A Builder's Guide to Timber Decking

Forest Holidays – Delamere Forest

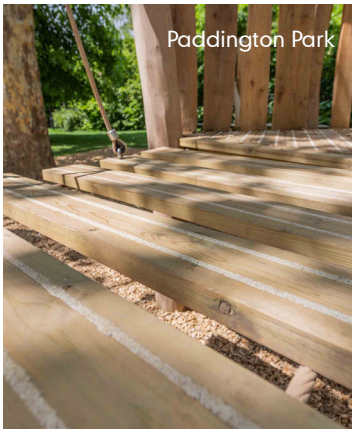
A Builder's Guide to Timber Decking

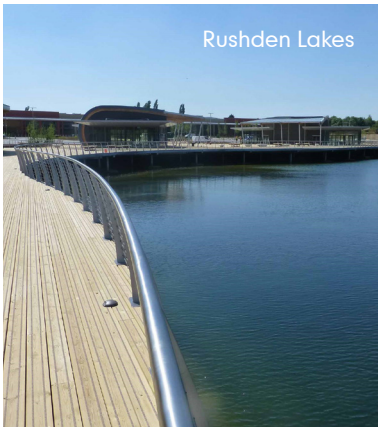
The information given in this publication is based on those guidelines for installation on domestic properties.

Commercial decks require more robust design, materials and construction to deal with the loads placed on them and are not covered by the guidance in this booklet.

More detailed information can be found in Timber Decking: the Professional's Manual, available to purchase from TDCA.


Stansfield Park


Paddington Park


Rushden Lakes

TIMBER DECKING AND CLADDING ASSOCIATION

The Timber Decking & Cladding Association (TDCA) is an independent, not for profit, technical and advisory organisation dedicated to promoting quality materials, good practice installation and maintenance standards.

The information contained in this publication is given in good faith and without warranty. It is the builders' responsibility to ensure any structure is safe and fit for purpose.

Before starting work

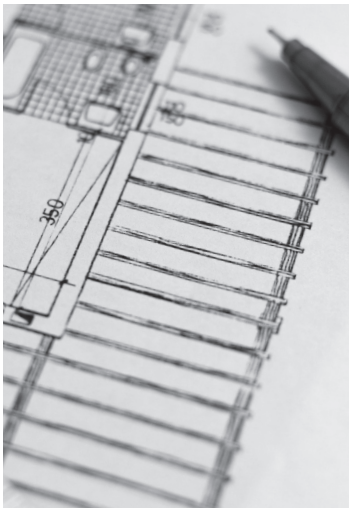
Is planning or building consent required?

It is the property owner's responsibility to find out before work commences. Always check with the Local Planning Department first if:

1. The deck platform is more than 300mm from the ground.
2. The decking occupies more than 50% of the garden area, taking extensions and outbuildings into account.

Building control consent applies to any construction work that requires planning consent.

Visit the government planning portal for more information: www.planningportal.co.uk and search for 'decking'.



Decking Types

Timber decks can either be attached to a property or free-standing.

The complexity of build varies depending on the site, height from the ground and load-bearing requirement.

There are four basic types of deck:

Ground level

A platform built directly onto the ground.

Raised

A raised platform less than 600 mm (24") from the ground.

High level

A raised platform more than 600 mm (24") from the ground.

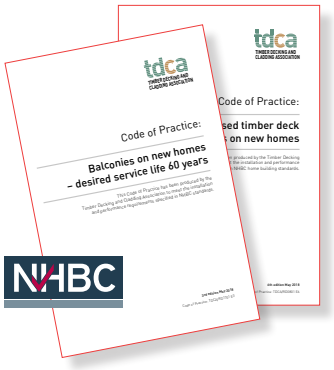
Roof top

Decked areas on existing flat roofs.

New Builds

For new homes, the National House Building Council (NHBC), requires that all decks are built to Timber Decking & Cladding Association (TDCA) guidelines. 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 the TDCA website.



Choosing the right timber

Select timber species/types which are durable enough for outdoor use

- Only use timber capable of giving a minimum service life of 15 years. This means using wood that is naturally durable (resistant to decay and insects) or a softwood that has been preservative pressure treated.
- Make sure that any treated timber product has been pressure treated to the correct standard, suitable for the intended end use (see table 1). Obtain and keep safe, documented evidence of this treatment.

Only use timber that is certified as being sustainable and from legal sources

- Such as the Programme for the Endorsement of Forest Certification (PEFC™).

