**TIMBER TREATMENT INSTALLATION NON TECHNICAL SUMMARY**

**Document Reference D1**

**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.

Within the building the treatment plants are sited within a large concrete containment bund which is designed to hold all preservative present on site in the very unlikely event of leak of working solution or chemical concentrate or additives. The timber handling and plant loading 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 consists of four industrial timber impregnation plants, two operating on standard Tanalith E preservative solution, another with the addition of Tanatone brown dye and a fourth vessel able to treat with or without the Tanatone dye. Standard Tanalith E treated timber will have a pale green colour immediately after treatment which then will gradually fade on exposure to sunlight, 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 bogies on a 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>

* Once the treatment cycle is complete all preservative is returned to the appropriate working solution storage tank. The timbers are removed from the treatment vessel and then placed within the designated timber handling area to dry.
* Once dry, the treated timbers can be removed for either storage elsewhere on site, 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 will be delivered to the treatment facility in specialised bulk road tanker. The tanker reverses to the discharge point and connects a hose to the bulk storage tank situated within the bunded area. The required amount of wood preservative product is discharged to the bulk concentrate 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’s) and stored within the treatment plant facility before loading onto the automatic mixing facility when required.

The concentrated product is mixed using the timber treatment plant control system provided by Arch Timber Protection known as Auto-Treater. This accurately mixes the concentrated product with water and doses 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 mains water, and to recycle drainage from the timber drying area, rainwater is collected and stored for use in making up the working solutions.

* **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 Auto-Treater control system closely controls the impregnation process to optimise 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. This means when certain process parameters are achieved the pumps are stopped and only restart if the process deviates away from the required set point. This ensures the most energy efficient way of operating the timber treatment plants.

* **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 are only be operated by authorised and trained site personnel. A full maintenance programme is in place to ensure the treatment plants are always being operated in a safe and efficient manner.