

Climate change to drive growth in wood protection technology

By **Steve Young**,
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The UK climate is getting warmer and wetter and British Standards and Building Regulations are likely to change as a result. From providing optional insurance against the risk of wood decay or insect attack right now, the use of pre-treated wood is likely to become a standard requirement for many structural timber components.

Carbon storage and supply sustainability are the environmental benefits driving the renaissance in the use of wood as a construction material. And it is another environmental factor – climate change – that is likely to drive a complementary growth in the use of pre-treated wood. Pre-treatment combats any potential for decay or wood boring insects and makes construction timber highly durable for 60 years and more.

BSI moves to adapt British Standards for climate change

A warmer, wetter and more extreme climate for the UK is now regarded as inevitable, according to Defra's Climate Projections. It is also inevitable that more extreme weather patterns will increase the potential for fungal decay and insect attack in components made from un-treated softwoods of low natural durability. Roofing timbers exposed to wetting from leaks are particularly vulnerable. Almost every stick of softwood timber currently used in roof construction today is untreated. When it costs just £30 to pre-treat the volume of timber required for a typical house to use unprotected wood seems like folly. The Climate Change Act 2008 requires that public and statutory organisations take action to adapt to the more extreme weather patterns predicted by Defra. The British Standards Institution (BSI) has identified thirteen potential climate change impacts on standards that need to be addressed if a building is to have a long and useful life. As a consequence, BSI has instructed the committees responsible for the content of all British Standards to review the implications of climate change impacts and incorporate new guidance where appropriate.

Pre-treatment no longer an optional extra

BSI Committee B515 deals with the wood preservation standard, BS8417. B515 Chairman, Dr Chris Coggins says that the consideration of more extreme weather conditions are not included

in the current 2014 version of BS8417 but this is likely to change sooner rather than later: "Improved guidance on timber protection standards to meet climate change impacts are essential," says Coggins who has confirmed that following the recent publication of BS EN 350: 2016 relating to the durability of certain species and the service life expectations of exposed heartwood then a review of BS8417 will follow in 2017. WPA Director Steve Young says that WPA will be making a strong case for moving the pre-treatment of some constructional timber components from 'optional' to 'essential'.

He says: "Building designers cannot afford to wait for climate change to reveal its full effects over time, they need to act now by specifying timber that is fit to take on the likely challenges to its long term performance and particularly the risk posed by the spread of termites and House longhorn beetle caused by a warmer climate."

Warmer climate means an increased threat of insects

Termites have spread from southern Europe through France and Germany and are now found in Calais. Occasional isolated outbreaks have occurred in the UK, the most recent being in North Devon. The Government has funded extensive attempts to eradicate this outbreak but without success. It is probably only a matter of time before termites become a threat in Southern England. Although the House longhorn beetle is active in North West Surrey and all softwood roofing timbers in that area must be treated, outbreaks in other areas UK are not unknown. WPA warns that the spread of House longhorn beetle and termites are likely to be an inevitable consequence of a warmer UK climate.

This should not come as a surprise. WPA first published a Climate Change Guidance Note in 1996. This highlighted the increased risk to non-durable timber from insects like termites and House longhorn beetle and from damp penetration caused by driving rain, damaged roofs, condensation and flash flooding. About the same time, BRE also published a report on climate change impact on UK Building Regulations which also highlighted the potential spread of termites, House long horn beetle and other insects. These early warnings fell on deaf ears.

WPA set to provide essential specification guidance

Whilst most designers now accept the need to pre-treat softwood components exposed to the elements against the risk of decay the use of treated wood for internal structural applications and roof-



Pre-treatment for roofing and structural timber may become essential when the impacts of warmer and wetter climate conditions are adopted into British Standards.

