Stamco Hoppings
QUALITY TIMBER PRODUCTS

Building a Deck Installation Guide: Timber Decking

Tanalised™ TIMBER

Freephone Helpline 0800 8496339

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Contents:

Before You Start Building a Deck

Note:

Take care not to allow uncoated iron products or parts of originally coated iron products to come in contact with Q-Deck / Q-Grip / SmartBoard components.

Ferrous substances may react with the preservative treatment within the timber and cause unsightly black staining of the surfaces, that may prove difficult to remove.

So in particular, it is worth considering if the filing or grinding of metal products needs to be performed near to or over the deck.

If possible avoid doing this near decks but if this is not practical then the deck surfaces should be carefully protected/covered to enable capture and disposal of the iron particles.

In very hot weather pine resin can rise to the surface of Q-Deck treated softwood products and dark stains/ coatings can exacerbate this.

In the unlikely event this occurs, wait for the resin to form a crust and scrape away; repeat if necessary.

Size Issues

Wood swells when it is pressure pre-treated with a water-based preservative - as much as 4% of the finished size after machining - and shrinks as it dries which may vary from piece to piece.

This can be evident when butting deck boards end to end. We therefore advise letting the deck boards, in particular, dry somewhat before fitting.

This not only helps to achieve a more constant size but improves their workability.

Climatic changes cause the wood to continually shrink and swell in service and in turn this movement may vary from piece to piece.

Preparing the Oversite for Decking

PREPARING THE OVERSITE

The oversite must be free draining or of a gradient of 1 in 40 to allow water “run off”.

If the area you have chosen is grass you can either remove the turf or cover it with a weed barrier, as long as its edges are tucked deep into the soil using an edging spade.

If your deck is to be at ground level then the removal of 100mm of soil is recommended.

Replace the topsoil with 100mm of compacted gravel or hardcore.

This provides a very solid but free draining oversite on to which you can build the sub-frame.

On any over site it is essential that you lay a weed barrier.

It is advisable to cover the top of the weed barrier with a light stopping layer of pea shingle.

You could use strategically positioned patio slabs instead of compacted gravel or hardcore, but we do not recommended this as they tend to settle/subside causing problems with your deck later.

Decking Subframe Styles

Patio Style Deck Raft Construction

Garden area that drains well.

Remove turf and 100mm minimum of topsoil where deck is to be positioned.

Position a minimum of 2 deck support posts in footings to act as frame anchors.

Replace topsoil with compacted down gravel or hardcore.

Lay weed barrier.

Lay Use Class 4 subframe allowing for 50mm drainage gap all round and attach to post anchors.

Backfill around frame with gravel or pea shingle.

Now fit newels or just deck boards if balustrading is not required.

Low level Deck Post and Beam Construction

limited final deck height

Deck support posts are either supported in 'standoff'

proprietary bracket (on footing) or supported in

a footing. Joists are attached to beams using mini

joist hangers.

Now fit newels or just deck boards if balustrading is

not required.

Decking Subframe Styles

Elevated Deck Post and Beam Construction

For sloping sites, multi-tier decks or simply where final deck height is not an issue.

Lateral bracing of the beams may be necessary.

Now fit newels or just deck boards if balustrading is not required.

Deck Over Existing Patio

On existing structurally sound concrete slab ie. 100mm slab on top of 100mm compact hardcore.

In this instance 72mm thick beams are supported off the slab using strong angle brackets and durable packing pieces. (45mm thick Use Class 4 joists could also be used for this purpose).

Now fit newels or just deck boards if balustrading is not required.

