



Adventures in Advocacy

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Saw-Dusty Trails

by Sean D. Shields

Sawdust. If it was gold, you'd all be rich. Unfortunately, unless King Midas is your next door neighbor, it won't ever be gold. Therein lies the problem. You've got plenty of it, but it's worth less than nothing. Not only is it considered a potential fire and combustion hazard, many of your local environmental regulators are cracking down on this organic dust as a significant airborne health risk.

The time regulators will most likely get involved is when you're looking to expand or open new operations. As component manufacturers in Virginia, California and Minnesota have recently learned, getting a permit from the air quality regulators can be a headache. Worst case, they may require you to install an expensive pneumatic conveyance and baghouse system. Generally referred to simply as a "baghouse," this arrangement of hoods, ductwork, fans, filters and storage "bags" collects sawdust out of the air as it's generated by your saws.

Now I know you're doing a quick mental check of your operations, maybe even taking a quick peek at your shop floor to see how much sawdust you see laying around, and you're left wondering, why all the fuss? Unfortunately, as a woodworking facility, your operation is a known sawdust producer that is regularly lumped together with the likes of sawmills and furniture manufacturers. The fuss is coming from two sources: the first is the potential health risk; the second is a misconception of the operational practices of the structural building components industry.

Let's start with the health risk. Federal and state environmental protection agencies have long qualified sawdust as "particulate matter," or PM, and have adopted various regulations according to the size of the PM. Particle size influences two key factors: how long it will likely remain suspended in the air, and where in the body the particle may lodge itself if inhaled. Generally, PM is measured in microns (one-thousandth of a millimeter). For a sense of scale, 10 microns is roughly the width of a human hair.

In general, the smaller and lighter the particle, the longer it will remain airborne. Studies indicate that PM larger than 10 microns will be pulled to earth by gravity in less than a few hours, whereas particles smaller than a micron, like some pollens, can stay suspended in the air for weeks.

To make matters worse, the smaller the particle, the greater the threat it can pose to human health. While the larger particles (larger than 10 microns) are effectively filtered by tiny hairs in the nose and throat, anything smaller has a chance of getting into your respiratory system and may cause harm. Particles smaller than 10 microns, referred to in governmental regulations as PM₁₀.

Very fine sawdust, which can be created through processes common in the furniture industry like fine sawing with band saws or sanding,

have been shown to fall under the PM₁₀ classification. According to tests done by the Virginia Department of Environmental Quality, close to 24 percent of the wood dust created by sanding can be assumed to fall under the PM₁₀ classification. By comparison, according to those same tests, less than two percent of the wood dust created by milling or "rough sawing" fall under this classification.

It seems logical to assume the type of woodworking the building components industry does—single or multiple cuts on primarily 2x4 or 2x6 softwood lumber—produce larger size sawdust, most of which would fall outside of the PM₁₀ classification. However, there are three factors that affect sawdust size: wood type, blade type and blade speed. To date, there appears to be no empirical evidence within the industry, through controlled testing or otherwise, to prove this assumption.

This lack of evidence can pose a potential problem as air quality regulations become more stringent with regard to PM₁₀. The industry is left open to the misconception by many that you produce the same amount and type of sawdust that furniture manufacturers do. We all know this simply isn't the case. However, due to a lack of proof, federal and state regulators will oftentimes defer to the data they do have on woodworking facilities, which has been provided to them by furniture manufacturers.

To further complicate matters, sawdust from certain species of trees (cedar for example) has been shown to be carcinogenic to humans. While softwood lumber species don't appear to fall under this classification, it is not difficult to find a wide variety of public sources and opinions online appearing to state that sawdust in general is carcinogenic. So, not only are you forced to combat misunderstanding of the quantity and size of sawdust produced in your facility, you also must face misconceptions about the severity of the health threat it poses.

What are you to do? First, if you find yourself in the situation where you have difficulty obtaining permits due to these misconceptions about your sawdust production, contact WTCA, and our staff can help you work with individual regulators to reach a solution. However, the best long-term solution will become clear only after we have controlled tests conducted specific to the wood cutting done by the building components industry.

This project has made the list for the new WTCA testing facility and will be prioritized within the WTCA Management Committee's tasks for 2006. We also strongly encourage you to engage your saw suppliers in this issue. As saw manufacturers, they are in the best position to test and quantify sawdust production from their products. WTCA would welcome the opportunity to work with them to find a solution that serves the best interest of our industry. **SBC**

STRUCTURAL BUILDING **COMPONENTS**

THE FUTURE OF FRAMING

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