

INFORMATION SUMMARY NO 20 Nov 2013

HEAT TREATMENT CONTAINER CONVERSIONS

The Thermokil heat treatment system has now been successfully adapted for use in the timber industry to heat-treat pallets, packing cases and timber for export phytosanitary purposes to meet the requirements of ISPM 15.

Thermokil Ltd have developed a unique system (patent applied for) of air circulation that deals with the problems associated with heating up damp timbers – which is particularly applicable to the UK and north European climates.



Thermokil container conversion at Camp Bastion Afghanistan



Up to 250 pallets like these can be heat treated for ISPM15 in a Thermokil 40' container conversion

Two purchase options are available –

Option 1

In this case Thermokil help the client to adapt his own 40' or 45' insulated container (usually either second hand refrigerated transport container or lorry back), which can be purchased at very reasonable prices. The container must be insulated and in good condition, with barn doors and a metal floor. The client is expected to provide the container, rollers, burner housing (normally a normal 20' container) a desk top computer and 240 volt power supply to the containers location.

A 45' insulated transport container when adapted with the Thermokil system can treat up to 300 8 x 8 pallets to a core temperature of 56 C for 1/2hr in an average time of 4 to 5 hrs depending on moisture content of timber, maximum block size and ambient external temperatures. Whilst exact times vary depending on environmental factors, *this is invariably much quicker than most conventional kiln cycles, and more energy efficient.* Typical fuel costs can be less than £20-00 per cycle depending on temperature and dampness of timber and time of external ambient temperature. The latest summer turnover rates for a 45' conversion units have been an average of 300 x 8 by 8 pallets, or around 200 Euro pallets per 4 hr cycle. Up to 3 cycles per day are normal using a timer system.

Option 2

Our self contained factory fitted heat treatment containers have the burner housed behind a bulkhead at the front of the container at the expense of around 1.5m of treatment space. The advantage of these self contained units, is that they are fully mobile and are available for export subject to 220volt 50Hz power supply.

The heating units in both options are indirect burn fuel oil burners, exhausting fumes to outside, leaving a safe working environment inside the kiln free from toxic gases.

In both options, pallets or timber may be loaded on rollers just as in production facilities, or on pallet trucks if preferred. The temperature monitoring system is required to monitor both core temperatures of the thickest pieces of timber and air temperature during the course of each kiln cycle to show that a core temperature of at least 56 C has been reached and held for at least 30minutes. Under ISPM 15 these records must be retained. The actual graphs from each kiln charge can be cut and pasted from the computer programme onto a Microsoft word document, which in effect is your individual heat treatment certificate. These must however be backed up by proper record keeping and application of an appropriate registered FC/HT stamp. The computer may either be housed in the burner housing or wired to a nearby office if safe passage for network cables can be found.

Clients should seek the latest clarification from the Timcon website or their ISMP 15 audit company as the requirements of the standard and countries signing up to ISPM 15 seem to change regularly.

In the UK, conversion costs for Option 1 / 40' insulated container conversion start at around £19,600 plus vat. Clients are expected to provide the insulated containers, rollers for loading, a simple computer with MS word or equivalent and a second normal 20' container to house the heating units and fuel. Conversions of other insulated structures can be considered and normal transport containers can be insulated by us to the required standard.

For Option 2 fully mobile self contained export containers, prices are £34,000 plus vat incl UK mainland delivery

Useful contact details:

- a) For more information from Thermokil Ltd, please contact us on 44 (0) 1623 624637, or email us at info@thermokil.co.uk,
- b) To contact Timcon regarding the latest information on the UK Wood Packaging Material Marking Programme phone 0116 264 0579 or see website www.timcon.org
- c) For information re ISPM 15 accreditation, phone 01964 631474 for Gavin Fry of QA Audits, or 01425 478214 for Josephine Knott of European Business Network.
- d) David Hammond (Thermokil Ltd) mobile 07870 562 874.
