

Lowfield Timber Frames Limited

Part A2 Application

Non-Technical Summary

August 2026

Who the Operator is and what do they plan to do:

Lowfield Timber Frames Limited (the Operator) is a specialist manufacturer of engineered timber products for the commercial and domestic construction trade. The Operator proposes to install and operate a single water-based treatment plant to protect certain building products from rot, mould and insect attack. The permit being applied for is a 'Part A2' Permit for 'Wood preservation with Chemicals' which is required where the treatment capability is 75m³ or more of timber in and 24-hour period. Whilst it is unlikely that the plant will reach that daily through put, the plant has the theoretical 24-hour technical capability.

The proposed vessel specification is

Protim MAXI 'Vac-Vac' double vacuum low pressure treatment plant comprising one 7.6m x 1.37m x 1.37m vessel, 18,750 litre operational storage vessel (OSV), 18,750 litre bulk storage vessel (BSV), 43,800 litre containment bund (>110% of total tank volume)

The proposed treating solutions are:

Protim ME7 Clear Treating Solution
Protim Golden Yellow colour
Antifoam AF1

How the plant will operate:

Timber is machined to customer specification on site in the factory building and 'packs' are prepared for treatment. Pack preparation includes building the pack with 'stickers' and 'supports' to make gaps between the timber to be treated and a slope on the overall pack to aid the training of treated timber. The degree of slope and sticking is largely dependant on the pack being treated. The pack to be treated will be assigned a pack reference, and transported to the treatment area by fork truck.

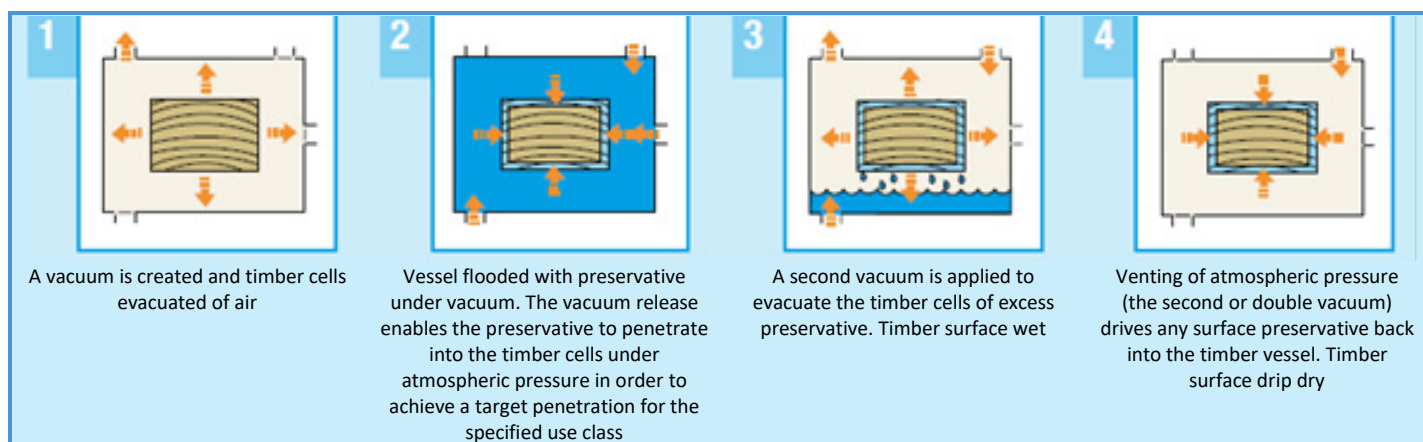


Figure 1: Typical timber treatment cycle

At the treatment plant, the pack to be treated will be loaded into the treatment vessel via the vessels dedicated loading track system. The vessel door will then be closed and interlocked shut. The treatment cycle will depend on the type of wood being treated and the desired use class but will often be in the range of an hour-long cycle.

The timber treatment process works as follows, and as illustrated in figure 1. A vacuum is applied and pulls air from the vessel and the cells of the timber being treated. Still under vacuum, the vessel is filled with preservative solution from the OSV. When the vessel is filled with solution, the vacuum is released and a slight pressure is applied. The change from vacuum to pressure forces the preservative into the cell structure of the wood. The amount of pressure applied depends on the use class of the wood, but for this type of plant it will always be a low pressure. After the pressure period, the preservative is pumped back to the OSV and a second vacuum is applied to remove excess preservative from the treated pack.

