensure the drainage of water from the surface. Primarily this is achieved by leaving an adequate space between the deck boards, this also accommodates the expansion and contraction of wood as it's moisture content changes with the seasons.

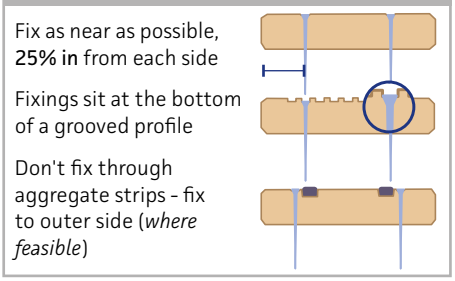
- For adjacent deck boards leave a **gap of between 5-8mm** (*hardwood spacings differ depending on species*). Using a spacer device helps with consistency.
- Board ends **can be butted** together (*not tightly*), but leave a **5mm space** where a board end **abuts a post**.
- Lay **grooved boards** in the **direction of the fall** (*built into the substructure*).
- Check the **moisture content** of the boards prior to installation and if too wet, allow the boards to acclimatise to site conditions in a sheltered area, off the ground.

Spacing deck boards evenly

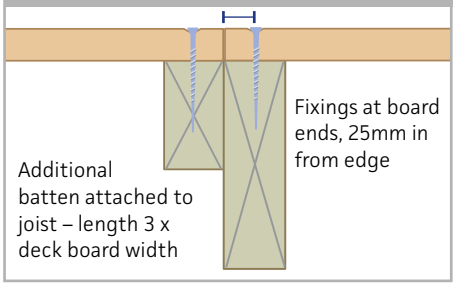


Securely fixed onto every support (joist/beam)

Deck board fixing positions

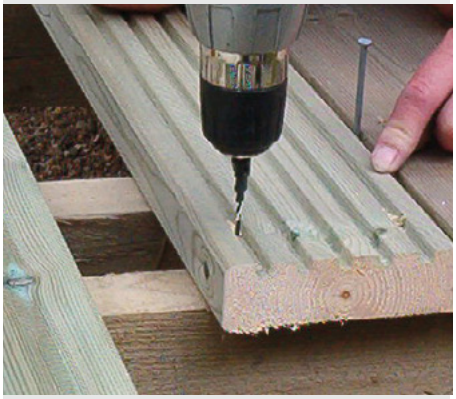


Abutting deck boards over joist/support



FIXING

- Every point a board crosses a joist, it should be secured with **two** fixings positioned (*as near as possible*) at the **quarter points** of the board width.
- **Don't fix through aggregate anti-slip strips**. Fix on the outer side of the strip as close to the quarter point as possible (*refer to board manufacturer's fixing instructions*).
- On grooved boards, always position fixings at the **bottom of a groove**.
- Position fixings **25mm** in from **board end**. **Pre-drilling** helps prevent splitting.
- Make sure all fixings are **flush with the surface**, not driven below it, this can cause localised water retention. If using power tools **avoid a hammer action**.
- With **hardwood boards, always use screws** and **pre-drill** every fixing point 2mm oversize. This allows for any seasonal movement to take place without damage to the wood.
- Always locate **abutting boards over a joist** to which an additional section of joist or batten has been attached for support.
- Remember to plan where any possible joins will fall and stagger/alternate them or better still incorporate them into the design (*ie. herringbone pattern*).
- Deckboards should not be butted up to any adjoining wall/structure, **a 10mm gap** must be left for a good flow of both air and water.



Pre-drilling fixing holes near the ends prevents boards from splitting.

Specialised systems allow for secret fixing.

Kyocera Senco

SECRET FIXING

To retain the aesthetic of the surface (*hide fixings from sight*) there are several systems on the market: fixings can be inserted diagonally into the sides of the board with **specialised tools** (*if board depth is sufficient*); **clip systems** offer alternative concealment methods.

- Clip systems may not be suitable for certain timber types.
- Always follow the manufacturer's instructions.
- Look for third-party product quality accreditation.

This section provides advice for connecting timber to timber only and covers: nails, screws, concealed clips, bolts and pre-formed connectors.

