Manufacture of functional surfaces through combined application of tool manufacturing processes and Robot Assisted Polishing

The tool surface topography is often a key parameter in the tribological performance of modern metal forming tools. A new generation of multifunctional surfaces is achieved by combination of conventional tool manufacturing processes with a novel Robot Assisted Polishing process. This novel surface texturing method allows for a large degree of freedom in specifying surface characteristics and facilitates a high degree of reproducibility between samples surfaces. A series of strip reduction tests, equivalent to a metal forming ironing process, are conducted to benchmark the tribological performance of 15 generated tool surfaces.

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