Air Handling Systems

by Manufacturers Service Co., Inc.

Trouble with Dust and Furnaces

Response by Curt Corum, Sales Manager, Air Handling Systems,
to question posed by reader of Fine Woodworking.

Question: I am setting up a basement shop that I will have to share with an oil furnace and water heater. I have heard that there can be explosions from wood dust. Am I at risk by working about 20 hours a week in the shop? Short of removing the furnace, is there a way to make the area safe for a shop?

Answer: Many commercial and non-commercial woodshops, especially in New England, heat with furnaces that are located in the shop, whether it be oil or gas-fired. All of these shops have spot dust collection (right at the machine) by using portable or central dust collection systems. To prevent dust clouds in the shop, the proper sized self-contained dust collector, filter material, and hooding are very critical. A self-contained ceiling suspended air cleaner is also a good idea in conjunction with the dust collection system. We have to prevent the fine dust from getting airborne. Good housekeeping is very important so as not to let dust build up on surfaces. Hand sanding operations should be done over a down draft table with sufficient airflow. After all, on an industrial scale, if you were to blow a one-quart container of fine wood dust into the air in a 4,500 square foot shop with a 10-foot ceiling, you would be in violation of the permissible exposure limit set by OSHA. The objective is to keep the dust out of the air and there will not be a problem. As a side note, a customer in Connecticut heats his wood shop every winter with two wood stoves. He operates a two-man shop with eleven woodworking machines. He has proper dust collection and good housekeeping. On the other hand, if one creates clouds of fine sawdust, there can be many sources of ignition that can create an explosion, such as static electricity, smoking, open flames, and even a spark from a faulty light switch.

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