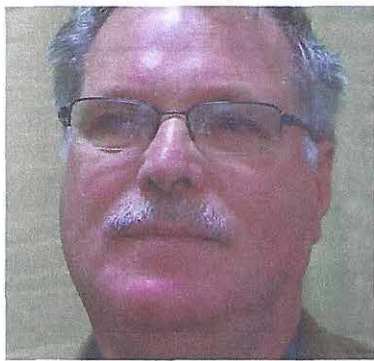




SEPARATING FICTION FROM FACT

Consulting wood scientist **Jim Coulson** looks at the subject of wood preservation in this latest Talking Timber column



Everybody knows that wood preservatives help to make wood more resistant to being eaten by rot or "woodworm". And that's fine, so far as it goes.

But then most people – whether they are the general public, or those who work in the wood industries – will just stop at that point and not give very much thought to the finer points of "how", "why" or "what" the use of wood preservatives actually involves.

This article seeks to dispel some of the old wives' tales that still persist; and to give people a better idea of what using wood preservatives can actually achieve in practice.

It is surprising how many people just assume that wood preservatives, when they are impregnated into timber – or "pressure treated" as it is so often called – have the chemicals going right through them, from the outside to the very core of the timber section.

But that is very rarely the case: the truth is that far more often, the treatment is only in the form of a "skin" of protection around the outside of the piece.

There are several reasons for this: first of all, it is not so easy for the pressure exerted by the treatment tank to get the preservative liquid to penetrate deeply into the wood.

Secondly, different timbers take up preservatives at very different rates.

Thirdly, different end-uses of timber have different requirements as to the depth of preservative penetration needed into the piece – as well as the actual concentration of preservative chemical required.

Here in the UK, the British Standard Code of Practice that we use for the Preservation of Timber is BS 8417: 2011 +A1: 2014 (that long string of numbers simply means that the document was revised and reissued in 2011, but then it had an additional amendment added to it in 2014).

This Standard gives a number of things which should be done, in order to give any treated timber items the "correct" performance, related to their specific end use.

From the above, it should be apparent that not every piece of timber, for every use, requires – or will even contain – the same amount of chemical treatment.

And in addition to the end-use situation, there is something called the "desired service life" of the treated product, which also needs to be fed into the "how much preservative should I have in my wood?" equation: so it's not quite as straightforward as you might imagine!

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As an example, the use of timber for roofing battens for a 60-year life (typical of a "permanent" building) requires *no penetration* of the preservative into the surface of the timber at all: whereas fence posts for a "desired" 15-year life require a minimum 6mm penetration into all of the post's surfaces.

And using so-called "resistant" wood species – such as spruce – will not guarantee that the 6mm penetration depth will be achieved: so some additional process, such as "incising" (cutting slits into the wood's surface), may be needed.

Treating timber is a complicated business: but the most important thing to remember is that not every timber treats to the same level with the same ease: some require greater pressure – and some cannot be treated well no matter what pressure is applied to them in the tank.

And please also note that where a "desired service life" is quoted, not *every* piece of treated timber will necessarily last for that minimum time period: a few will decay earlier.

But that of itself does not mean that the timber was "poorly treated", so long as the majority of the batch survives for the desired time. ■

Below: Pressure treatment of timber

