



Clear wax coatings can be used to improve the water repellency of the decking timbers and are suitable for both hardwoods and softwoods. These coatings help to prevent water absorption that causes wood to expand and contract and crack.

Maintenance

The degree of maintenance required will depend on the deck specification. With preservative pre-treated decking components the protection against decay and insect attack is built in for the service life of the component. Therefore subsequent preservative protection will not be required.

Whether smooth faced, grooved or ribbed deck boards are preferred, it is important that the deck surface is kept clean by regular brushing with a stiff bristle brush to remove dirt, algae and dead leaves which could make the deck slippery in the wet. At least once a year - preferably in Spring - give decks a more thorough cleaning using a power spray or proprietary cleaner to lift any stubborn stains.



A built-in water repellent protection can be offered by some companies at the time of preservative treatment, which will improve the deck performance by providing enhanced weathering protection and improved dimensional stability. If used, brush-on water repellents should be applied every other year, preferably at the end of summer, to help maintain this extra protection.



Any decorative finishes that have been used on the decking components will also need to be refreshed periodically to maintain their appearance - usually depending on location, amount of sun received and general wear and tear.

Disclaimer: Whilst every attempt has been made to ensure the accuracy and reliability of the information contained in this document, the Wood Marketing Federation gives no undertaking to that effect and no responsibility can be accepted for reliance on this information.

The Wood Marketing Federation updates its literature as and when necessary. Please ensure you have an up to date copy.

Reference Material

Further information on the use and protection of decking timbers and ancillary products is available from the following sources:

UK Timber Decking Association - www.tda.org.uk

TRADA Timber Decking Manual - www.trada.co.uk

Wood for Good Campaign - www.woodforgood.com

Arch Timber Protection - www.archtp.com

Coford - www.coford.ie

Woodspec - www.woodspect.ie

BS 8417:2003 Preservation of timber - Recommendations

BS EN 599-1:1997 Durability of wood and wood based products. Part 2 Performance of preventative wood preservatives.

IS/EN ISO 1461 Hot dipped galvanised coatings on fabricated iron and steel articles - specifications and test methods.

Acknowledgments

Timber Decking Association

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Timber Decking Guide



A timber deck is a superb way to enhance any home, garden or commercial property.

It is a natural product, in harmony with nature - comfortable, attractive and adaptable to any kind of flat, sloping, wet or waterside site.

So whether you are thinking about a large elevated split-level deck for entertaining or a small intimate space for relaxing you'll find timber decking provides the ideal, cost-effective and practical solution.

To ensure any deck structure provides years of trouble free service it needs careful planning and design as well as the use of good quality materials.

This guide highlights the main considerations in achieving a good quality, high performance deck structure.

Timber Selection and Availability

Timber is broadly classified into two groups - **softwoods** and **hardwoods**.



HEARTWOOD SAPWOOD

This can be confusing because the terms do not relate to the relative hardness of the timber but to the type of tree from which it comes. Softwood species come from fast grown, evergreen coniferous trees; hardwood species come from slow grown, broadleaved trees. Within each group there are many different species of timber. Some are suitable for decking, some are not.

The key factor in selecting timber for use out of doors is its durability - its ability to resist the conditions that give rise to decay.



Some species of timber have a natural ability to resist decay completely; others have varying degrees of natural durability and may require preservative treatment, particularly if there is sapwood present.

For decking projects it is generally considered best practice that only timber capable of providing a minimum service life of 15 years should be used. This means selecting:

1. A hardwood species whose heartwood is classified as being naturally "very durable" and "durable"; or
2. A softwood species that has been industrially pressure pre-treated with a wood preservative approved by the Pesticides Control Dept and treated in accordance with BS 8417.

It is also considered best practice that timber materials used in decking have come from sustainable forests. Softwoods are more commonly used for decking because it tends to be more available, less costly and easier to work with than hardwoods. Naturally durable hardwoods are usually higher in density than softwoods and may have better impact and abrasion resistant properties for certain end uses.

