Machining

Pro Secrets for Maximizing Grinding Performance and Efficiency

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Maximizing productivity in ***grinding applications*** isn't just about improving throughput and boosting the bottom line. Using abrasives properly also helps reduce operator strain and minimize product waste.

That is why proper technique plays such an important role in saving time and money in these applications.

How Does Grinding Affect Productivity?

The grinding operation can be a source of bottlenecks in several ways. If the wrong product is being used for the job, it can take longer than necessary to get the proper finish on the material. Choosing the incorrect product for the job can also result in added downtime due to more frequent product changeover. Too much rework can also cost time and money.

Maximizing grinding performance by using abrasives correctly creates a more efficient operator and process — which benefits the entire operation. It can help minimize rework and reduce the time spent on product changeover, too. Consider these tips to help optimize performance in grinding and get the most out of your abrasives.

6 Tips for Maximizing Grinding Performance

1. **Watch your grinding angle:** One of the most important ways to improve product efficiency and performance is to work at the proper angle to the workpiece. Whether you're using a ***flap disc***, ***resin fiber disc*** or ***grinding wheel***, the angle should be as close to 15 degrees as possible. A steeper angle will result in more aggressive performance, which could gouge the material and require rework. An angle that's too shallow may cause the grinder to interfere with the workpiece.

1. **Use proper body position:** Plant both feet firmly on the ground and avoid reaching or stretching to access the workpiece. Don't tense up your muscles; it is important to stay flexible so you can

move fluidly as you are grinding. Use a smooth rocking motion rather than moving the grinder only with your arms. Keep the grinder close to your body as you work. Be sure you're grinding at a proper height to ensure comfort, too. Occasionally opening and closing your fists releases tension and can be especially helpful if you're grinding for long periods.

1. **Apply light pressure:** Avoiding tensing up as you use the grinder also helps you apply optimum pressure. Using too much pressure — which can happen when an operator is trying to force the wrong tool or product for the job to work more efficiently — is detrimental to performance and can shorten product life.

1. **Use longer strokes:** Grinding with longer strokes is preferred over grinding with short strokes, which can cause you to spend too much time in one spot and increase heat buildup. Constant smooth movements with longer strokes help avoid this issue.

1. **Start with a pull stroke:** Begin grinding by using a few pull strokes before going to push strokes. The pull strokes break the fresh edge of a grinding wheel, which helps eliminate much of the wheel chatter. Starting with smooth pull strokes is also safer and reduces the risk of gouging the material.

1. **Follow the arrow:** All grinders have an arrow on the top to show which way the wheel should spin. Knowing the orientation of the wheel rotation gives you more control. Use the top of the grinding wheel or flap disc that is spinning away from you. It's also important to always keep the guard and the handle on the grinder for optimal safety and control.

Storage and Handling

Improper storage and handling of tools and abrasive products can be detrimental to performance, productivity, and product life. Store tools and products in a cool, dry location and avoid exposure to extreme temperatures or moisture, which can cause the product to break down prematurely.

For example, humidity is the chief enemy of resin fiber disks, which can curl up if they are exposed to it for too long. Resin-bonded wheels that have been damaged or chipped should never be used because they pose a serious safety hazard.

Boosting Performance

Remember, using abrasives properly helps improve performance and efficiency, and it also benefits operator comfort and eliminates waste. The result can be significant cost savings for the operation, better productivity, and a stronger bottom line.

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