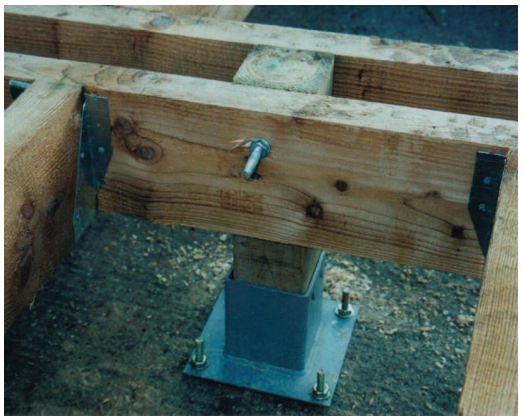
Post and Beam Construction

PLEASE NOTE:

For a free draining deck surface, you must incorporate a gradient in one direction of your deck.

Most decks (other than ground level) utilise a post and beam construction.

The support posts (normally placed at no more than 1800mm) centres sit in or on a concrete footing, the later utilising a



Decking support post metal connector

Q-Deck Multi-purpose deck posts material is ideal for use as support posts and is also available shaped (3m long classic post), should you want to incorporate a shaped newel above deck level

Decking support posts

Fixing The Joists

PLEASE NOTE:

For free draining deckboards it is highly recommended that you lay them down a gradient fall.

This is especially important if the deckboards are grooved.

Depending on the type of deck you are building the joists can be fixed in a number of different ways.

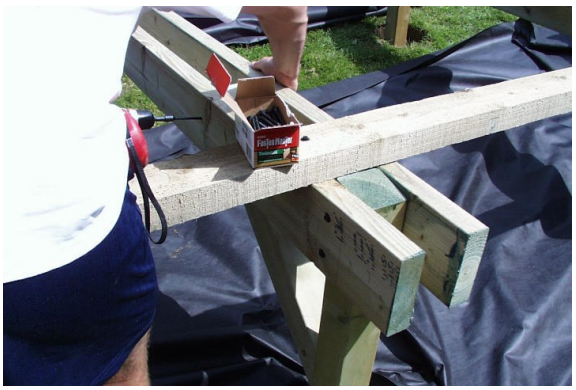
For a ground level deck or partially elevated you can simply construct a raft which sits onto your free draining oversite.

Post and Beam Construction

Beams are the main horizontal support members of the deck and when connected as pairs (as recommended) can provide both great strength and an ideal place for housing Q-Deck newel posts, should you require balustrades.

Horizontal deck board support

A pair of timbers are either bolted (recommended) or screwed (with, for example, Q-Deck Plus timbertite heavy duty landscaping screws) to the support posts at a height to suit whilst also very easily incorporating a desired gradient for water run off (1:80).



Fixing decking beams

When beams are used in deck construction, there are two methods of fixing joists.

Firstly if height is an issue you can fix joists to beams using metal connectors commonly known as mini joist hangers.
Alternatively the easiest and most structurally sound way (if height is not an issue) is to simply sit the joist on top of the beams. It is advisable to nail each joist to each beam at an angle

The tail ends of the joists are secured using a rim joist that is double nailed to the ends of the joists.

With all these joist configurations it is essential that noggins are also fitted between the joists.

These add rigidity to the sub-frame.

If balustrading is required, newel posts must befitted at this point, before any decking is laid .

Fixing Deck Joists

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Simple Raft Subframe

Fixing Joists to Beams

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With all these joist configurations it is essential that noggins are also fitted between the joists.
(Short pieces of wood fitted perpendicular to adjacent joists) These add rigidity to the sub-frame.

Fitting Deck Newel Posts

Fitting Newels If balustrading is planned, fit your newel posts before laying decking.

Please Note:
At this point the type of balustrade system chosen will govern the required newel height above the deck. Double beam construction using Q-Deck® Plus Multi-purpose posts provides the ideal newel post housing. Secure using suitable bolts or landscape screws in 2 or 3 directions for best results.

For systems that need to meet building regulation requirements through bolting is the only adequate method of fixing.

