

## Structural-phase state and properties of the Cr-Al-Co-Y composite coating as a result of thermal exposure

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One of the urgent problems is the development of technologies for the strength and performance properties of materials responsible for the details of power plants.

Methods for studying foundations and properties of facades are quite widespread in the scientific literature. Coming with large incomes highlighted by profitable research, there are reviews of works on this topic, author's monographs, textbooks and reference books. However, the above studies were mainly based on coating methods, while studies in terms of the structural-phase state and the relationship between the structure and properties of the coating were not studied in full.

The study of composite coatings is of great scientific interest. The microstructure of a film can differ significantly from the structure of a bulk material of the same composition, and the properties of thin films are largely determined by their morphology. Structural defects in bulk materials, which do not have a significant effect on the properties, in thin films can radically affect their behavior. Surface roughness practically does not affect the characteristics of bulk materials, while for film materials it can be a factor that determines many parameters. Therefore, in the study of thin-film materials, it is possible to discover new phenomena and regularities, which can become the basis for the creation of fundamentally new technologies and devices.

Thus, the subject of this work is aimed at studying the structural-phase state and properties of the Cr-Al-Co-Y composite coating.