Inset: A 25-year-old structural veranda post infested with Longhorn beetle, SE London; rare outside its Surrey heartland but a sign of things to come for the rest of UK?



ing timbers has tended to be viewed as an optional extra. The risk of insect attack during the life of a building continues to be disregarded altogether. The WPA believes that the move by BSI to factor climate change impacts into British Standards will change this. Steve Young confirms that WPA strategy is focused on raising awareness about the quality treatment of wood and being the champion for its specification as a modern, relevant and cost-effective construction material. He says: "Climate change will inevitably open opportunities for preservative treatments and modified woods and the WPA intends to help develop those opportunities by providing the essential generic technical guidance that supplements the minimum requirements set out in British Standards"

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Counting the cost of timber treatment compliance

With concerns about the meaningfulness and costs of timber treatment compliance, Confor has been lobbying hard to keep charge levels fair.

Timber, as a product, has excellent environmental credentials. Commonly used softwoods require preservative protection before they can be used for many outdoor applications. Most timber companies operating industrial wood preservation plant require Pollution Prevention & Control (PPC) permits to operate.

What is happening in Scotland?

In Scotland, these operations received notification from the Scottish Environmental Protection Agency (SEPA) informing them of new, more complex permit charging schemes resulting in higher charges than elsewhere in the UK, as well as costly compliance requirements.

At the beginning of 2016, Confor successfully lobbied the forestry minister to reduce the standard permitting charge implementing the Industrial Emissions Directive. We are still challenging interpretation of the Directive as it is clear that other Member States in the EU are not applying it the same way as in the UK.

In recent months, Confor has co-ordinated meetings with SEPA involving the Wood Protection Association and UKFPA as businesses in the sector face higher charging levels which are being phased in that will increase PPC permit annual subsistence fees for such operations from the previous level of £2320 per installation to £3566. This 54% overall increase is hugely significant for our industry, which is largely made up of small and medium sized businesses.

England and Wales

Charges have not risen at all this year and look to remain stable next year too. In 2-3 years, the charge level for a permitted wood treatment plant in Lockerbie will be more than twice that of an almost identical operation in Carlisle. Of course, this effect is multiplied many times over for major sawmilling groups with multiple treatment sites, of which there are several in Scotland.

SEPA has given permit holders no real explanation for these changes, other than an unfocussed 'need to fully recover overheads'.

Industry has significant concerns about consistency, inflexibility and proportionality in setting the compliance conditions for permitting and, in particular, the hidden costs of compliance in terms of management time

and the need to employ consultants and sub-contractors to carry out specialist aspects of the work.

Confor has made clear that more thought needs to be given by SEPA to providing regional inspectors with guidance on the appropriate degree of regulation for our sector, proportionate to the level of risk rather than using a 'one size fits all' approach to permitting. We are also organising industry meetings with SEPA to discuss the charging regime and associated implementing requirements.

How it adds up

Environmental monitoring

No wood treatment companies have the expertise to conduct this work without expert help, the cost of which can easily exceed £10,000 in the first 18 months and many times that for major sawmilling groups.

Noise measurement

Whilst there is clearly no significant noise hazard from a wood treatment plant (this is obvious from a site visit), SEPA have refused industry's proposal that monitoring is periodically carried out in-house and insisted on a disproportionately sophisticated survey that will require the use of expensive external consultants (again costing several thousands).

Resource utilisation auditing

Wood treatment plants' operational use of resources is extremely simple and low level. As closed systems they also produce very little waste. Reporting in this area could be simple and concise but again SEPA are asking for a level of detail that will take up much valuable management time.

All of these are potentially very damaging to the economic viability of what are mostly small to medium-sized companies.

Buying preservative-treated wood

Guidance from the Wood Protection Association

Assume that all treated wood is the same and you could be making a big mistake. Whilst one piece of treated wood may look very much like another, the level of preservative protection could be very different.

That's because the British Standard for wood preservation, BS8417, requires that the level of preservative impregnated into the wood reflect the components' end use and service life.