Secure newel posts with bolts or landscape screws

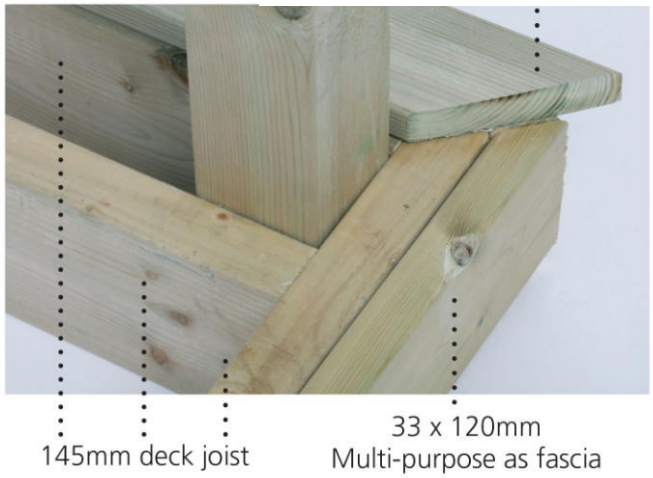
Creating a Decking Border

Creating a border around the edge of the deck and incorporating fascia boards provides an attractive finish.

The smooth face of Q-Deck® Cambridge decking or Multi-purpose material is particularly good for use as fascias.

Consider using Q-Grip® slip resistant decking or Q-Grip® Strips™ in conjunction with Q-Deck® York and Canterbury Decking boards on the lead edge for enhanced grip characteristics.

27 x 144 Canterbury as border



Multi-purpose fascia board

Winchester deck board

Fitting the cut deck board

Decking Before and After Adding the Border

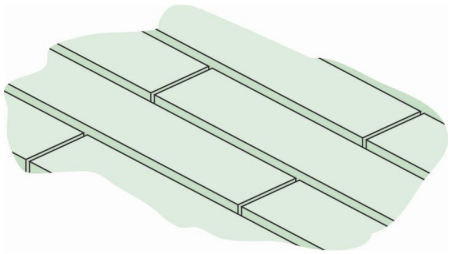
Finished Anti-Slip Border Using Q-Grip York

Fitting Pre-Treated Decking Boards

- Laying in patterns or at a 45° angle efficiently utilises any length purchased.
- It is a good idea to overlap the subframe and cut to desired length in a straight line or curve, if required.
- If deck boards need to be joined, butt them end to end but take care to stagger the joints so they don't align from row to row.
- Fix boards with corrosion resistant screws, or for the very best results use stainless steel screws (2 screws 15-20% of its width in from each edge of the board). Structural fixtures and fittings should be specially coated or of hot dipped galvanised material.
- It is advisable to pre-drill pilot holes near the end of boards to avoid splitting.
- Decking board screw length should be 2.5 times the thickness of the decking board.
- When laying Q-Grip decking it is advisable to keep things simple and orientate the boards at either 90° or 45° angles to the supporting joists to minimise cutting.
  It is advisable to carefully establish and cut each Q-Grip board to length before fitting.
  Treated softwood decking should be surface dry and laid with no less than a 6mm gap between boards (this allows for seasonal shrinkage or swelling).
  Maintain this gap when fitting boards around newel posts for a neat finish whilst still allowing water 'run off'.

  It is advisable to loosely lay treated softwood decking components, ie. in particular deck boards, out on the finished sub frame prior to securing them.
  The longer they are left to become surface dry the less the effects of shrinkage will be apparent after fixing them. The timber can also be cut and sanded more easily when dry.
  Note:
  If the boards are allowed to fully dry out prior to fitting, the gap between boards should be increased to 9mm to allow subsequent expansion in the wetter seasons.

Cutting Deck Boards to the Desired Length



Staggered Deck Board Joints

Cutting Deck Boards to the Desired Length

Reducing the Chance of Slipping

Adding Slip Resistance to Q-Deck Decking

Q-Grip Strip with GripDeck® Technology can be retro-fitted to existing decks where the deckboards have become slippery or to certain specific Q-Deck deckboards, ie. York and Canterbury Q-Deck deckboards.

Please Note:
To be able to effectively secure Q-Grip Strip it must be dry and of a temperature above 5°C.

Ideally store at room temperature until just before fitting.

