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Passive Oxide Films and Their Susceptibility to Corrosion

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Message from the Guest Editor

Dear Colleagues,

It is only the presence of passive oxide films that allows us to make use a number of thermodynamically reactive metals, such as aluminium and titanium alloys, as well as stainless steels. Despite the obvious economic importance of these thin films and decades of study, we are only now starting to really understand their properties; be it crystallinity, electrical conductivity or even in some cases composition. This new knowledge should lead us to a better understanding of, or, perhaps, to a better agreement on, the mechanisms behind the breakdown of passive films and the subsequent corrosion of the underlying substrate.

The scope of this Special Issue covers, but is not limited to: The nature of passive films on industrially important metals and alloys and their role in preventing corrosion and degradation.

Prof. Dr. Daniel J. Blackwood
Guest Editor



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