

Commercial Aspects, Sintering and Structure of Ti(C,N)-based Cermets

Ralph Useldinger¹, Nina Wendt², Wolfgang Böhlke¹, David Rafaja⁴, Walter Lengauer^{2,3}

¹Ceratizit S.a.r.l., Mamer, Luxembourg

²Vienna University of Technology and ³TUTECH GmbH, Vienna, Austria

⁴Technical University of Freiberg, Freiberg, Germany

Abstract

Ti(C,N)-based cermets are an interesting class of materials and can replace classical hardmetals to some extent for special applications such as in finishing operations. This contribution contains a detailed review on investigations of Ti(C,N)-based cermet systems, especially of research groups located in Asia and Europe. Commercial figures for the overall production of cermets, their application fields and their use in the different countries are presented. Recent investigations are attributed to employ a finer grain size, such as for the classical hardmetals, and generally the use of alternative starting powders with respect to their alloy status. Results of alternative investigation techniques for the complicated microstructures of cermets are presented.