TELL ME MORE >

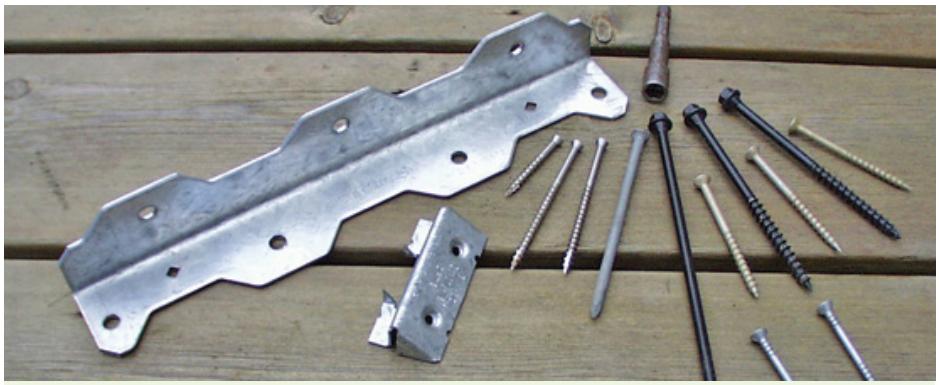
Corrosion is a complex subject and there are many factors that can influence the onset and rate at which metals corrode.

Metal Fixings

For more detail refer to the **TDCA Technical Bulletin 08**
www.tdca.org.uk/publications

Metal Fixings

The timber used for permanent outdoor structures like decks has a long life expectancy and only fixings with similar service lives should be used in their construction. Corrosion is the biggest threat to fixings used out of doors. All metal fixings – nails, screws, bolts and accessories shall be made from corrosion resistant materials.



Suitable metals ✔

- Stainless steel *(austenitic grade)*
- Silicone bronze
- Carbon steel *with a high performance protective coating*
- Hot dipped galvanised steel *(BS7371:6)*
- Copper

Unsuitable metals ✖

- Aluminium
- Electro plated metals
- Standard uncoated ferrous metals
- Brass

- The use of dissimilar metals on the same fixing point should be avoided to minimise the risk of **galvanic corrosion**.
- When using galvanised fixings care must be taken to prevent the coated surface being damaged by hammers or driver bits as this can lead to corrosion of the mild steel below and surface staining of the timber.

RECOMMENDED FIXING TYPES

Deck Boards

All fixings should be between 2-3 times the length of the board thickness *(unless the fixing manufacturer can substantiate any different)*.

- Stainless steel annular ring shank nails are economical and less likely than standard nails to pull away, as wood expands and shrinks with the seasons.
- Screws provide a number of advantages over nails; they are unlikely to lift if movement takes place in the wood; are more easily removed to allow access to the under deck area; are less likely to be damaged during installation and hammer dents on the boarded surface are avoided.
- **On hardwoods or dense species softwoods, the use of screws is always recommended. Pre-drill** pilot holes with 2mm oversized clearance and countersink slightly below the surface.

Annular ring shank nails are suitable for deckboard fixing although screws have many advantages.

ForgeFast (*ForgeFix*)

A number of specialised decking screws are available. They include features such as **self-drilling threads, self-countersinking heads** and optional **protective coatings**. Some designs are suitable for driving straight into wood without the need for pilot hole drilling.

- Look for third-party product quality accreditation, such as **DeckMark**.
- Always follow the manufacturer's installation instructions.

fig 1

fig 2

fig 3

(Tite-Fix)

Substructure

Where strength and safety is critical:

- Bolts should be **25mm longer** than the combined width of the components being joined. Drill holes in wood at the same size or slightly larger than the diameter of the fixing. For best results, particularly on visible fixing points, use **dome headed carriage bolts** *(Fig 1)* which are **self-anchoring** when tightened.

  When fixing ledger boards or wall plates to a building, **expanding or chemically secured anchor bolts** *(Fig 2)* are recommended.

- Landscape screws come in a variety of styles and are extremely useful if only one side of a component is accessible *(Fig 3)*.

  Pre-drill a pilot hole two-thirds the length of the fixing slightly smaller than the diameter of the shank of the fixing and use a washer.

The use of pre-formed connectors not only makes deck construction easier it also strengthens the joint between one component and another significantly and prevents any splitting of wood or weak points that can occur if only nails or screws are used. Connectors are available for almost any situation where timber components are joined. The most widely used connectors for deck construction are joist hangers, joist ties and post anchors. The fixings used to install these connectors should be made from the same metal as the tie itself to prevent metal corrosion.

