



Machining

Seven Key Benefits of Versatile Cutting Tools

Brought To You by Seco Tools | Dec 02, 2024

As a machine shop owner or manager, you know how important it is to have the right tools for the job. But what if you could have tools that can do more than one job? Tools that can cut different types of metals, shapes, and sizes with ease and precision? Tools that can save you time, money, and space in your workshop? Seven is the lucky number when it comes to cutting tool application versatility. In general, there are seven key benefits of versatile/universal-type tooling such as *end mill cutters*, *turning inserts* or *taps* that can have a significant impact on manufacturing operations.

Universal-type tools are particularly well-suited for job shops and their high variability in workpieces – from small to large – and different workpiece material, or high-mix/low-volume production environments. The tools help these shops maintain a much needed balance of flexibility, efficiency and quality to meet customer demands and maintain competitiveness.

Key benefits of universal tools include:

1. **Cost Savings:** Because versatile tools perform multiple operations, they reduce the need for specialized tools and equipment. This helps reduce tooling costs, setup time and tooling maintenance.
2. **Increased Efficiency:** With versatile tools, shops can streamline their manufacturing processes through fewer necessary tool changes and setups. As a result, cycle times are shortened and productivity increased.
3. **Flexibility:** Versatile tools adapt to a wider range of machining operations, part materials and cutting conditions for increased flexibility in manufacturing operations. This is especially useful in job shop environments or those with varying production requirements.
4. **High Quality:** Versatile tools allow shops to achieve a good level of precision and accuracy. This equates to good part machining quality and thus fewer defects and rework, reduced scrap rates and better overall end-product quality.
5. **Space Savings:** Shops can reduce tooling inventory thanks to versatile tooling that lessens the need for multiple specialized tools. Fewer tools free up storage space and eliminate having to take on additional equipment, which is especially beneficial for smaller shops or facilities with limited space.
6. **Ease of Use:** Versatile tools are often easier to set up and use as compared to specialized tools. Operators only need to familiarize themselves with one tool for multiple tasks, so there is less training time involved and greater operator efficiency.
7. **Effective starting points.** Speed is crucial in part machining operations. Versatile tools allow shops to quickly get jobs up and running, especially when there is little time for optimization.

While shops often consider specialized tooling first, regardless of whether a part really requires it, in many instances they discover that versatile/universal-type tooling applies to a wider variety of their production needs. By incorporating a flexible, more versatile approach to tooling, shops can eliminate waste, reduce setup time, optimize production and keep costs in check. Versatile tooling also increases their ability to take on a wide variety of production tasks without having to maintain extensive tooling inventories.

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