

Air Handling Systems

by Manufacturers Service Co., Inc.

Metal and Fumes in the Dust Collection System

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Question: As I approach the time to turn on my new dust collection system, several questions arise. I sometimes bore holes into iron at my drill press. Is it safe to admit these metal filings and chips into a vacuum drop? Also, can the system be used to remove low-level solvent fumes from the shop?

Answer: When setting up an air-handling system, you have to be careful to make sure that whatever it will be handling is compatible.

In general, I don't recommend the mixing of unlike material in an exhaust system because it might start a fire or cause an explosion. Mixing wood with metal chips or filings, especially ones that are very hot from drilling, has the potential to create a spark, and more. When a spark comes in contact with finely divided dust particles or solvent fumes, the spark can cause the two materials to ignite.

Because solvent fumes can contain flammable vapors and often have an explosive nature, they shouldn't be mixed in the average dust-collection system. Volatile fumes, like those from solvents, thinners or lacquers are highly flammable. They have to be handled by a blower that is constructed of non-ferrous metals (usually aluminum) and is explosion proof.

Improperly used, a dust-collection system can defeat the purpose of using it in the first place. You should always consult with an air-handling specialist or the National Fire Protection Association (800-344-3555) before mixing materials in an exhaust system.