An outdoor deck or fence post in ground

contact, for example, will contain higher levels of preservative than an internal floor joist. The level of treatment reflects the risk of wetting and the onset of decay in service. Use a joist treated for an indoor application for, say, a garden deck joist and premature failure is almost inevitable.

BS8417 groups wood used in construction and landscaping into four Use Classes:

Use class 1: for internal applications where there is infrequent risk of wetting

Use class 2: for internal applications such as roof timbers where the wood may be exposed

to wetting, condensation or damp over its service life

Use class 3: wood exposed to the weather but not in direct soil or fresh water contact

Use class 4: wood used in permanent contact with the ground or fresh water

BS8417 further tailors the level of preservative treatment of a component by service life. The Standard provides for three desired service life periods - 15 years, 30 years and 60 years. Treated wood performs fantastically when it is treated correctly for its end use and desired service life.

WPA's 10 top tips for buying preservative-treated wood

1 Always identify the application Use Class before ordering

2 Tell your supplier, in writing on a purchase order, preferably, that the wood must be impregnated in accordance with BS8417 for this Use Class.

3 Specify the desired service life period you require: 15, 30 or 60 years.

For external applications like fencing and decking 15 years is the default standard. Longer desired service life components – for example – 30 years fence posts, are usually treated to order so build this lead time into your project plans.

4 Incising (symmetrical piercing of the surface of sawn timber) is used to assist preservative penetration. Expect to see it on square sawn posts treated for the higher 30-year specification in BS8417.

5 Ask your supplier to confirm on the delivery note/ invoice or provide a separate treatment certificate that the wood supplied meets your specification.

6 When buying treated wood from stock always get the supplier to verify in writing which Use Class and desired service life standard it is treated for.

7 Never substitute wood treated for an indoor Use Class for an external Use Class – failure is inevitable.

8 For wood in permanent ground or freshwater contact Use Class 4 levels of protection must be achieved. Anything less and service life, structural safety and customer satisfaction will be compromised.

9 Always use end grain preservative for sealing untreated wood exposed when cross cutting, notching or boring treated products during installation.

10 When third-party reassurance of fitness for purpose is required ask for components certificated under the WPA Benchmark quality assurance scheme. Find sources at www.wood-protection.org/quality-assurance/

If in doubt call the WPA helpline for free guidance on 01977 558274 or email info@wood-protection.org



FENCING UPDATE

UK Fencing Championships

It's that time of the year again! We are just in the early process of preparing for the 2017 UK Fencing Championships to be held on the 19 July at Driffeld Show.

If you are interested in competing in the 2017 competition please email, simone@fencing-news.co.uk, fax 01274 621 730 or post: Fencing News, Office 1, 40 Stockhill Road, Greengates, Bradford, BD10 9AX

UK-manufactured Hampton metal straining systems launched

Incorporating angle strainer and box strainer options, users of the new Hampton metal strainer systems can benefit from the superior durability and versatility of these ingenious metal designs.

The Hampton metal strainer system is easy to assemble and quick to install providing a

Date for the diary
19 July 2017

hassle free option that will last in excess of thirty years in normal conditions. The Hampton designed and patented, stainless steel strut connector, makes a change in the fence direction simple. Furthermore, ANY direction of the fence line can be achieved and multiple struts can be attached to any Hampton strainer post.

This excellent long-life alternative to traditional timber strainer assemblies is lightweight yet incredibly strong. The heavily galvanised tubular construction allows strainers to be easily erected. Hand held post drivers can normally be used, offering a real benefit when rough terrain prevents vehicular access. Installers can discard their chain saws and the heavy machinery usually required for the installation of timber straining posts. Hampton Metal Strainer Systems are straightforward, uncomplicated weld-free alternatives to wood and are manufactured in the UK only by Hampton Steel Ltd.

The full Hampton product range can be viewed at www.hamptonsteel.co.uk. Contact the Hampton team on 01933 234070 to discuss your fencing requirements.



Hampton stand at the APF 2016