



UNIT PALLETS AT FOREFRONT OF PALLET DRYING RESEARCH STUDY

Unit Pallets has recently been deeply involved in a Pallet Drying Research Study of great importance to UK timber pallet industry.

TIMCON (UK Timber Packaging and Pallet Confederation) commissioned Edinburgh Napier University Forest Products Research Institute (FPRI) in early 2013 to conduct a study into the existing practices in the UK of kiln drying pallets after manufacture.

Gil Covey, Managing Director of Unit Pallets Limited was involved in agreeing the terms of reference for the study and UPL staff were very much involved in conducting studies on drying batches of new pallets at UPL's Golborne factory. In all, over 15,000 moisture content readings were taken during the study!

Gil explains that there is a serious problem of dealing with pallet customers concerns about mould and stain especially in the food and beverage sector. This situation has been exacerbated by increased demand for "HT" heat treatment pallets whereby the risk of mould is increased unless the pallets are also kiln dried to reduce moisture content.

Customers frequently demand a specified maximum moisture content and "mould free" pallets and pallet suppliers have until now not been fully aware of the technical issues involved in meeting moisture content targets. There was also a serious lack of knowledge by of customers regarding their need to control transport, storage and packaging conditions which can lead to mould developing on pallets even if the moisture content of new pallets is taken down to a low level by the pallet manufacturer.

There was clearly an urgent need to conduct research in a manufacturing environment into the drying of assembled pallets and for suitable systems and guidelines to be made available to pallet manufacturers and pallet users.

The first step taken by TIMCON was to issue a Best Practice Guide to Stain and Mould for users of wooden pallets. This is an invaluable document for users. Unit Pallets now includes this Guide in all its quotations for dried pallets. This document can be downloaded from the TIMCON website www.timcon.org.

The study itself took many months and was led by Dr Ivor Davies of Napier University and Arthur Jenkinson (TIMCON Technical Advisor) who has a wealth of knowledge of such matters after a long career at CHEP.

The study was restricted to pallets manufactured using Sitka spruce and to the common 1200 x 1000 mm and 1200 x 800 mm 4 way entry pallets.

The risk threshold for mould is a surface moisture content of 20% so the task was to define the upper acceptance quality level (AQL). Readings had to be taken scientifically from the dry and wet zones from the upper decks and from blocks.

The key outcome of the summary is to prove that a maximum moisture content CANNOT be achieved or guaranteed. However, three levels of Service Level can be achieved:

1. **Premium: 95% - 100% conformance level.**
Requires pallets made from single timber species. Assembled pallets are dried for 14 days under ventilated cover, drying to 15% - 17% and stored under ventilated cover.
2. **Standard Plus: 85% conformance level.**
Mixed timber species, 18% - 22% moisture content and stored after drying under ventilated cover.
3. **Standard: Conformance level cannot be predicted.**
Single or mixed timber species 22%.

Pallet manufacturers now have an independently verified technical study to justify the specifications that they can agree to in a Dry Pallet Service Level Agreement (SLA).

TIMCON has recently issued an Essential Guide Pack (EGP) and manufacturers who want TIMCON accreditation must submit drying data which will be put through the TIMCON computer model for checking.

Gil advises that Unit Pallets is now applying for full TIMCON accreditation and the Company will then be in a position to negotiate credible dry pallet formulations with customers. He said "we have got to stop the industry agreeing to dry specifications that are technically impossible to meet and put pallet manufacturers at serious risk of receiving compensation claims for mould which are difficult to counter. The claims of some manufacturers clearly are not feasible and are detrimental to the reputation of the UK pallet industry. There has been great interest in this groundbreaking study in Europe and North America and I expect there to be similar studies in other countries taking account of weather conditions and timber species used in each country.

The trend across Europe is to dry assembled pallets as the sawmilling industry wants to dedicate its drying capacity to higher volume added timber products. However, the demand for KD/HT pallets is likely to sharply increase especially if ISPM15 is extended in Europe.

The James Jones Group is very well placed to react to these market trends through both its sawmilling and pallet manufacturing operations.