

**Q** I'm setting up a small woodworking shop and want to have places to plug in pneumatic tools at various places around the shop. What is the best piping to use for compressed air and do I need to worry about condensation?

**A** Greg Burnet, a window and siding contractor based in Chicago and a presenter at JLC Live, responds: There are a number of options for piping compressed air. Some of the more frequently used materials are copper, black iron (or galvanized) pipe, stainless steel, PVC, and cross-linked polyethylene, more commonly known as PEX.

Systems piped with rigid metal offer resistance against accidental impact or puncture, but they are generally the most laborious and expensive to install. Of the metals, stainless steel and copper pipe and fittings are the priciest, and they're most often used in larger commercial and industrial settings where permanence and durability are required. Special skills and equipment are required for handling these materials, so they're often installed by plumbers or pipefitters.

A more economical material for a rigid-pipe air system is either galvanized or black iron pipe. But with all the fittings, couplings, lengths of pipe, and so on, installation can be complex and lengthy. Unless you have access to a pipe threader and dies, you will probably need to have some of the pipe cut and threaded by someone else. And because there are so many joints with this material, the potential for a leak is greater.

PVC seems to be popular for small shops. It's inexpensive and fairly easy to install, and working with it doesn't require any special tools. But if you decide to go this route, it's critical to understand that not all PVC pipe and fittings are rated for use in this type of application. Most PVC pipe that's sold for plumbing (DWV) has a stamp on its side that reads "Not For Pressure." Using PVC that is not pressure-rated for compressed air lines could lead to serious injury or damage if those lines were to burst. So be sure to specify PVC pipe and fittings that are designed to be used in compressed-air systems. A good plumbing supply house shouldn't have any trouble getting you such products.

Another option is heavy rubber air hose, which comes in 100-foot rolls. It's flexible and connects with nipples and hose clamps available at most hardware stores.

My personal preference for small-shop compressed-air



In-line pressure regulators are a convenient accessory for tools that require less pressure than the compressor provides.

piping is PEX. It's lightweight and flexible, and the fittings literally snap together. It's the easiest of any of the options to reconfigure and the simplest to install. Because of its flexibility, you can often place PEX where it would be difficult to install rigid pipe, such as in finished walls and ceilings. PEX requires special fittings that may not be available at a home center or hardware store, so it's best to map out your install ahead of time and order a few extra fittings. PEX pipe and fittings can be purchased online, and several companies, such as Rapid Air and Compressed Air Systems, offer packaged kits.

As far as condensation is concerned, it's always wise to install condensation filters in a piped system, for several reasons. If you're planning to use compressed air to spray finishes, it's difficult to achieve a blemish-free finish if there is any water in the supplied air. Also, pneumatic tools work best and last longer when clean, dry air is used. Finally, moist air can contribute to rust and corrosion in both the compressor and any ferrous metal components in a piped system. Remember to drain the compressor and any in-line filters on a regular basis.

**Q For securing oak strip flooring, how does hand-nailing compare to using a pneumatic tool? Is one method better than the other?**

**A** Howard Brickman, a wood-flooring contractor and consultant in Norwell, Mass., responds: All wood flooring was installed by hand using a hammer and nails until 1946, when the Anstett brothers perfected the manual nailing machine and started the Powernail Company in Chicago. These power nailers drove L-shaped barbed cleats using a 4-pound mallet with a rubber striking face. This innovation occurred just in time to increase wood-floor installation productivity in the post-World War II housing boom. As pneumatic nailing technology was adapted to the home-building industry in the 1970s,

Bostitch (bostitch.com) developed the first practical pneumatic stapler for wood-floor installation. There are advantages and disadvantages to all the different methods of driving fasteners.

Driving individual nails with a hammer (the old-fashioned way) is a simple but time-consuming method of fastening when you're starting and finishing a floor up against a wall, where nailing machines cannot be used. Hand-driven nails are prone to bending, but that can be minimized or eliminated by either pre-drilling or using a nail spinner (made by Vermont American).

Most professional installers use pneu-

matic finish nailers to face-nail boards at the start and finish of the flooring installation. The primary disadvantage of pneumatic finish nails is their reduced strength and stiffness.

Once you are about 5 inches out from the starting wall, you can begin using the more productive nailing machines. But as you approach the end wall, you again run out of space and generally cannot use the nailing machine within 8 inches of the wall.

With manual nailing machines, you supply the force necessary to drive the nails with muscle power, by swinging a heavy hammer. Pneumatic machines require much less physical prowess; however, you must carefully adjust the compressor pressure so that fasteners are driven flush with the tongue without damaging it. Pneumatic machines also require a compressor, which needs electricity with sufficient capacity to keep up with the fast-paced installation.



**Wolmanized® Outdoor® Wood  
with BARamine® Technology  
raises the bar for  
wood protection**

**BARamine® Technology offers:**

- Brighter, cleaner look
- Protection against broader spectrum of copper-tolerant fungi
- Improved preservative penetration
- Superior mold protection
- Patent-pending advanced technology



**Home Innovation**  
NGBS GREEN CERTIFIED™  
[HomeInnovation.com/Green](http://HomeInnovation.com/Green)



[Ecospecifier.com](http://Ecospecifier.com)