

Columbia Forest Products' Position on Insect Infestation in Hardwood Plywood

Position summary:

The temperatures reached and sustained during veneer drying and hot pressing of Columbia Forest Products' hardwood plywood panel products exceed what is necessary to kill any latent insect infestation that may be present in the unprocessed components.

To the extent that subsequent infestations may develop after panels leave the control of Columbia Forest Products, Columbia Forest Products is not responsible and expressly disclaims any warranty, expressed or implied, regarding the condition of its products in terms of insect infestation that may occur once panels leave our control.

Background:

Infestation of wood products by insects is a natural phenomenon. Typically, there are two major groups of insects that attack wood:

- Beetles (of which there are 3 genera consisting of hundreds of species, including several that are well established in the southern United States); and
- Subterranean termites (of which there are at least 4 genera consisting of at least 2,500 species worldwide, 8 of which are well established in all the southern Atlantic and Gulf Coast states to the Pacific southwest).

Additionally, there are other less significant groups of wood assaulting insects to include dry wood termites, carpenter ants, wood wasps, and carpenter bees.

The most frequently reported infestation involves the **powder post beetle (enlarged photo, right.)** The most common of these belong to the family Lyctidae. Adults typically lay their eggs in cracks or open pores and vessels, usually in end grain regions of the wood. The eggs then hatch into larvae that consume the cellulose in the wood. Life cycle estimates vary wildly due to the large number of species, but the more commonly reported periods range from 3 to 24 months.



Powder post beetles will only lay their eggs on bare, unfinished wood. Wood that is painted, varnished, waxed or similarly sealed is generally safe from attack provided no unfinished surfaces are exposed. Bare wood can be protected from attack by painting or finishing exposed surfaces.

Green, unprocessed logs are unlikely to be assaulted by lyctid as their moisture content far exceeds the optimal environment for the powder post beetle.¹

¹ Most species of powder post beetles prefer a range of moisture content between 8% and 15%. The moisture content of green, unprocessed logs varies from 40% to over 100% (as a ratio of the weight of water in the wood to the oven dry weight of the wood).

Subterranean termites must initially have a direct route to soil to survive, as sunlight and the desiccating effects of wind will quickly dehydrate them. They can live in wood in a residence if there is sufficient moisture in the wood.

Veneer drying and hot pressing of Columbia's hardwood plywood panel products exceed what is necessary to kill any latent insect infestation that may be present in the unprocessed components. The likelihood that any active infestation by powder post beetles, subterranean termites, or any wood assaulting insects survives the processes involved in producing hardwood plywood is extremely remote.

The "International Standards for Phytosanitary Measures Guidelines for Regulating Wood Packaging Material in International Trade" (2009) (hereafter, the "ISPM"), describes internationally accepted measures that may be applied to wood packaging material to reduce significantly the risk of introduction and spread of pests that may be associated with such material. Notably, the ISPM standard expressly exempts wood packaging made wholly of processed wood material such as plywood, particleboard, oriented strand board, or veneer that have been created using glue, heat, and pressure, or a combination thereof, because such processed wood materials have such a low risk of infestation.

As noted in the ISPM standard, heat treatment is one of the approved methods for complying with the ISPM standard. The ISPM standard notes that kiln-drying of wood products at temperatures of at least 133° Fahrenheit for a period of at least 30 minutes has been proven to kill lyctid in all life stages. As the temperature increases, the amount of time necessary to kill the organisms decreases.

During the veneer drying process, Columbia-manufactured veneer is exposed to temperatures ranging from 350° F to 500° F in a dryer for several minutes. According to scientific literature and the applicable standards, this sustained heat temperature will kill any adults, larvae, eggs, or nymphs of either powder post beetles or subterranean termites that might be present in the veneer.

Further, after the veneer is dried, the hot pressing involved in processing the resulting veneer into hardwood plywood exposes *the center-most component to temperatures greater than 212°F, the boiling point of water, which is also a fatal condition for all stages of either family of insects.* After pressing, the finished hardwood plywood is stacked. Due to the heat retention characteristics of wood, plywood in stacks following pressing has been shown to retain heat levels in excess of 135°F for several hours.

In consideration of the foregoing, **it is highly unlikely that any infestation of wood assaulting insects would be active or potentially active after manufacture into hardwood plywood.** To the extent infestation is discovered in a finished Columbia hardwood plywood panel, the infestation most likely occurred after shipment by Columbia, including in storage at a distribution warehouse, fabricator storage facility, jobsite, or even in service in a residence or business if local conditions are suitable for such infestation to occur. Exposure of panels to potential infestation after leaving our mills is outside our control.