To fit the strips to the Q-Deck deckboards detailed above:

Firstly ensure the grooves are clean, dry free of debris and that any original deck screws used to secure the deckboards in the first place are not sitting proud of the base of the groove.

If so, tighten accordingly.

Then consider the area to be covered with Q-Grip Strips and cut them to length as required using a grinder with stone cutting disc.

It is best to place the Q-Grip Strip flat side down on some scrap wood to do this.

Securing the Anti-Slip Strip

Cutting Decking Anti Slip Strips to Size

Reducing the Chance of Slipping

1. Apply one continuous (centrally located in the groove to be filled) 4-6mm maximum bead of a suitable gap filling adhesive that also has the properties of an external use sealant i.e. flexible and both water and U.V. resistant.
You may consider the use of a sealant/adhesive called 'theWORKS' by Geocel in grey or Sikaflex EBT or 11FC+ by Sika Ltd in grey.
Always follow the adhesive manufacturers instructions.
For up to date information please download our Q-Grip literature via the Guides page.

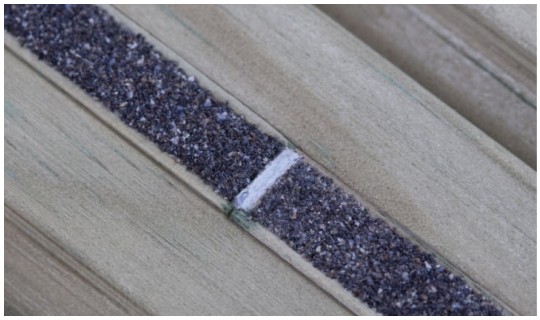
Adding the Grip Strip Adhesive

2. Check for any surface contaminants on the reverse of each Q-Grip Strip then carefully place the Q-Grip Strip in the desired position and gently apply downward pressure to 'pinch' it into place along its length using a rubber headed mallet. This action will force the adhesive to fill the voids between the edges of the groove and the back of the specially profiled Q-Grip Strip.

Tap Grip Strip in Place

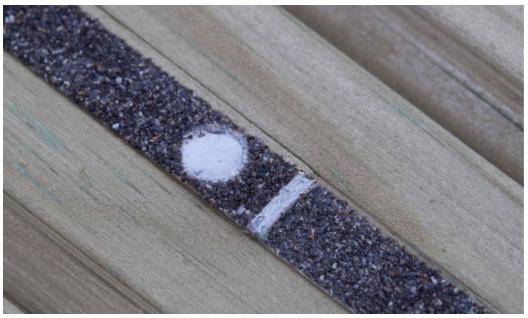
3. If you need to butt Q-Grip Strip end to end then apply slightly more adhesive at this position and carefully wipe away excess adhesive that forces up between the joint sealing the gap in the process.

To fit the strips to an existing deck the same process applies as detailed in points 1-3 (if applicable), after you have created your own 5 x 8mm grooves using a hand held router.



Joining Decking Grip Strips

If an end of a Q-Grip Strip doesn't 'pinch' sufficiently to allow it to be secured flush with the top of the groove, it is advisable to gently and temporarily secure it with a 4mm gauge 12-25mm long screw.
You will need to pre-drill a pilot hole though the Q-Grip Strip using a small diameter masonry drill bit (we advise no greater than 3mm).
Once the adhesive has cured and created a suitable bond remove the screw and carefully fill and seal the hole it accommodated with more adhesive/sealant.



