What makes a Quality Timber Treatment?

Preservative pressure treatments will significantly extend the service life of agricultural and fencing timbers by providing an effective protection against all forms of wood decay and insect attack. Carried out in industrial treatment vessels by trained operators, treatments use a proven process of pressure and vacuum cycles to impregnate the wood preservative deep and permanently into the timber cells.

Since 2003, 'latest generation' products have been introduced by preservative suppliers to replace the traditional CCA (chromated copper arsenate) based formulations, which now have a restricted use. These 'latest generation' products, commonly known as 'copper organics', have very different performance credentials to each other. Therefore, let's ask the questions 'what makes a quality timber treatment?' and 'whether you are getting what you expect from treated timber around the farm?'

TANALISED® E

PRESSURE TREATED TIMBER

There are 4 main elements to be considered by any company providing a quality timber treatment:

- What species of timber is being treated?
- How well is the timber prepared prior to treatment?
- How effective is the wood preservative?
- How professional is the treatment process?

Timber Species

All timber species have their own characteristics with some more suitable for certain end uses and some easier to preservative treat than others. For the fencing and agricultural markets in the UK, the main species are Spruce, Pine, Larch and Douglas Fir, because of their abundance and availability. All these species are used by treatment companies, more often than not sourced from recognised sustainable resources. And all of these species can be given an effective preservative pre-treatment for both in and out of ground contact applications to provide an effective 15 year desired service life against the threat of decay and insect attack. Increasingly, treaters are offering fencing posts manufactured from Pine, Larch and Douglas Fir, as these species will more readily accept preservative treatment.

In the days of CCA wood preservatives, the quality of the treatments were measured by the treatment cycles, in terms of times, pressure and vacuum periods, with no particular measurement of the preservative penetration into the timber. For 'latest generation' products, industry requirements are more focussed on penetration results and, for the treatment of Spruce ground contact timbers in particular, there is a minimum requirement of 6mm preservative penetration into the sapwood of the timber component.

Ask your supplier which species they use in their timber components? If they utilise Spruce, ask them how they ensure an effective treatment and whether they are achieving the 6mm sapwood penetration?

Timber Preparation

All harvested timbers have a moisture content – a measurable level of water within the wood. A key criterion is that this moisture content should be at a specific level to allow the wood preservative to penetrate sufficiently during the pressurised treatment process. Therefore, freshly harvested timbers have to be dried to reduce the initial moisture content. Also, if the timber is dried prior to treatment, it is much less likely to 'split' in service; 'splits' can give the potential for inner areas of the treated components to be attacked by wood destroying organisms.

From a treatment point of view, the most economical way of achieving this moisture content reduction is by natural air drying methods. Harvested timbers can be held in stock, both prior to and after machining, to let the moisture content reduce to the required level. Careful rotation of timber stocks will also ensure the use of older and drier stocks first for treatment. Some companies also utilise kilning to carefully dry their timbers down to the correct moisture content, ready for treatment.

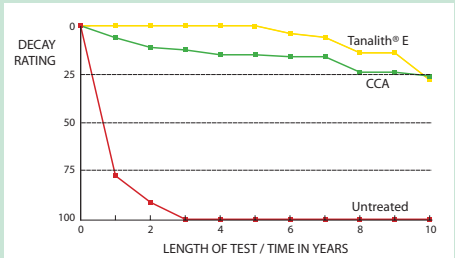
Ask your supplier how they dry their timbers and how they check the moisture content of their timber prior to treatment?

Timber Preservative

All 'latest generation' wood preservatives are different to each other and have different performance credentials. Unlike some European countries, all that is currently needed to place a new timber preservative onto the market in the UK is to prove its performance through a series of laboratory tests. However, can this be a true test, particularly when treated fencing and agricultural timbers are used externally and often in ground contact situations – the most extreme test for timber?

Tanalith® E wood preservative is a unique formulation product from Arch Timber Protection, world leaders in timber treatment technology. Unlike some other 'latest generation' products, Tanalith® E has been rigorously tested by Arch and independent authorities in field test sites around the world, all with differing climatic and potential decay threat conditions, to achieve the optimum protection for external, ground contact timbers.

