



Wood Protection Association

in collaboration with



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GUIDANCE NOTE

Ref: WPA TW 9

Issue 5: June 2023

Understanding Use Class 3 (UC3) Preservative Treated Wood

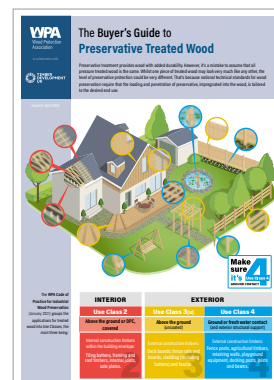
Overview

Consumer and contract law require that any product offered for sale must be fit for its intended use and a wood product impregnated with preservative is no exception.

The minimum standards for the treatment of wood are set out in British Standard BS 8417 and the **WPA Code of Practice - Industrial Wood Preservation** (May 2023). In these standards the level of treatment is tailored to the application '**Use Class**' of a wood product as defined in BS EN 335 (Durability of wood and wood-based products).

Use Class 3 is for end uses where wood is used outdoors, frequently wet, NOT in contact with the ground.

See the **WPA Buyer's Guide for Preservative Treated Wood** for more details on the correct application of Use Classes



All WPA Resources are available for free download [HERE](#)

Specification of correct treatment for Use Class 3 (uncoated)

The table overleaf identifies common Use Class 3 (uncoated) components and specifies the minimum preservative penetration for both **15 and 30-year desired service life (DSL)** categories in wood species that are classed as either **permeable** or **resistant to treatment**.

Compliance is achieved by meeting these requirements to an **acceptable quality level (AQL)**.

Please see our **Guidance Note WPA TW11: Understanding Use Class 3c (coated)**, for further details on applications where treated wood will normally be used with the addition of a decorative surface **coating** (eg. specialist external joinery, window frames, doors etc).

A written specification should always include:

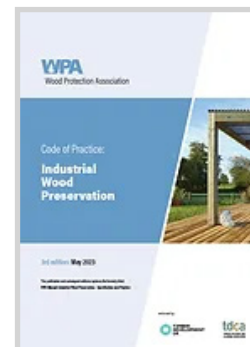
The component type and size for example: Shiplap cladding boards 20mm x 145mm.

You may also wish to specify the component **species**.

The treatment Use Class eg. **Use Class 3 (UC3)**.

The Desired Service life eg **15 Years DSL**

To help with writing a correct specification, reference should be made to **Table 5** of the **WPA Code of Practice - Industrial Wood Preservation**.



Preservative retention

Retentions are expressed in terms of the preservative manufacturer's recommendation for the given use class, which for UC3 is R3 for 15 years and R3 x 1.25 for 30 years. R3 is based on laboratory and/or field tests as specified in BS 8417 and EN 599-1. These R values are the minimum required retention in the zone requiring analysis.

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Preservative Treated Wood

Preservative penetration requirements for common Use Class 3 (uncoated) components for a 15 year desired service life (DSL)

Timber Components	PERMEABLE timber ¹ All Pine species	RESISTANT timber ¹ Spruce, Larch, Douglas Fir	30-year DSL considerations
<p>Components with a thickness of 44mm and above or where the consequence of failure is high (Service Factor Code D)</p> <p>Examples: deck boards, structural timber, balcony components</p>	<p>Full sapwood (NP5)</p> 	<p>3mm lateral into sapwood (NP2)³</p> 	<p>Penetration requirement for permeable species for a 30-year DSL is the same as for 15 years²</p> <p>For resistant species, 30-year penetration requirement is a minimum of 6mm into sapwood (NP3)³</p>
<p>Components <44mm thickness, unless Service Factor Code D</p> <p>Examples: cladding, above ground fencing components, bargeboards and soffits</p>	<p>Full sapwood (NP5)</p> 	<p>Retention measured across the outer 3 mm. No minimum penetration requirement (NP1)</p> 	

NOTES:

Diagrams showing preservative penetration are for illustrative purposes only – actual penetration will vary by species and heartwood/sapwood ratios within each component treated.

1. BS EN 350 gives four classes to indicate the treatability of the sapwood and heartwood for a range of wood species. For UK preservative treatment purposes, however, only two classes are used: permeable (Treatability Class 1) and resistant (Treatability Classes 2, 3 and 4), in both cases based on the treatability of the sapwood.
2. Sampling requirements under WPA Benchmark quality scheme: Check on retention and penetration levels initially once every 6 months by analysis of typically 13 treated samples (see point 3 below). See WPA Benchmark scheme document for further details.
3. Achievement of consistent 3mm and deeper penetration in resistant species is often very difficult and may require extensive sampling and analysis to verify. Processes to aid penetration such as incising may be required. If it is not possible to distinguish between heartwood and sapwood, the whole sample should be regarded as sapwood.



Specification & Installation Check List



DO Establish the Use Class of the timber you need, before ordering.

DO Tell your supplier in writing, that the wood must be treated to that particular Use Class to comply with BS 8417. Ask them to verify that the wood supplied meets your Use Class specification – on the delivery note and invoice or a treatment certificate.

When buying from stock always check to which Use Class the wood has been treated.



DO NOT substitute wood that has been treated for an indoor application for use in an external application – failure is inevitable.

DO NOT supply wood that has been treated for external use for what you know will only be internal applications.

When cross cutting, notching or boring treated timber products during installation, ALWAYS apply an end grain preservative treatment to freshly exposed areas – to maintain the integrity of the protection. For wood treated for Use Class 4 (ground contact) NEVER put cut ends in the ground, even if end grain coated.

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