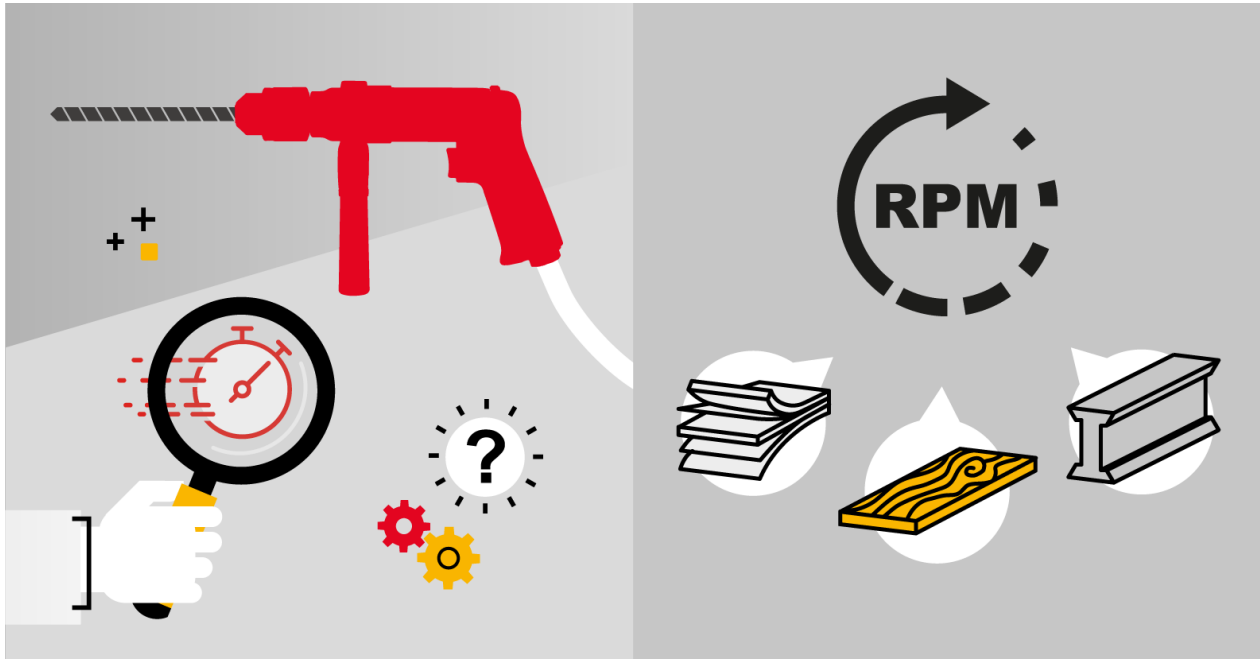


## The Secret to Productive Industrial Drilling

Do you find it difficult to drill through certain materials, and are your holes torn and ripped? Do you want to improve the quality of the holes you are drilling while being more productive?

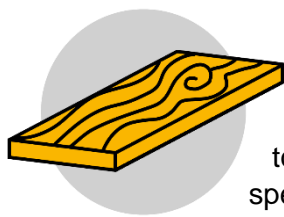


With the right tool, drill bit and speed, virtually any material can be drilled. Whether you're drilling through composite material or hardened steel for an oil and gas or metal-working application, the drill's speed has the most impact on the quality and efficiency.

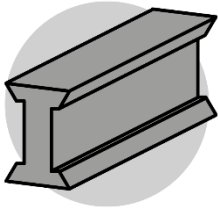
Below are some top tips to help you drill more effectively and safely.

### Effective drilling is all down to speed

First, identify what material you are drilling.



**Soft materials** such as wood or composite are generally considered easy to drill, and little thought is given to the tool, especially if the drilled hole doesn't need to be particularly high quality. However, if a hole needs to be drilled with precision, then the correct speed is vital. With the right speed and drill bit, the tool will be able to cut a clean, exact hole with ease.



Hard materials, including hardened steel, alloy steel or cast iron, are tougher to drill than soft materials. A tool with correct power, torque and speed is imperative for drilling hard materials. Lower speed and lubrication are success factors here!

You can see the effect drill speed has on an aluminum sheet in our short video here:



A question we often get asked is: “Is higher speed better?” Absolutely not. To drill effectively you need to select the right speed for the material you want to drill. If the speed is too low, you risk tearing and ripping the hole. However, if the speed is too high you will not get bite in the material. This is especially true for hardened steel.

The drill bit must be sharp and in good condition. This will also reduce the necessary pressure you have to put on the tool.

“Remember, when you use a low speed drill, <1000 rpm, the tool can twist your arm if the drill bit gets stuck. This causes many injuries. To protect yourself always use a side handle.”

- Pol Dunoyer, Global Business Development Manager



## Calculating the right speed

Here are 4 key steps to define the right speed for your drill:

1. Identify the material to be drilled
2. Define the drill bit size
3. Identify the recommended speed of the tool using a drilling speed chart
4. Select your preferred tool based on factors other than the speed, for example:
  - a. Handle type
  - b. Duty
  - c. Reversible or non-reversible
  - d. Chuck capacity/type/brand

[Download our drilling speed chart here.](#)

## General tips

- When drilling a large hole, start by drilling a smaller pilot hole that is half the targeted diameter. It's not uncommon to use three or four different-sized drill bits to achieve a good finish.
- Take a few seconds to make a good mark with a hammer and center punch. This makes drilling much easier and increases the quality of the hole.
- Let the drill bit cool down between each use and lubricate it during operation. That way it will last longer and drill faster.
- Patience is your best friend for this type of job.
- Double check you are using the optimal drill speed with a drill table.

And don't forget our safety recommendations when using a power drill:

- Always use a sharp drill bit in good condition.
- Use the drill's side handle when necessary to prevent the risk of injury.
- Clamp the workpiece firmly, especially if it is small.
- Use safety glasses to protect your eyes

For more information please visit our Expert Corner : <https://www.cp.com/en-us/tools/expert-corner>

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Since 1901 the Chicago Pneumatic (CP) name has represented reliability and attention to customer needs, with construction, maintenance and production tools and compressors designed for specific industrial applications. Today, CP has a global reach, with local distributors around the world. Our people start every single day with a passion to research, develop, manufacture and deliver new products that are meant to meet your needs not only today, but tomorrow as well. To learn more, visit [www.cp.com](http://www.cp.com).