

## Composition and morphology of composite coatings

### Corresponding author:

Jan Novotný, jan.novotny@ujep.cz, Jan Evangelista Purkyně University in Ústí nad Labem, Faculty of Mechanical Engineering

### Co-authors:

Štefan Michna, Martin Jaskevič

### Abstract:

This article focuses on the selection of fillers for composite coatings according to their key properties, sample composition and particle morphology. Properties that we want to improve with coatings are especially durability, abrasion resistance and heat resistance.  $\text{TiO}_2$ ,  $\text{Al}_2\text{O}_3$ , WC a W were selected as suitable materials. XRD and XRF analysis was performed on selected fillers to determine the exact composition and crystallographic structure. Furthermore, the samples were milled in a ball mill, sieved according to the size of the fraction and SEM analysis was performed for each fraction to determine the particle morphology.

### Key words:

Composite coatings, particle morphology