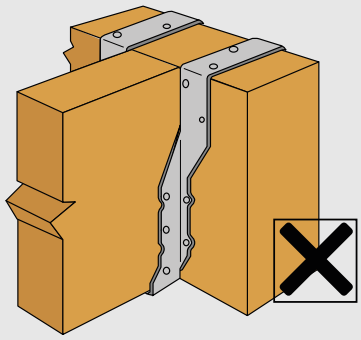


fig 4

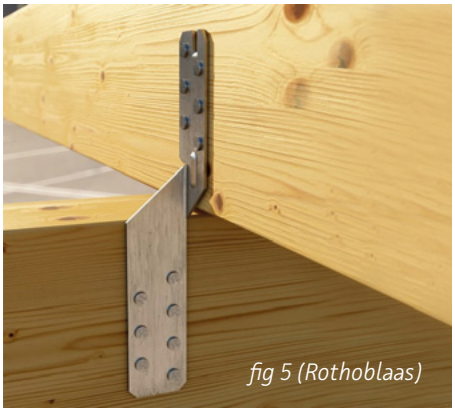


fig 5 (Rothoblaas)

- Joist hangers/ties *(Figs 4 & 5)* make secure joints between joists and beams or joists and ledger and are available in a number of different styles. **Avoid hanger designs with arms that wrap over the top of a joist** as these will interfere with the smooth and secure fixing of the deckboard surface.

- Post anchors/supports *(Fig 6)* are used to secure the main load bearing posts of a deck to a concrete footing or solid surface. They are also useful for keeping timber out of direct ground contact or wet conditions as an added precaution to extend the performance life of the component.

  Some are designed to be embedded in wet concrete while others are for fixing to dry concrete footings, slabs or solid surfaces and can be height adjustable. In areas prone to high rainfall or where there is boggy ground or standing water use versions that lift the post clear of the ground.

fig 6 (Simpson StrongTie)

Maintenance

TELL ME MORE >

* If power washing, take care not to cause damage to the decking – adjust the power setting to 'low' and don't position the lance too close to the timber's surface.

Owatrol

Decks can easily be rejuvenated with simple maintenance techniques and specialised cleaning products.

General good practice

New, well designed and constructed timber decks require little maintenance just occasional brushing to keep them clear of dirt and debris such as leaf litter. Any spills or bird droppings should be cleaned up quickly – use a proprietary cleaning product if required. As the deck gets older and more exposed to the elements, performing a regular clean once or twice a year is good practice, followed by the optional application of a surface treatment. Slippery decks are simply the result of surface deposits such as mildew, algae and fine mosses which develop in wet conditions but which routine cleaning would help to prevent.

Periodic inspections should be carried out to check if any repair work is needed - especially to the substructure which is safety critical. The following routines can be carried out by the home owner or if you prefer, specialist deck installers do offer maintenance and cleaning services.

REGULAR CLEANING

- Using a stiff broom, scrub the surface with a **mild soap solution then rinse with water (alternatively use a specialist cleaning agent).**
- Power or jet washing* is also an easy and effective way of cleaning but be careful.

Before and after cleaning

DEEP CLEANING AND SURFACE PREPARATION

- To deal with **badly discoloured wood or grease marks** or if you need to remove previous **traces of paint or stain**, use a **proprietary surface cleaner/stripper**. These are generally rolled or brushed evenly over the surface and, after waiting for the specified time, rinsed with clean water. Be sure to choose a product which will not affect surrounding grassed areas or wildlife and which is appropriate to the timber species of the board (always follow the manufacturer's guidance).
- There are many **solvent-free** cleaning products on the market which are also biodegradable. **Look for DeckMark approved products**.
- A '**neutraliser**' and/or '**priming**' product may be required after stripping products have been applied and before a final finishing product.

DeckMark Quality Assessed PRODUCT

Once the deck is clean and dry, a surface treatment can be applied to: provide weather resistance; enhance the natural shade of the wood; give the deck a brand new look. Surface treatments range from clear waterproofing sealants to tinted and solid stains (*see* Colour, Coatings and Inlays).