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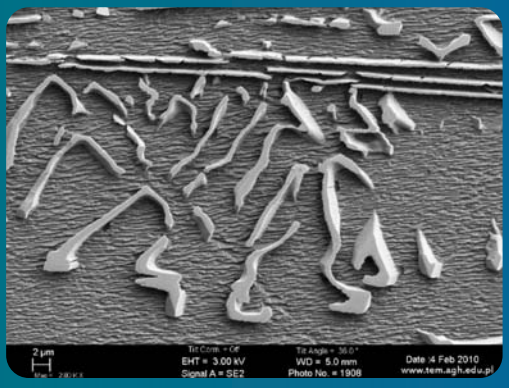
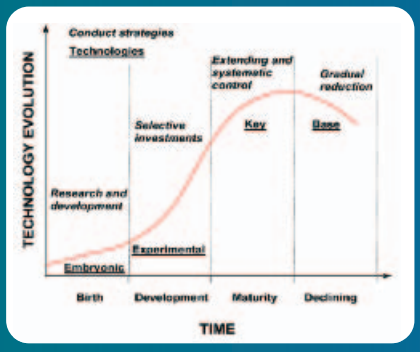


142

The research paper entitled "Microstructure characterization of Ni-Ta-Al alloy with high carbon content" by P. Bała on a **page 142** demonstrates Ni-Ta-Al alloys with high carbon content, strengthened by intermetallic phases, designed for application in high temperatures. The proposed chemical composition and the results of microstructure investigations as well as hardness in as-cast and after heat treatment condition – are given. A test melt of a mass of approximately 1 kg was made in a vacuum furnace, and cast into ceramic mould. The microstructure of the investigated material was examined by a light microscope Axiovert 200 MAT and the scanning electron microscope FIB Zeiss NEON 40EsB CrossBeam. The heat treatment was performed using the DT 1000 dilatometer made by Adamel Lhomargy, the French Company. The new chemical compositions and microstructure of high temperature application Ni based materials with high carbon content. Additionally, the new alloy, except high carbon volume fraction, is strengthened by intermetallic phases. The main constituents of the microstructure of the Ni-Ta-Al investigated alloy are: the γ_0 phase (matrix), the γ' phase (fine globular precipitates) and as well as primary Ta carbides of MC type and graphite. Primary carbides of irregular shapes are uniformly distributed and not forming agglomerates. The new model alloy which allows to design a new material for high temperatures applications.



121

The research monograph entitled "The state of the art analysis and methodological assumptions of evaluation and development prediction for materials surface technologies" by A.D. Dobrzańska-Danikiewicz on a **page 121** demonstrates an analysis of the state of the art including the general development trends and most prospective areas of materials surface engineering and to describe the general methodological concept for the evaluation and prediction of materials surface technology development, with special consideration given to methods for generating a pool of critical materials surface technologies. One of the final effects of the technology foresight of materials surface engineering is to establish the Critical Technologies Book comprising technology roadmaps and technology information sheets. The Book characterises, in a harmonised fashion, the critical materials surface technologies, which is a convenient tool of comparative analysis, especially for SMEs lacking the funds sufficient to pursue their own research in this field. The paper presents the general development trends and most prospective areas of materials surface engineering and an original, newly established customs, methodological concept for the evaluation and prediction of materials surface engineering development.