

PRECISION HOLE MAKING

In traditional hole-making processes, achieving precise hole sizes typically involves multiple steps: drilling, reaming, boring, and honing. Many in the industry might not realize that modern high-performance drills can often eliminate the need for reaming altogether.

OMIC R&D conducted a study with six manufacturers, testing three different workpiece materials (Titanium, Steel, and Aluminum), three drill sizes (0.125", 0.25", and 0.5"), and repeating each trial three times using cutting tools from five different manufacturers.

We collected data on hole diameter tolerances, surface finish, chip breaking, number of holes, and tool wear. Our study established reliable operating parameters to ensure consistent performance.

Using high-performance drills can help manufacturers confidently eliminate reaming operations. This not only reduces annual tooling costs and improves part quality but also significantly decreases energy waste. Additionally, reducing reamer usage helps save valuable materials like Cobalt and Tungsten, offering important environmental benefits.



Figure 1 - an example of Tool Wear

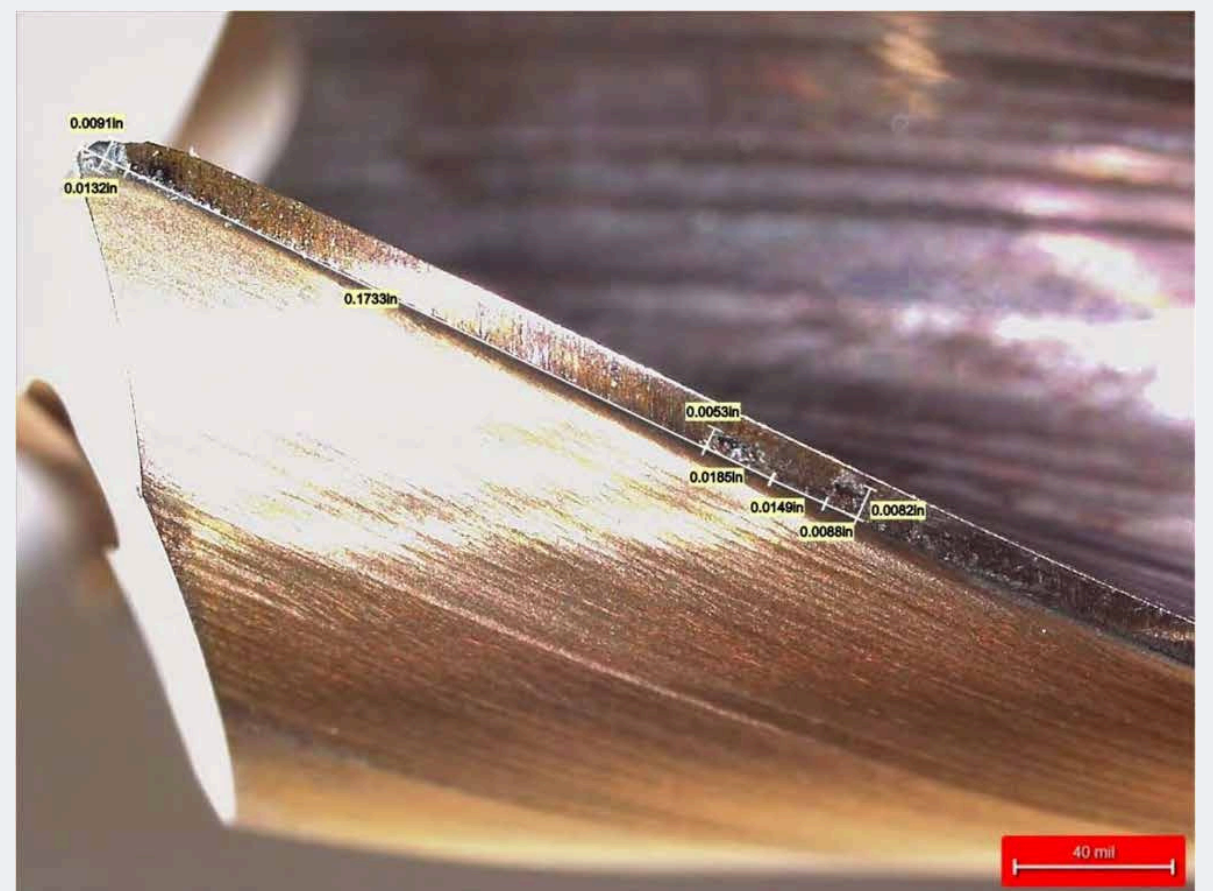
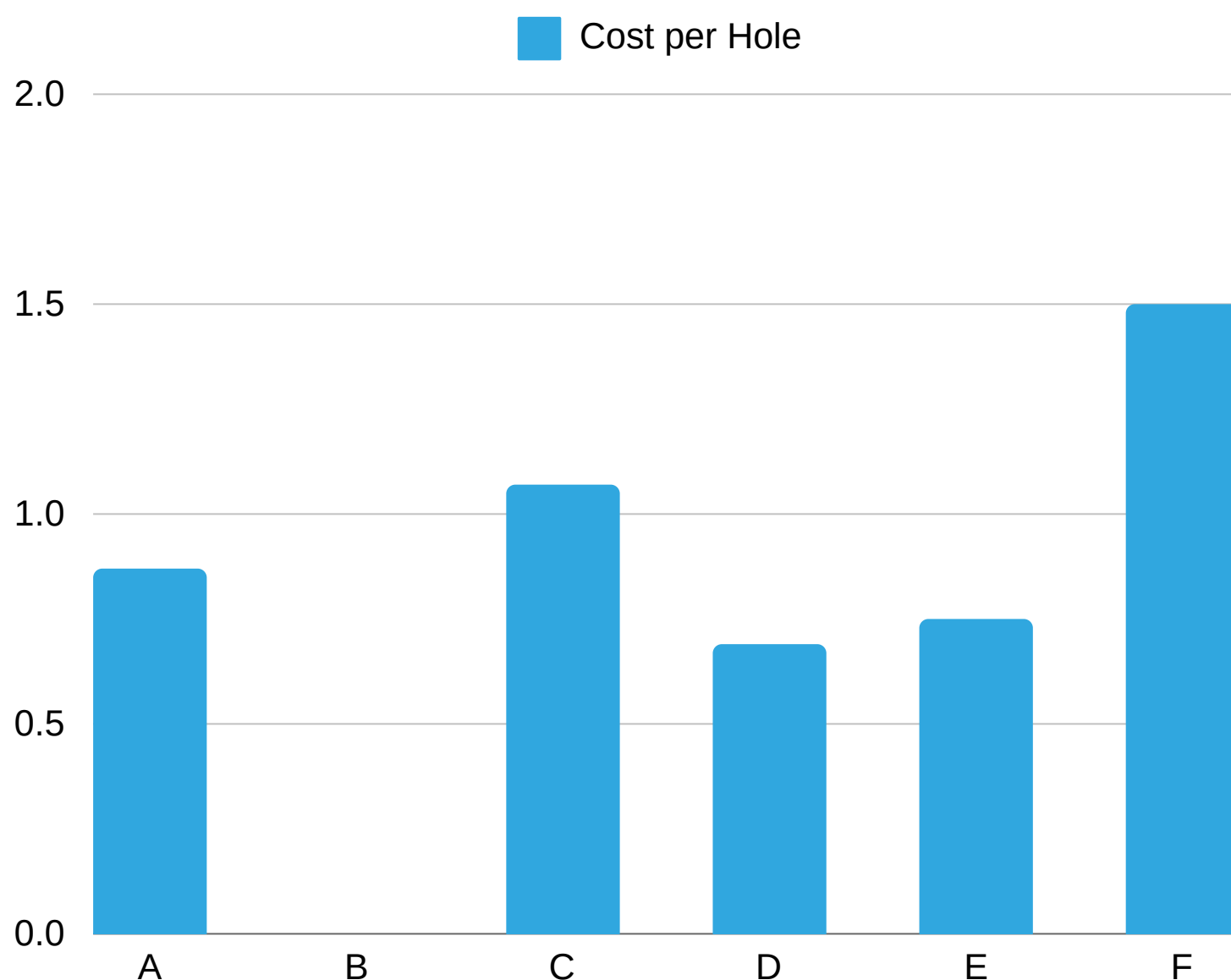


Figure 2 - another example of Tool Wear



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Industry participants include:
 Kennametal
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