A Methodology for Off-line Evaluation of New Environmentally Friendly Tribo-systems for Sheet Metal Forming

Increasing focus on environmental issues in industrial production has urged sheet stamping companies to look for new tribo-systems in order to substitute hazardous lubricants such as chlorinated paraffin oils. Production testing of new lubricants is, however, costly and makes industry reluctant towards testing alternative solutions. The present paper presents a methodology for off-line testing of new tribo-systems based on numerical modelling of production process as well as laboratory test to adjust the latter combined with testing of selected tribo-systems on a new automatic sheet-tribo-tester emulating typical sheet forming production processes. Final testing of the tribo-systems in production verifies the methodology. © 2013 CIRP.

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