



Timber Trade Federation
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GUIDANCE NOTE

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Guidance for Wood Treaters in the NTR Region – BS 8417 Treatment Specifications used in the UK Market

Some importers of treated wood into the UK are considering specifying Use Class 3 treatment for all out of ground contact applications as they cannot always be sure what the material may be used for lower down the supply chain. For example, treated joists ordered as being suitable for internal applications and treated to UC2 may be sold at a local timber merchant as joists for a deck, with consequent service life concerns. Much of this material will be whitewood/spruce.

Timber treaters in the NTR region do not normally treat spruce for external, uncoated applications. However, this is permitted by BS 8417, the relevant UK standard. This fact sheet therefore provides guidance to NTR treaters on how the treatment of spruce to meet a BS 8417 Use Class 3 specification aligns with current NTR classes and specifications.

BS 8417: 2011 ‘Preservation of Wood – Code of Practice’

This document, which is the core standard used by the UK wood preservation industry, gives recommendations and guidance for the preservative treatment of wood against biodeterioration, for determining the need for treatment and how to specify appropriately.

It also sets out requirements for the penetration and retention levels for preservatives tested to BS EN 599, using the terminology in BS EN 351-1, for different timber components. It takes into account the properties of the wood employed, the Use Class as defined in BS EN 335 and the desired service life.

Summary of BS EN 351-1 Penetration Classes and Analytical Zones

| Penetration Class | Penetration Requirement | Analytical Zone |
|-------------------|-------------------------------|---|
| NP1 | None | 3mm from lateral faces |
| NP2 | Min. 3mm lateral into sapwood | 3mm lateral into sapwood |
| NP3 | Min. 6mm lateral into sapwood | 6mm lateral into sapwood |
| NP4 | Min. 25mm lateral | 25mm lateral into sapwood |
| NP5 | Full sapwood | Full sapwood |
| NP6 | Full sapwood | Full sapwood and 6mm into exposed heartwood |

Acceptable Quality Levels (AQLs)

BS 8417 includes AQLs to reflect the variable nature of wood. The AQL for a particular species is a statistical measurement of the maximum number of pieces which do not meet the set penetration class but which is still considered acceptable in a particular sample size. AQLs apply to preservative penetration only, not to retention. The recommended AQLs within BS 8417 are:

- 10% for permeable timbers (inc. pine)
- 25% for sawn resistant timbers (inc. spruce)

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Comparing BS 8417 & NTR Penetration Requirements

The following table only refers to the most common applications in BS 8417:

| Service Situation | BS8417 Use Class | Penetration (BS 8417) | | Penetration and NTR Class | |
|--|-------------------------|-----------------------|------------------|---------------------------|---|
| | | Pine | Spruce | Pine | Spruce |
| Internal, above ground, covered (e.g. by a roof). Occasional risk of wetting | 2 ^a | NP1 | NP1 | – | Class 'GRAN' NP1 |
| Outdoor above ground, protected. Exposed to frequent wetting. | 3 ^b coated | NP2 | NP2 | Class B NP3 | Class 'GRAN' (Cladding) NP1 Class GW (Windows) NP1 |
| Outdoor above ground, not protected. Exposed to frequent wetting. | 3 ^c uncoated | NP5 | NP2 | Class AB NP5 | – |
| In contact with ground. Permanently exposed to wetting. | 4 ^c | NP5 | NP3 ^d | Class A NP5 | – |

Notes:

a-c) BS 8417 Desired Service Life assumptions : a) 60 years b) 30 years c) 15 years

d) Processes to aid penetration may be required, such as incising

Summary

Spruce/whitewood can be treated for use in the UK under BS 8417 for Use Class 3 (outdoor, above ground) uncoated applications. The penetration requirement is NP2, 3mm lateral penetration, and is subject to an AQL of 25%. Treatment is typically to refusal, but suitable cycles will be advised by the preservative supplier and/or plant manufacturer. For UK treatment, the retention in the analytical zone is set by the preservative supplier for the product in use according to Use Class and service life. For NTR treatment use a preservative and retention from the NTR approved list for the relevant NTR Class.