Wood Protection Association

in collaboration with

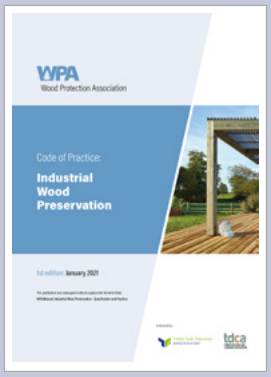
BRITISH WOODWORKING FEDERATION

GUIDANCE NOTE

Ref: WPA **TW 11**

Issue 1: December 2020

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 website for more details on preservative treatments for wood.

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 WPA *Guidance Note* **TW 9** 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.*

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.

Understanding Use Class 3c (coated) Preservative Treated Wood

Preservative penetration requirements for common Use Class 3c (coated)[5] components for a 30 year desired service life[2] (DSL)

COATED Timber Components	PERMEABLE timber [1]	RESISTANT timber [1]
Specialist external joinery **Window frames** **Doors**	**3mm** lateral into sapwood (NP2) 	**3mm** lateral into sapwood (NP2) [3] 
Cladding, fascias and bargeboards	**3mm** lateral into sapwood (NP2) 	**Retention measured across the outer 3 mm.** No minimum penetration requirement (NP1) [4] 

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. Commercial experience with thinner components fabricated from resistant species used in well-ventilated service environments (*e.g. cladding, facias and bargeboards*) indicates that while penetration greater than NP1 is difficult to achieve consistently, provided the required retention is achieved in the 3mm treated zone, performance is adequate.
5. 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.

For further information or advice, please contact either :

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