Secure the Grip Strip with a Screw

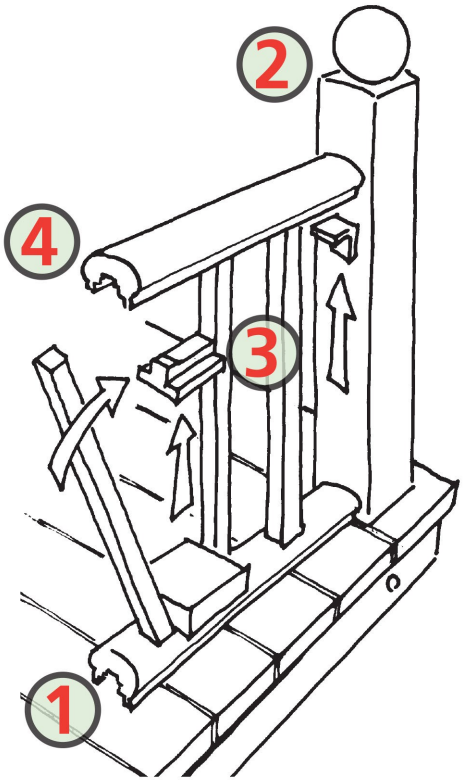
Fitting Different Types of Deck Balustrading

READY MADE SECTIONS

Q-Deck makes balustrading easy by offering ready-made 1800mm long sections of balustrade, complete with handrail. All you have to do is fit the sections between correctly pre-spaced newel or pergola posts and screw them into position using Q-Deck-Tite handrail bracket kits.
Sections can also be cut to fit narrower gaps between newel posts.

Q-Deck-Tite handrail bracket.

... OR USING LOOSE COMPONENTS



1 Fit bottom universal rail between newel posts.
2 Use more universal rail as handrail and fit at approx. 900mm high using **Q-Deck**-Tite handrail bracket kit.
3 Cut a piece of spacing infill and fit to the underside of the handrail. Using a guide spacer at lower end, slide spindle
4 into the vertical position against the infill. Fix at the top and bottom with screws.
Repeat for each spindle.

PLEASE NOTE

No opening is permitted greater than 100mm. Therefore, spindles need to be spaced at approximate 120mm centres.
Allow 8 spindles every metre of handrail.
For decks more than 600mm above ground level it is necessary to achieve a balustrade height of at least 1100mm.
NB There is a 10mm height difference between the ready-made balustrade and the loose component built version..

Steps and Stairs Advice

You can create stairs using the **Q-Deck®** Multi-purpose range of products. However, it is advisable to seek the skills of an experienced tradesman.

Q-Grip® products suit use on steps and stairs.

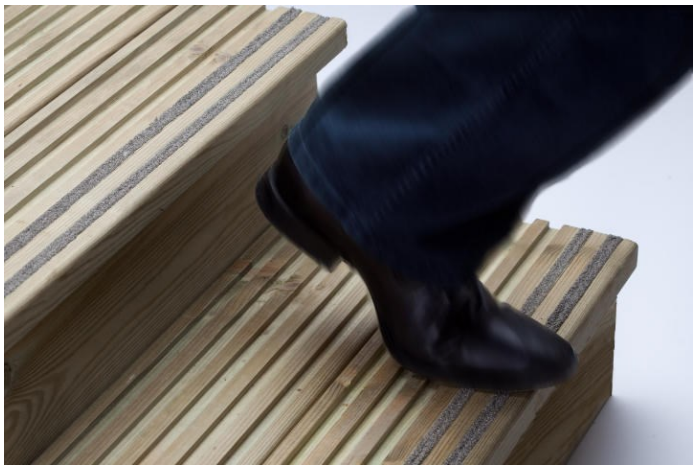
In particular new **Q-Grip® Strip™** used in conjunction with **Q-Deck® York/Canterbury**

Hidden Fix boards provide a quick and adaptable solution when applied to the outer grooves of the board and step edge.

Step Frame Set on Compacted Hardcore and Weed Barrier.

Stair Built Using Multi-Purpose String Deck Tread

Steps can be Created by Extending Different Levels of Subframe



Anti-Slip Stair Tread Using Q-Grip Strip in Q-Deck York Decking.

Steps and Stairs Advice

Mark out position of treads and risers.

Both treads and risers should have a maximum length of 600mm, unless additional mid-term support is incorporated.

1 Screw short sections of 33 x 33mm Multi-purpose baluster to the string.

2 Risers screwed to string (27/33 x266mm string material).

3 The treads are screwed to the string.

4 It is a good idea to coat treads with a brush applied anti-slip coating such as Hickson Décor Antislip or utilise **Q-Grip®** products to make the treads.

