



Modal analysis and stiffness optimization: the case of ceramic tile finishing

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Journal of the Serbian Society for Computational Mechanics / Vol. 10 / No.2, 2016 / pp. 30-44

Considering the customers' demand for high quality products, surface finishing represents an extremely delicate phase in the production of ceramic tiles. In these terms, stiffer machinery can be considered as a practical response to the need of accurate manufacturing processes. This research is focused on investigating and improving the (elasto) dynamic behaviour of a large machine tool, used for polishing and lapping ceramic tiles. A modal analysis was realized comparing natural frequencies in respect to different design solutions. The stiffness optimization was obtained by changing the structural design.