Table 1: (Ref. BS EN 335:1) British Standard Use Classes relevant to Timber Decking

USE CLASS	APPLICATION	TYPICAL PRODUCT
3	EXTERNAL: above ground, frequent wetting	Deck boards, soffits, cladding, fascias
4	EXTERNAL: ground or fresh water contact and/or providing exterior structural support	Deck beams, posts & joists, fence posts

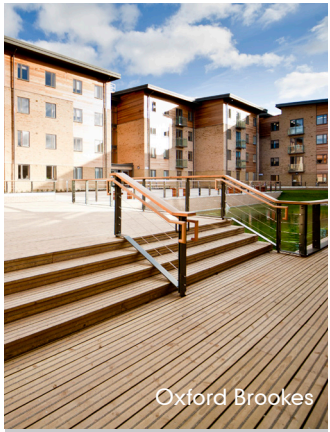
Internal flooring and roofing joists are Use Class 2 and are NOT suitable for exterior use.

Timber Strength Class

To comply with building regulations all decks should be built with strength graded timber. C16 is the minimum strength class that should be used but C24 strength class is recommended for domestic decks that will carry heavy loads.

Look for quality accredited products

Components with the TDCA DeckMark® quality accreditation have been independently assessed for manufacturing quality.



PEFC™
PEFC/16-37-040
Promoting Sustainable Forest Management
www.pefc.co.uk

The level of treatment given to protect wood is tailored to its use class. If you buy wood that is not treated to the correct standard, it is likely to fail prematurely – endangering the public in addition to putting your reputation at risk.

For ALL substructure timbers - specify Use Class 4.

Make sure it's Use Class 4 GROUND CONTACT

DeckMark® Plus components have undergone additional specific technical or safety evaluations by a recognised quantitative procedure.

DeckMark® Quality Assessed PRODUCT

DeckMark+® Performance Rated PRODUCT

Deck construction the basic principles

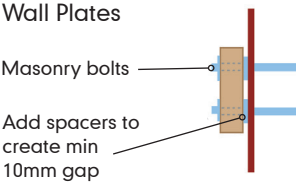
Site preparation

Clear all vegetation from the site of the deck. Lay weed suppressing sheeting held in place with clips or a layer of gravel if the under-deck area is visible.

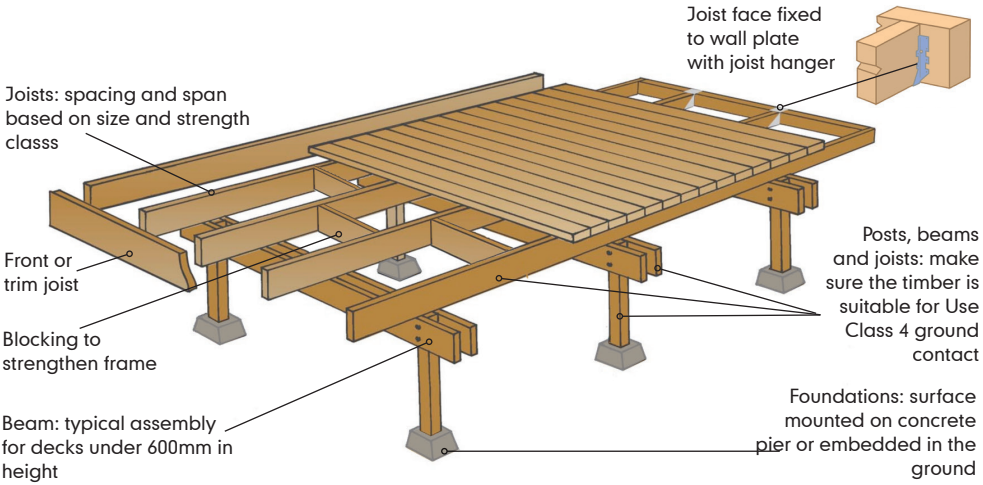
Attaching a deck to a property

Wall plates (sometimes called ledger boards) are used where a deck is attached to a property.

Leave a gap (10mm minimum) using washers or packing pieces between the property and the wall plate to allow rainwater to drain freely. Take care not to damage or bridge the damp proof course of the property.



Deck Substructure



Maximum Joist Spans (metres) : C16 Strength Class

JOIST SIZE	DOMESTIC DECKS			HEAVY LOAD BEARING DECKS		
	Joist centres (mm)			Joist centres (mm)		
(mm)	400	500	600	400	500	600
150 x 50	2.97	2.76	2.59	2.17	1.94	1.77
100 x 50	1.79	1.77	1.71	1.29	1.28	1.22

Deck board choice

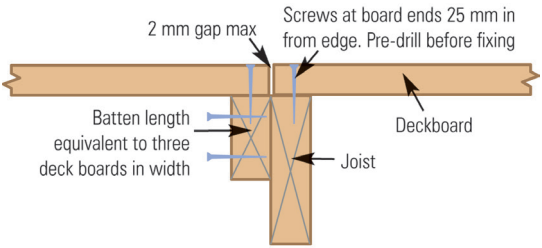
There is a wide variety of timber types, surface styles and visual qualities to choose from. The price will vary according to quality or type. Always make sure that the person for whom the deck is being built sees a sample and agrees the quality of the board that is to be used.