1

2

3

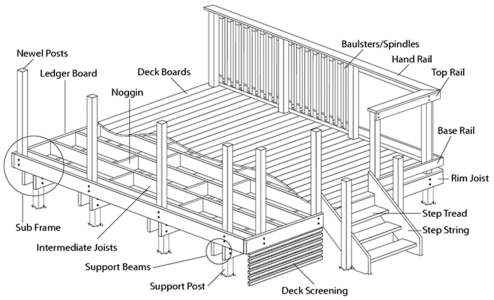
4

How to Build a Raised Deck

The following series of photographs shows a typical construction of an elevated deck over a sloping site.

Checking the Deck Location....

....Consider Existing Features....



....Working Out a Deck Design....

....Ceating a Detailed Plan....

....Building the Support Beams....

....Ledger Board Fixed to Existing Wall....

..Ledger Board Fixed to Existing Steps....

....Joist Fixed Over The Beams....

....Fixing the Newel Posts....

How to Build a Raised Deck

The following series of photographs shows a typical construction of an elevated deck over a sloping site.

....Completed Subframe....

....Fixing the First Deckboards....

....Fixing the Deckboards Throughout the Deck....

...Fixing the Handrails and Base Rails....

....Fixing the Balustrades....

....The Completed Deck....

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Care and Maintenance

What to Expect

Small surface splits can occur in all components during the warmer months.
This happens as the timber dries and shrinks and is most prominent on larger section timbers such as **Q-Deck®** 117 x 117mm grand newels.
In the winter months the splits will tend to close as the timber swells.
During the first year the colour of the deck will fade slightly and this will continue due to the 'greying'affects of U.V. light. For best results apply Seasonite by Owatrol immediately before or after fitting **Q-Deck®** preservative pretreated decking.
Poorly designed, constructed, situated and maintained decks will increase the risk of colonisation by surface moulds (rather like internal plaster mould).
Surface moulds do not affect the structural performance of a deck but if left to develop can cause a speckled black staining within the surface of the timber.
If caught early this can be removed with a bathroom/kitchen scourer and proprietary deck cleaner.

Clean

Even preservative pre-treated wood will not look its best after a long winter and awet spring, so a little time spent cleaning will pay dividends for the summer months.
We would recommend that you sweep your deck regularly and hose it down when dirt accumulates. Allowing dirt and other organic matter such as leaf litter or soil to accumulate on your deck, increases the risk of both mould (as described above) and fungal infection.
The organic matter may not only carry the source of fungal infection but may hinder drainage and provide the damp conditions that they need to survive.
There are many effective cleaning agents available. Many are useful to remove algae growth which can occur and without cleaning this type of contamination can create a slip hazard.
Cleaning your deck with a suitable deck cleaning agent and pressure washing at the beginning and end of the season is a recommended course of action.
A highly effective cleaning agent is Net-trol by Owatrol, a wood cleaner and colour restorer.
For the removal of previously applied oil finishes that have failed use Aquanett by Owatrol, then neutralise with Net-trol.

Re-seal and Protection

The finished deck should be kept clean and for good looks, resealed with a brush-on water repellent every year -Seasonite Wood Protection finish for exterior woods by Owatrol is a good option.
For best results re-apply a water repellent when the deck is dry aftercleaning.
If you want to add colour to **Q-Deck®**preservative pre-treated products then pigmented Textrol by Owatrol is a protective coating to use after 12 months use.
Please bear in mind that once you apply a stain/ protective coating to decking it will need regular re-staining and heavy foot traffic areas will have to be re-stained more frequently than other areas.
If applying to **Q-Grip®** slip resistant deckboards, care must be taken not to apply stain to the aggregate strip areas as it may not adhere or dry properly on these areas and affect its slip resistance properties. Always follow the manufacturer's instructions when working with deck maintenance products.