

The Adjustment and Monitoring of Freeform Surfaces using Inertial Tolerancing

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Abstract

At present, the manufacturing process allows one to make parts easily having one or several freeform surfaces thanks to the numerical link between Computer Aided Design (CAD) and Computer Numerical Control (CNC). Indeed, from a part defined by a CAD software the designer realizes the program of the CNC and can produce, if the CNC is supplied. However, during the step of production, the operator meets some difficulties to monitor and control. Indeed the ISO tolerancing of this kind of part is often complex and the setting of the manufacturer process is complex to adjust a part to its target values (numerical model). In this paper, we propose an original approach which simplifies the monitoring of freeform surface. We introduce this approach, we present the concept and we conclude by two industrial cases.

Keywords: Monitoring, freeform surface, tolerance, measure.

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