Be aware that grooved boards are designed to channel water away from the deck. As such they must always be laid on a fall and kept clear of debris otherwise standing water will saturate the wood and may lead to slippery conditions.

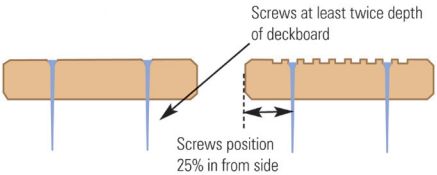
Laying deck boards

- Always build a slight fall into a decked surface (for water run-off) and lay grooved boards in the direction of fall. Smooth boards can be installed in any direction.
- Leave a space between adjacent boards of 5mm - 8mm to assist drainage and allow for seasonal expansion and contraction of timber. Leave a 5mm space where a board end abuts a post.
- Always locate abutting boards over a joist to which an additional section of joist or batten has been attached for support. Position fixings 25mm in from each end. Pre-drilling these fixing points will help prevent splitting (see image).
- Every time a board crosses a joist it should be attached using two fixings positioned at the quarter points of the board.
- On grooved boards, always position fixings at the bottom of a groove.
- Make sure all fixings are flush with the surface, not driven below it, as this can cause localised water retention.
- When installing 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.

Abutting deck board connection



Board fixing



Metal fixings

Corrosion is the biggest threat to fixings used out of doors.

Stainless steel, hot dipped galvanised or high quality coated carbon steel fixings are best.

Electroplated, brass or uncoated steel fixings should NOT be used. Always use the same type of metal for fixings and connectors to prevent galvanic corrosion weakening the fixing.

For more detail, see the TDCA Technical Bulletin: TB08 Metal fixings.

Cross cutting

When cross cutting or notching preservative treated wood on site always swab the cut area with a brush-on end-grain preservative, available from your timber supplier. This maintains the integrity of the protection and avoids invalidating any warranty given on the treatment.

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

tdca
TIMBER DECKING AND CLADDING ASSOCIATION

Technical bulletin DECK PARAPETS TB.04 SEPTEMBER 2013(v1)

Deck parapet design and construction

INTRODUCTION

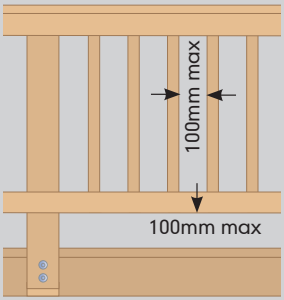
Scope of this bulletin

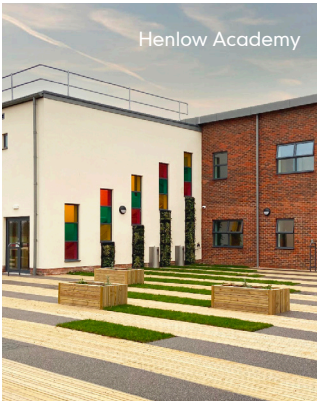
UK BUILDING REGULATIONS

For more detail, see the TDCA Technical Bulletin: TB04 Deck parapet design and construction.

Deck parapets or balustrades

- Building regulations require that parapets (balustrades) are at least 900mm in height for decks that are less than 600mm from the ground. Above 600mm and the parapet hand rail must be 1100mm in height.
- Within the design, no space between individual components like balusters shall exceed 100mm. All vertical elements such as newel posts should be capped to avoid water being absorbed into the end grain.
- On decks more than 600mm in height, Building Regulations require that the parapet is robust and safe. Look for balustrade systems with the DeckMark Plus performance rating – they have been independently load tested as fit for purpose for high level decks.





Further help and information

Visit the TDCA web site www.tdca.org.uk, for more detailed information about deck design, construction and maintenance.

There's answers to frequently asked questions and case study inspiration as well as useful publications, signposts to online training resources and a decking calculator APP.

You'll find a database of UK stockists supplying quality approved decking products from fixings to coatings.

Useful TDCA publications

Timber Decking: the Professional's Manual

Technical bulletin 02 Planning & building regulations

Technical Bulletin 04 Deck parapet design and installation

Technical Bulletin 08 Metal fixings

Code of Practice 0801: Raised timber decks on new homes

Code of Practice 1701: Balconies on new homes - 60 years DSL

DeckMark® Quality Assessed PRODUCT

DeckMark® Quality Assessed INSTALLER

TDCA DeckMark® is a scheme that certificates the quality of manufactured products used for decks and outdoor structures or the capabilities of design and installation contractors.

tdca TIMBER DECKING AND CLADDING ASSOCIATION

Tell me more

Call 01283 722588
Email info@marley.co.uk
Or visit www.marley.co.uk

Marley, Lichfield Road, Branston, Burton upon Trent, DE14 3HZ