



ArcelorMittal

Machinability Evaluation of Three Similar Medium-Carbon Alloys

Motivation

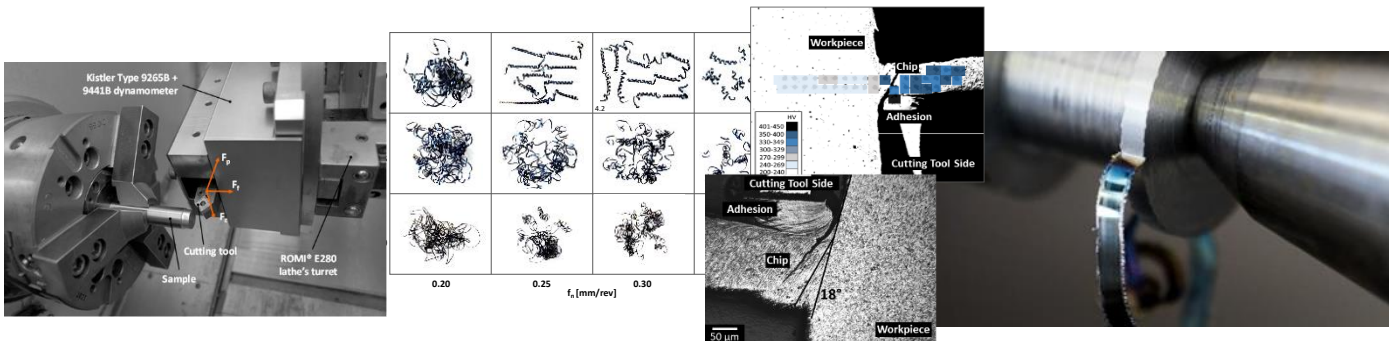
Same-code alloys can differ from each other due to the production process. In a specific case, chip-breaking problems occur when using one ISO-1045 alloy in detriment of another from the same code but produced by other company. Problems with chip breaking can cause danger to the operator and to the machine, tool damages, and in worse scenarios, production interruption.

Objective

To evaluate the differences between both alloys in what concern the machinability, specially the chips characteristics. Same-code alloys, can they machine different?

Approach

Elaborate machinability experiments, as cutting force tests, chip root analysis and chips characterization – chip-maps from cuts with different parameters.



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