Timber decks should be designed and installed with safety in mind and all timbers used in a load bearing situation should be fit for purpose.

Table 1 : Treatment recommendations for decking timbers in accordance with BS 8417

Use/Hazard Class	Permeability class of wood species			
	Permeable		Resistant	
	Penetration	Retention	Penetration	Retention
3	P8	CV1	P2	CV1
4	P8	CV1	P4	CV1

Further information relating to span tables and appropriate timber grades is detailed in the current Woodspec website - www.woodspect.ie

Timber Preservation

For decking projects softwood species whose heartwood is classified as 'semi' or 'non-durable' should be industrially pre-treated with a preservative that complies with EN 599, and protected for use in an external situation - treated in accordance with BS 8417.

Today, wood is pressure treated according to the "Use/Hazard" (risk of fungal decay or insect attack) it faces in service. Timber intended for use inside a building will not be treated to the same degree required for a deck component, like a support post or joist that is to be used outside and which may be in contact with the ground or water.



These ground/water contact components should be treated in accordance with **Use/Hazard Class 4** to ensure they will provide long life in wet conditions.



Out of ground/water contact components - the newel posts, deck boards and railings - should be treated in accordance with **Use/Hazard Class 3**.

Table 1 (above) outlines the timber treatment recommendations for a 15 year desired service life in accordance with BS 8417.

Treatment companies will relate these codes to the species of timber being used and the type of preservative they are utilising. If there is any doubt about the level of treatment a decking component has had, ask the timber supplier for a treatment certificate.



Timber treatment is carried out in large industrial pressure vessels where the preservative solution is forced deep into the cellular structure of the timber. Following treatment and drying of the timber the components of the preservative become fixed within the timber and cannot be easily removed, providing an effective long term protection.

Timber should be dried to the 'in-service' moisture content prior to pressure pre-treatment to achieve the required protection.

It is critical that all machining is carried out prior to pre-treatment however in the event of crosscutting, boring etc, the area of timber revealed must be liberally brushed with an approved product for this particular end use.

Fixings

The decking timbers you are using will have a long life expectancy and it is therefore appropriate to use metal fixings and fastenings that will have



a comparable length of life. Because decking timbers are exposed to the weather, metal fixings such as nails, screws, bolts and connectors need to be highly resistant to corrosion. The consequences of corrosion are unsightly rust stains on exposed components and the possibility that key fixings may fail prematurely leaving the structure unsafe to use.

Whether using naturally durable timber species or preservative pre-treated timber it is considered best practice that fixings are either stainless steel, hot dipped galvanised or coated to a recognised industry standard - IS/EN ISO 1461. Always check with the fixing manufacturer on the suitability of their products.

Suitable ring shank nails can be used for fixing but screws are much more preferable. Screws are resistant to "popping" under the natural movement of timber from one season to another. Screws also enable individual decking boards to be removed for access or maintenance and can be re-tightened if necessary.

For deck boards the length of the screw should be 2.5-3 times the thickness of the deck board and positioned not closer than 25mm to the board edge in countersunk holes. Two screws are required on each board where it crosses a supporting joist. On grooved deck boards, screws should be fixed within

the recess of the groove. If installing hardwood deck boards then each screw point should be pre-drilled 2mm oversize and countersunk to prevent splitting and surface damage. It is always good practice to pre-drill screw holes on board ends to prevent splitting.

Decoration

Pressure treated decking timbers do not have to be painted or stained to maintain their preservative properties. However, a decorative finish can be added, if desired, but once applied it must be regularly maintained, as recommended by the manufacturer.



Staining is a highly effective way of decorating and personalising a deck - whether in a natural wood shade or a fashion colour. Decorative products are applied in exactly the same way as other coatings with the manufacturer's advice and recommendations always followed. Always use a product made for exterior use for timber decking components.

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