Tanalith® E wood preservative has now been used successfully since 1999 in the UK and even longer across mainland Europe. It is now the preferred preservative in over 35 countries around the world. It is this performance record that underpins the 15 year desired service performance on Tanalised® E pressure treated timbers.



The graph shows that small samples of TANALITH® E pressure treated timber are providing outstanding performance in an aggressive field test site, even after 10 years exposure. This demonstrates that professionally treated commercial sized timbers can achieve a desired service life of 15 years or more in ground contact.

Ask your supplier which wood preservative they use and whether it has field test results that will confirm a 15 year desired service life performance for ground contact timbers?

Treatment Process

The level of preservative treatment given to timber can be varied according to its eventual end use. Within the industry there are Use Classes, which define the typical end use of the timber and the appropriate level of preservative protection required. The main Use Classes range from 1 to 4. Timbers that require the least level of protection, for instance internal building timbers, where there is no chance of wetting, are considered as Use Class 1. External timbers, which are permanently exposed to the weather and could be either used in or out of ground contact, require a higher degree of protection and are designated in Use Classes 3.2 (external, out of ground contact) and 4 (external, in ground contact).

USE CLASS SUMMARY

1	**INTERNAL, dry** eg. upper floor joists
2	**INTERNAL, risk of wetting** eg. tiling battens
3.1	**OUTDOORS, coated above ground** eg. decorated cladding
3.2	**OUTDOORS, uncoated above ground** eg. fence rails
4	**DIRECT SOIL OR FRESH WATER CONTACT** eg. fence posts

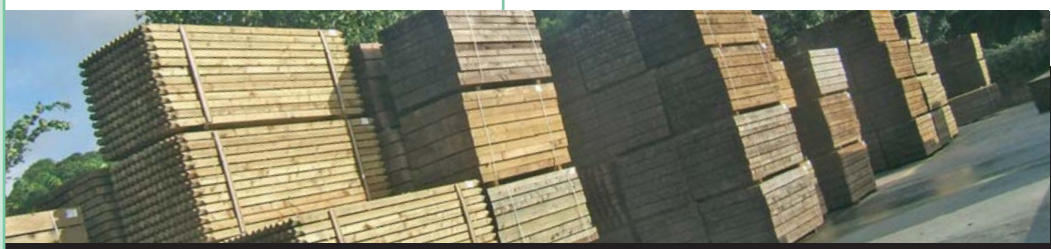
Timber treatment plant operators should be fully trained, and will ensure treatments for fencing and agricultural timbers are carried out to meet either Use Class 3.2 or 4, to give a minimum desired service life of 15 years.

Ask your supplier if their plant operators are fully trained and to what Use Classes they are treating your fencing and agricultural timbers?

Using Timber Correctly

Finally, just like any product, treated timber has to be used correctly. With exterior fencing and agricultural treated timbers, there are a few considerations which are particularly important at the installation stage that you or your fencing contractor should note.

- Any cuts or notches made to the treated timbers **must** be treated with Ensele® brush-on end grain preservative to maintain the integrity of the protection. Ensele® should be available from treatment companies in either 1kg or 5kg cans.
- Only timbers treated to Use Class 4 requirements can be used in ground contact situations.
- Use Class 3.2 treated components - fence rails, fence boards, gates, Yorkshire boarding - should only be used for out of ground contact situations.
- Fence posts **must not** be pointed after treatment.
- The shortening of fence posts should be avoided, whenever possible. If unavoidable, the cut end **must never** be used in ground contact.
- Any pressure treated timbers which are further processed, eg. planed, **must** be returned to the supplier for re-treatment.



Quality Treaters

Within the UK there is a wide network of treatment companies that are both using Tanalith® E as their preferred preservative and employing the quality procedures mentioned above. To find out your nearest supplier, contact the Arch Timber Protection product advisory service on **01977 714000** or e-mail **advice@archchemicals.com**

Disclaimer: Whilst every attempt has been made to ensure the accuracy and reliability of the information contained in this document, Arch Timber Protection gives no undertaking to that effect and no responsibility can be accepted for reliance on this information. Arch Timber Protection updates its literature as and when necessary. Please ensure you have an up to date copy.