PalletLink Datasheet

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Flame retardancy for wood pallets

Flame retardant wood pallets, sometimes incorrectly called fire proofed, are only needed in special hazard situations. If a pallet user requires flame-retardancy this is achieved by a commercial chemical pressure *intumescent treatment*.

Some hazardous chemical producers routinely require pallets with flame retardancy; an example is when shipping hydrogen peroxide, which upon accidental leakage is liable to spontaneous combustion when exposed to air and fuel (eg. spillage on timber). This spontaneous ignition can occur without the presence of a source of ignition, making the hazards associated with leaking hydrogen peroxide drums a particular concern.

Flame-retardancy treatment suppliers provide two types of intumescent treatment - brush applied paint (such as Flamecheck) and pressure treatment (such as Dricon by Arch). Only pressure treatment is recommended for pallets because the physical movement of pallets and general wear and tear soon removes a brush applied coating. Brush applied intumescent paint is only effective in situations where no wear or foot traffic occurs such as closed-off internal roof areas in buildings.

Pressure treatments are specified by standard as a commercial non-hygroscopic intumescent Type B (permanent) treatment. This is a factory applied process, applied under a vacuum pressure cycle and applied to the pallet wood components BEFORE assembly by the pallet maker. The pallet industry has been using Pressure treatments for over 25 years with several examples where treated pallets have not added to the development of a warehouse fire. Such a process conforms to regulations of safety and environmental protection as laid down in, for example the BWPDA (now WPA - *Wood Protection Association*) Code of Practice.

If under phytosanitary ISPM 15 regulations the pallet maker needs to heat treat the components to ISPM 15 this can be done *before or after* the intumescent pressure treatment. If AFTER pressure treatment, then it is essential that the wood components are not exposed to temperatures greater than 150°F (65°C) as above this the chemicals within the surface timber cells are activated. Since ISPM 15 requires a minimum of 56°C at all points in the kiln, then, to achieve 56°C, parts of the kiln may well have spots running hotter than 56°C.

If the kiln has hot spots near to 65°C then heat treatment should take place BEFORE the intumescent treatment.

This is merely an introduction to the subject; users will need to establish for themselves any safety regulations and environmental protection with the process manufacturers.