Title: Using a high-stiffness burnishing tool for increased dimensional and geometrical accuracies of openings

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Highlights

Special high-stiffness tool was designed for the ball burnishing of openings

Primary goal was to achieve dimensional and geometrical accuracies of the openings

Simulations were performed to verify ball burnishing process

Cylindricity and roundness error decrease with the increase of ball penetration depth

Surface roughness was improved with the increase of ball penetration depth