After treatment treated, the pack is held in the vessel for initial preservative run off before being withdrawn from the vessel along its track system. Any residual preservative solution from freshly treated packs is contained and collected for re-use. Treated will be left to dry on the track system. Because of the low treatment throughput, no additional drip-dry area is required.

The preservative will be delivered to site ready to use and stored in the BSV within the plant containment bund. Additives such as Golden Yellow colour and Antifoam will be delivered and stored in 20 litre containers. All chemicals not supplied in bulk will either added at the time of delivery or stored within a suitable bund.

What will the likely emissions be?

The timber preservation activities will be undertaken within a fully contained, engineered bunded area fully under-cover in a building that will be equipped with a sealed floor and containment kerbs. The treatment activity will not include any combustion processes, nor will there be any process chimneys or associated ductwork. This means that under normal operation:

- There will be no contained emissions to air.
- There will be no contained emissions to land.
- There will be no contained emissions to water.
- There are no drains inside the timber treatment area.
- Abatement plant will not be necessary to meet any emission limit values.
- There will no fugitive emissions to air (including odour).
- The operating of the timber treatment plan will not a significant noise source.

How will the Operator demonstrate that land / groundwater has not been contaminated?

The Environmental Permitting Regulations require that the provisions of the Industrial Emissions Directive are applied in that the land is returned to a satisfactory state upon the eventual closure and decommissioning of the timber treatment activity.

The preservative solution is water-based, and one of the most environmentally friendly on the market. The product data sheet confirms that the product contains relevant hazardous substances that the

environment needs to be protected from, therefore the Operator proposes to agree a baseline report investigation plan with the Regulator as part of the application process.

The Operator will undertake future groundwater sampling in accordance with a documented risk assessment once every two years to ensure that the control measures are working correctly. The risk assessment is a flow diagram detailed in the permit application.

A permit surrender plan has been drafted and details the process of closure and decommissioning. The site condition report and the baseline information will be used to return the site to a satisfactory state if required.

What management systems are proposed?

The Operator proposes to use the following management systems to minimise the risk of leaks and spills, to use resources efficiently and to minimise waste:

- Documented operating procedures.
- Structured plant operator training.
- Annual report of materials used and statement of site condition.
- Risk assessed ongoing groundwater sampling plan.
- Documented in-house and third-party plant maintenance.
- There will no fugitive emissions to air (including odour).

What Best Available Techniques apply?

A summary of STS BREF BAT conclusions applicable to the Operators proposed wood preservation activity are detailed in the following table.

BAT	Description	Applicable?
1	Environmental Management systems	Generally applicable
30	Improving overall environmental performance	Generally applicable
31	Reducing solvent emissions	Generally applicable
32	Substitution of harmful substances	Generally applicable
33	Resource efficiency	Generally applicable
34	Delivery, storage and handling of chemicals	Generally applicable
35	Preparation/conditioning of wood	Generally applicable
36	Non-pressure application processes	No: The activity will be a pressure application process
37	Spray application processes	No: The activity will not involve spray application processes
38	Pressure application processes	Generally applicable
39	Energy reduction in pressure application processes	Generally applicable
40	Post-treatment conditioning and interim storage	Generally applicable
41	Reducing waste	Generally applicable
42	Waste management	Generally applicable

BAT	Description	Applicable?
43	Emissions to water	Generally applicable
44	Groundwater quality	Generally applicable
45	Emissions in waste gases	No: Applies to Solvent / creosote activities only
46	Emissions to soil and groundwater	Generally applicable
47	Emissions to water and wastewater management	Generally applicable
48	Creosote operations	No: Applies to Solvent / creosote activities only
49	Reducing VOC emissions to air	No: Applies to Solvent / creosote activities only
50	Reducing VOC emissions (creosote impregnating oils)	No: Applies to Solvent / creosote activities only
51	Reducing VOC emissions (creosote equipment)	No: Applies to Solvent / creosote activities only
52	Reducing NOx emissions in waste gasses	No: Applies to Solvent / creosote activities only
53	Reducing noise emissions	Generally applicable

The application includes a full review of applicable BAT and how the Operator proposes to meet those requirements.