

Ensuring Proper Grounding of Fittings and Tubing for a Dust Collection System

For dust collection systems for industrial use or in a production shop, galvanized metal pipe and fittings are best, but for most home shop applications, fittings and dust collection tubing made of plastic (e.g., ABS, PU or PVC) are sufficient, provided they are properly grounded to dissipate static electrical charges. Dust and air in the right proportions can be an explosive mixture, and a build-up of static electricity can provide the spark to ignite it.

To safely collect and bleed off the static charge, bare copper wire (**not** insulated) should be run along the inside of the ductwork and be attached to grounding screws or a bare metal surface on both the dust collector and the woodworking machine. The power cords of both machines must terminate in a grounded three-prong plug to complete the connection to the ground. Wires over the irregularities of fittings, especially at Ys or Ts could form traps for chips and sawdust, so bypass the fittings by running the wires to the outside through small holes. Seal the holes with silicone caulking compound and join the wires by twisting them together and securing them with a wire nut.

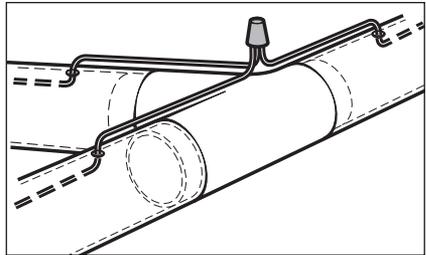


Figure 1: For internal ground, run bare copper wire along inside of ductwork. Bypass fittings as shown.

As charges can also collect on the outside surface, we recommend wrapping bare copper wire in a spiral around the outside of the ductwork, securing it with electrical tape and connecting it to the ground system by means of wire nuts.

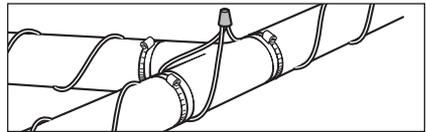


Figure 2: Wrap bare copper wire on outside of ductwork to prevent static build-up on surface.

If you have any difficulty securing the hose clamp to the hose and fittings, try wrapping the joints with duct tape first to provide a good gripping surface.

If you are still having difficulty in obtaining a safe electrical ground, we recommend the services of a good electrician.

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