LINNELL BROS (Silverstone)

Engineering & Technical Services Report

Part A2 Non-Technical Summary

Date: 12th January 2015
Timber Treatment installation Non-Technical Summary

General background information

The timber treatment installation is a fully contained system that utilises Tanalith E water based wood preservative, applied by a proven high pressure impregnation process, in order to protect timbers against the threat of wood decay and insect attack and increase the service life of the timbers, that would otherwise fail and be unusable in 18-24 months. Once treated, timbers can last between 15 and 30 years following correct treatment with the Tanalith E product to be used on site.

The timber treatment plants are within a purpose built building. Within the building the treatment plants are sited within a large sealed concrete containment bund which is designed to hold all preservative present on site in the very unlikely event of a containment issue. The timber handling area is also designed with a fall which directs any surplus preservative from the treated timbers whilst they are drying back to the main containment bund for recovery and re-use in any future treatment process.

The treatment facility as planned consists of two industrial timber impregnation plants, one operating on standard Tanalith E preservative solution and the other with the addition of Tanatone brown dye to colour as well as protect the treated timber. Standard Tanalith E treated timber will have a pale green colour immediately after treatment which then will gradually fade on exposure to sunlight to a warm honey brown and eventually to a natural silver grey colour.

Simple Overview of the Wood Treatment Process

- Untreated timbers ready for treatment are delivered to the timber treatment building
- The packs of timber are then placed on to the rail track system used to move the timbers in and out of the treatment vessel and secured in place using straps.
- Once loaded in to the vessel the door of the treatment plant is closed and locked and the wood is then treated to the required specification, for its eventual end use, also known as Use Class. For more information on the treatment cycle go to [http://www.tanalisedtimber.co.uk/Tanalised-Timber/The-treatment-process](http://www.tanalisedtimber.co.uk/Tanalised-Timber/The-treatment-process)
- Once the treatment cycle has completed and all preservative has been returned to the dedicated product storage tank. The timbers are removed from the treatment vessel and then placed within the contained and designated timber handling area to dry.
- Once dry, the treated timbers can be removed for either storage outside or for loading on to a lorry for delivery to the customer.
Basis of Safe Environmental Operation

- **Total Containment**
  The entire treatment plant operation is fully bunded and can contain in excess of the total amount of preservative that will be present on site. Preservative is delivered to the treatment facility in specialised bulk road tanker. Once the access door to the front of the building is unlocked and opened the tanker reverses the back of the tanker to the integral discharge point within the contained bunded area before connecting up the discharge hose. The required amount of wood preservative product is discharged to the on site concentrated product storage. The offloading is fully supervised by the fully trained tanker driver and site personnel to ensure a safe and controlled delivery. Other additives used in the process are delivered in UN approved intermediate bulk containers (IBC) on a just in time basis and stored within the secure treatment plant facility in a purpose built holding area.

  The concentrated product is mixed using the timber treatment plant mixing system. This accurately mixes the concentrated product with water and allows dosing of the other required additives to the correct levels. The ready to use product is typically at 3%w/v concentration.

- **Rain water recovery**
  To minimise the use of towns water, any rainwater failing on to the timber handling area on the site is collected and stored. This water is then transferred in to the timber treatment installation for use in the process.

- **Accurately controlled processing**
  Different timber commodities require different amounts of preservative to be applied through the high pressure impregnation process depending upon their end use. The control system cycles can be adjusted so that the impregnation process optimises the amount of product used giving both an economic and environmental benefit.

- **Energy Management**
  The control system minimises electricity consumption by only running motors on pumps when necessary.

- **Effective preservative**
  Tanalith E 8000 is Arch Timber Protection’s latest generation in the Tanalith E range of products that have been in use in the UK for many years and is subject to rigorous testing to demonstrate its effectiveness for the long term protection of timber against the threat of wood decay and insect attack. It also conforms to all the relevant regulatory and health and safety legislation associated with professional, industrial use. From commercial experience and targeted research the amount of preservative product that has to be put in to the wood to be effective is reduced to a minimum level helping to reduce chemical consumption whilst ensuring satisfactory performance of the treated wood in service.
Site Operation

The treatment plants will only be operated by authorised and trained site personnel. The site operates to high operational standards with protection of the environment key to the operations. A full maintenance programme will be in place to ensure the treatment plants are always being operated in a safe and efficient manner.