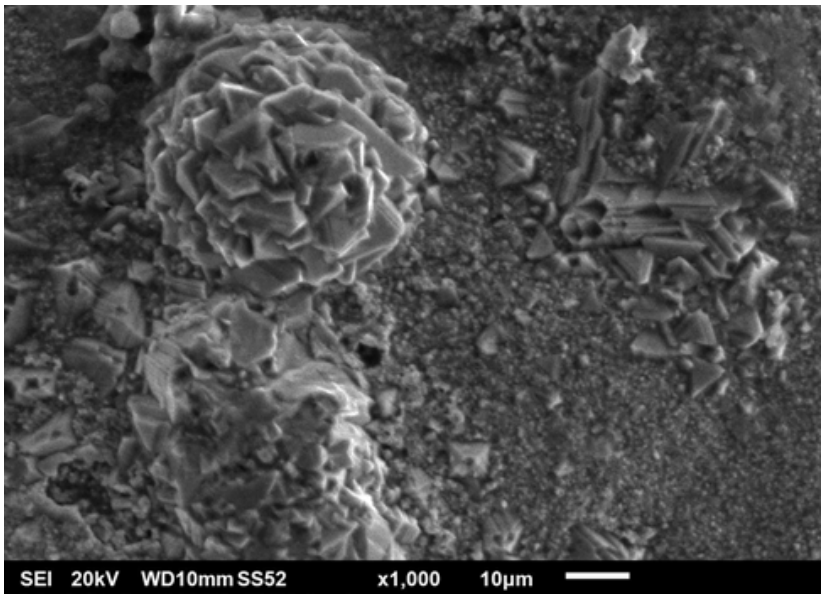
Title: Recent Results on the Behavior of Carbides-Strengthened Superalloys in Oxidation at High Temperature

Proposal

Polycristalline superalloys reinforced by primary carbides for resisting mechanical stresses during service at elevated temperature may show specific behavior in hot oxidation. Metals included as carbides in grain boundaries and interdendritic spaces, which act as efficient diffusion paths, take part significantly to the formation of oxides and may influence the hot oxidation progress. The present special issue of the Journal of Materials Science and Technology Research gathers some recent works investigating the high temperature oxidation of superalloys of this family which may significantly influence the sustainibility of components.



Surface of a cast Co-27Ni-25Cr-0.4C-6Ta superalloy with $(Co,Ni)Cr_2O_4$ crystals observed using a Scanning Electron Microscopy in Secondary Electrons mode: