

Recent Developments of Thermal Barrier Coatings

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Message from the Guest Editor

Dear Colleagues,

Thermal barrier coatings (TBCs) have been an established part of aero and industrial gas turbines for several decades. Coatings, once thought of as a band-aid measure, are now moving to the point of being a critical life-limiting aspect of turbine design. While an established field, TBCs are still an area of strong active research and development.

This Special Issue of *Coatings* will focus on developments in the field of thermal barrier coatings. In particular, the topics of interest include, but are not limited to the following:

- Developments in application technology for improved coating performance;
- Development of more efficient processing to reduce environmental impact;
- New thermal barrier coating chemistries and their performance;
- Novel coating structures;
- CMAS mitigation through coating design;
- Suspension plasma spray for TBC application
- Development of alternative coating production methods;
- New bond coat developments for TBCs;
- TBCs for corrosive or hydrogen combustion environments;
- Thermal barrier coatings for CMC components;



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Guest Editor

Special Issue

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Message from the Editorial Board

Now more than ever, research is asked to deliver knowledge and technologies to solve the major challenges faced by our society. The development of new materials and devices for (without the ambition to be exhaustive) energy, health and food technology, together with the need for establishing processes that reduce the impact on critical resources and the environment, is indeed in the spotlight of most contemporary research. Surface science and engineering play a key role in this regard, with an incredible potential in delivering new and deep scientific understanding and technical solutions essential to solve most of the major societal challenges.

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