



Machining and Surface Properties of Steel Parts

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Message from the Guest Editor

Thanks to the development of the automotive and aerospace industries at the turn of the 20th and 21st centuries, it was shown that topography—more broadly, the geometry of surfaces (SGP)—has extremely high importance for the utility of manufactured elements.

Surface geometry measurements and tests can serve different purposes, but it was experimentally proven that these parameters influence the friction and wear of interacting surfaces; deformation and contact strength; stresses and their concentration; corrosive reactions; tightness of connections; deposition quality, adhesion, and durability of coatings; and aero- and hydrodynamic properties.

In mentioning surface or the geometric structure of the surface, we must remember its functional properties (its functionality), which is closely related to its topography (stereometry), depending on the method of processing.

Nowadays, the technological shifts in surface metrology allow the surface features generated by modern manufacturing processes (including hard part machining) to be characterized with a higher accuracy using a number of the areal field parameters (S-parameters and V-parameters sets).





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Message from the Editor-in-Chief

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