

GUIDANCE NOTE

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Understanding Use Class 3c (coated) 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 \(January 2021\)](#). 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 3c is for end uses where coated wood is used outdoors and NOT in contact with the ground

(eg. specialist external joinery, window frames, doors etc).

See the [WPA/TTF Buyer's Guide for Preservative Treated Wood](#) for more details on the correct application of Use Classes.

Specification of correct treatment for Use Class 3c (coated)

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

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

See our [Guidance Note WPA TW 9: Understanding Use Class 3 \(u\)](#) for details on applications where treated wood is used outdoors, above ground but without the addition of a decorative surface coating (Use Class 3u).

A written specification should always include:

The component type and size for example: *Window sill, 1200mm x 145mm x 40mm.*

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

The treatment Use Class eg. **Use Class 3c (UC3c).**

30 years will be taken as the default service life for **window frames** unless 15 years is specified*.

*If 15 years is specified, different penetration and retention requirements apply - check the [WPA Code of practice - Industrial Wood Preservation](#) for details.


Preservative retention

Retentions are expressed in terms of the preservative manufacturer's recommendation for the given use class, which for UC3 is R3c for 15 years and R3c x 1.25 for 30 years. R3c 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 penetration requirements for common Use Class 3c (coated)⁴ components for a 30 year desired service life² (DSL)

COATED Timber Components	PERMEABLE and RESISTANT timber ¹
<p>Specialist external joinery</p> <p>Window frames and doors</p> <p>Cladding, fascias and bargeboards</p>	<p>3mm lateral into sapwood (NP2) ³</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 NP2 and deeper penetration in **resistant species** is often very difficult and may require extensive sampling and analysis to verify. If it is not possible to distinguish between heartwood and sapwood, the whole sample should be regarded as sapwood.
4. These recommendations assume that the exposed surfaces of the woodwork will be painted or given some other protective finish which will be maintained in service.

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.