Treated timber – the natural choice for fencing

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The last issue of Fencing News carried a letter from Richard Knight about his experience with under-performing fence posts. Richard concluded that the only difference in recent years was the change from CCA to what he called the “new preservatives” and cast doubt on their ability to protect timber in ground contact.

While from Richard Knight’s perspective that might appear to be the answer, the Wood Protection Association’s (WPA) knowledge of the development of the new preservatives being used today and the outcome of its investigation of the reports of premature failure of treated fence posts paints a very different picture.

Confidence in the preservatives

Why do we have such confidence in the performance of preservatives supplied by WPA members? Preservatives are supplied by companies serving an international market and who have strong reputations for excellence in research and development both in the UK and overseas. The companies involved have spent years evaluating the performance of new preservative formulations not only because the future for CCA was in doubt but because innovation has long been a driver in this industry.

Preservative development involves teams of chemists and wood preservation specialists testing formulations first in the laboratory using well-established mainly European and North American standard tests then with long term ground contact field trials. The latter allow predictions to be made of service life of full size timbers though the final proof comes from performance in service.

A long-term field test of treated stakes

Currently with this test experience and around 20 years of service with the new preservatives in other countries, manufacturers are confident that the BS 8417 15 or 30 year desired service life categories – depending on market requirements - can be achieved for Use Class 4.

Treatment and service life

The service life indicated in standards like BS 8417 can only be fulfilled if treatment conforms to the combination of penetration and retention of preservative the standard requires. The WPA has checked the penetration and loading of a number of posts said to have failed prematurely and has also seen freshly-treated material.

Test showing heartwood (red) and copper penetration (blue) in two pine posts (left: freshly treated, sapwood 120% moisture content, right: above ground section of failed post)

The tests have shown these samples to have been treated with either CCA, chromated copper or copper-organic preservatives; species include pine and spruce. In all cases the retention has not conformed to the requirement of standards and especially obvious has been the lack of penetration. In one case the sapwood of a pine sample was found to be at 120% moisture content even after being in the mail for a couple of weeks and it was not therefore a surprise that the penetration was almost non-existent and the copper loading less than 10% of that required by BS 8417 for Use Class 4.

We are also aware that a proportion of timber going into fencing has been imported treated from overseas suppliers. Does this material conform to the fitness for purpose test?

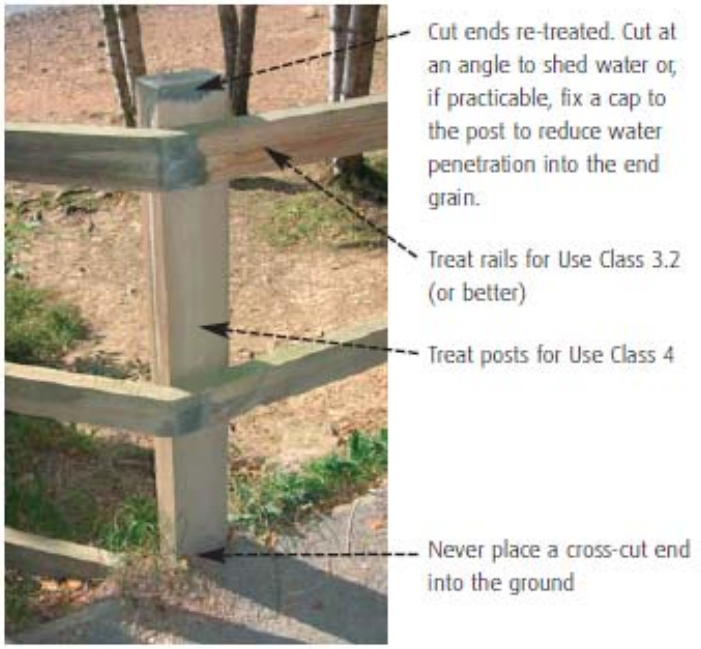
Specification and ‘fit for purpose’

It is not clear, in the case of the samples the WPA has examined, what specification was passed down the supply chain to the treatment company. It could have been ‘Treated posts’, it could

have been ‘Green treated’, it could have been ‘Fence posts’ and it could have been, for example:

Fence posts treated in accordance with BS 8417, Use Class 4, 15 year service life.

You might think that only in the case of the latter clear and unambiguous specification can the customer expect to get (and must pay for) a product in which he can have confidence. We certainly want to see more and better specifications being used but suppliers of treated timber must also accept responsibility as experts in their field to provide product that is fit for purpose. It may be that a 15 year service life (the minimum in BS 8417) is more than would meet a fitness for purpose test in court; but it is also clear that posts treated in such a condition (or to an inappropriate Use Class) that a life of less than 3 years is achieved is unlikely to be regarded as fit for purpose by any reasonable person.



Good practice for post installation

The customer or installer has obligations too though – basic good practice techniques must be followed including avoiding cutting, boring or notching on site; if those operations are unavoidable then exposed surfaces must be retreated with a preservative recommended by the manufacturer; and, for example, place an uncut end in the ground. Without these, no fitness for purpose obligations on the part of the supplier can ensure an adequate service life.

The market for agricultural and domestic fencing is not the same as that for highway fencing but Peter Walters drew attention to the issues that are common to both in his recent article in Fencing News (*To treat or not to treat*). Market prices will affect what the customer can expect for his money but ‘fitness for purpose’ obligations provide a minimum standard below which it is

dangerous to go whatever the price – the viability of companies in the supply chain and even the future of wood as a fencing material is at risk.

The WPA has published a Fact File with more detail of its investigations and recommendations on treatment and good installation practice and this is obtainable from us on request. Our manual *Industrial Wood Preservation – Specification and Practice* can be downloaded from our website or can be obtained on request.

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