

TEP-027 Research Group

INTEMAFA

ingeniería

ingeniería de sistemas y procesos



y tecnologías

tecnologías avanzadas de conformado

de materiales

materiales de interés estratégico



y fabricación

fabricando conocimiento



The Engineering and Technologies of Materials and Manufacturing research group (INTEMAFA) is composed by teaching and research staff of the University of Cádiz and it works in manufacturing process and systems, solving industrial problems.



Engineering and
Technologies of Materials
and Manufacturing

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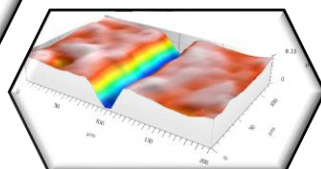
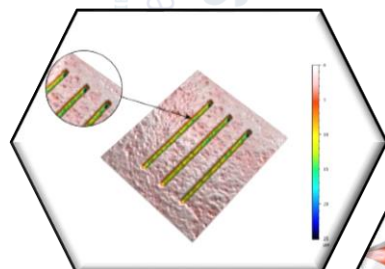
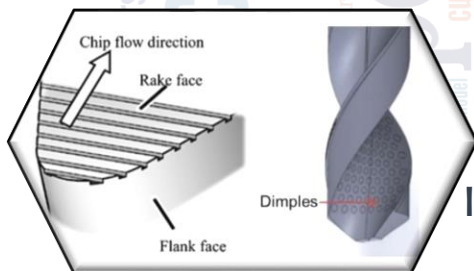
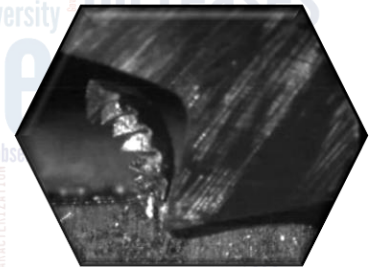
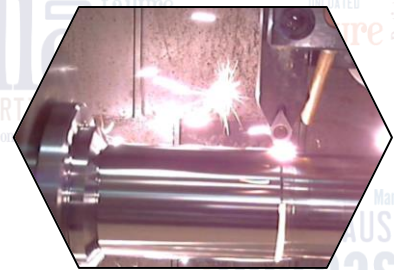




Analysis, evaluation and proposals to improve the performance of cutting tools through laser texturing (TEXTOL)

Main researcher: Jorge Salguero Gómez / Moisés Batista Ponce

The machining of the Ti6Al4V titanium alloy remains a challenge due to the rapid wear that the tools experience, significantly affecting the performance of the process. In this context, the present proposal focuses on the study aimed at improving the fluid-dynamic properties and tribological wear resistance of cutting tools for machining this alloy through the development of micro-geometries via laser texturing on their active cutting surfaces.



This is a field scarcely addressed in the scientific literature, where there are still numerous gaps regarding the characterization of the femtosecond laser texturing process on WC-Co substrates and TiAlN coatings, which are widely used in the machining of this alloy. Systematic studies on the performance of textured tools that thoroughly address their characterization in terms of texture geometry and density, as well as their modeling, are also scarce.

