

## Laser-Assisted Micromilling

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### **Abstract**

With the development of materials with superior properties and miniaturization requirement, conventional machining processes face additional challenges due to tool wear, tool stiffness, which gives the motivation for exploring hybrid/sequential machining techniques. In this respect, laser machining has turned out to be one of the wonders in the manufacturing area; however, it also comes with issues, such as heat-affected zone. On the other hand, laser-assisted machining techniques seem to elevate most of the heat-affected zone issue along with severe tool wear issue faced by conventional machining. This chapter discusses motivation, and overview of laser-assisted micromilling. Hard to machine materials, such as, steel alloy, Ti alloy, Ni alloy, cementite carbides, and other ceramics, are investigated using laser-assisted micromilling.

**Keywords:** Laser, fiber laser, difficult to cut, oxidation, ball end mill, hardness, dimensional accuracy

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