

Journal

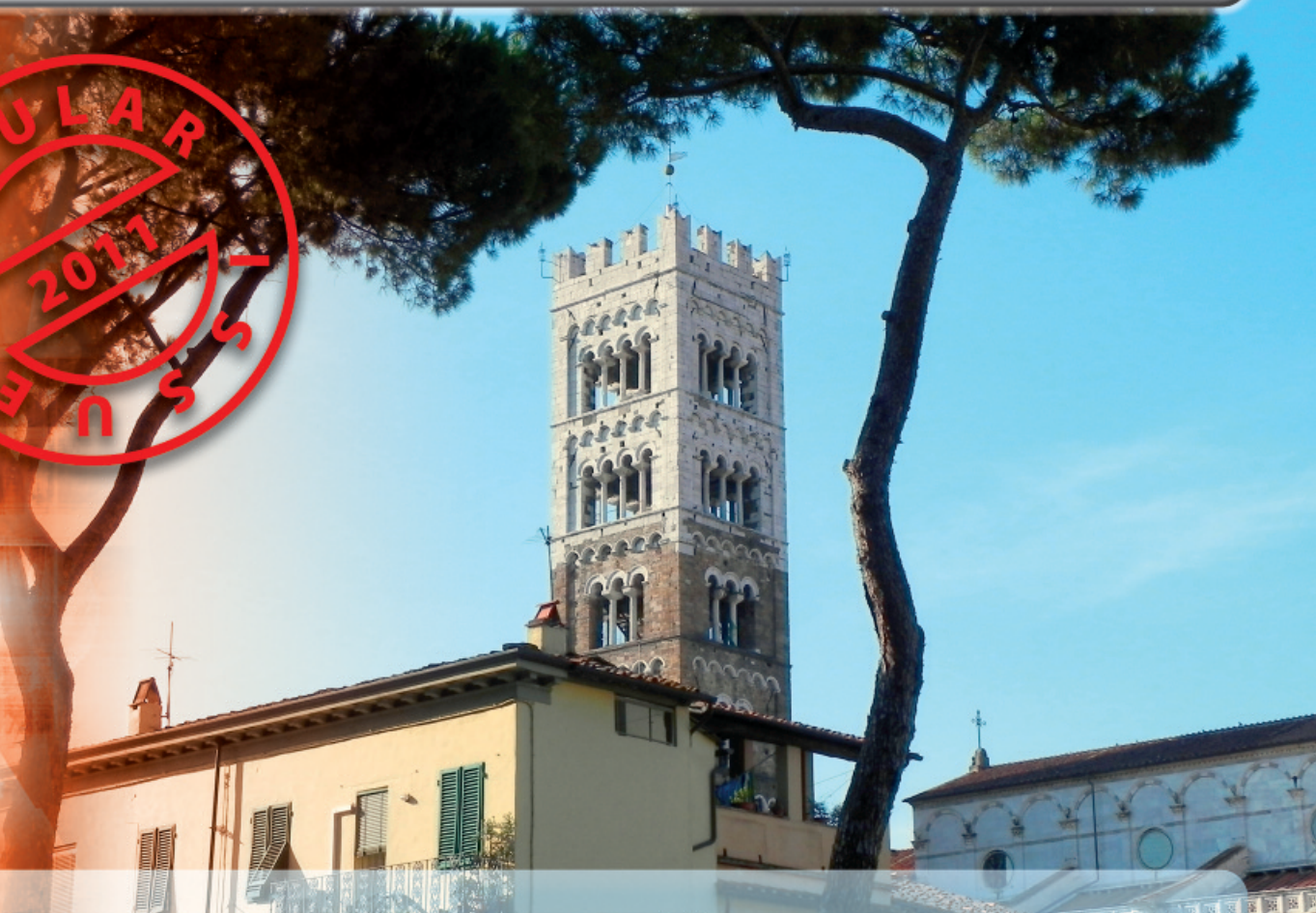
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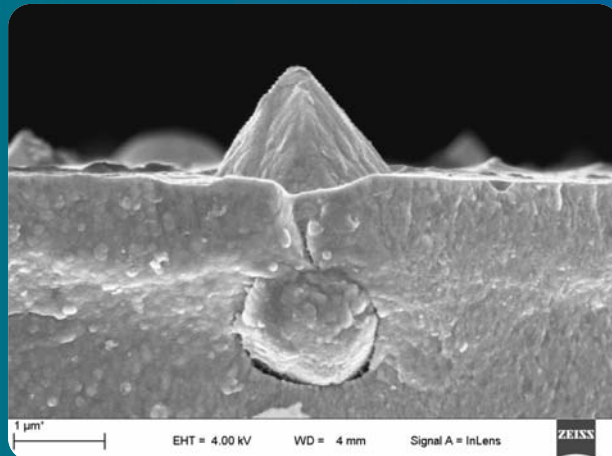
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In the paper entitled "Microstructure and corrosion resistance of CrAlSiN, CrAlSiN+DLC, and CrN coatings" by K. Lukaszewicz, W. Kwaśny and J. Szewczenko on a **page 23** the investigation results of microstructure and corrosion resistance of the nanostructured CrAlSiN, CrAlSiN+DLC, CrN coatings deposited by cathodic arc evaporation method onto hot work tool steel substrate are introduced. Nanostructured and, in particular nanocomposite coatings deposited by physical vapour deposition or chemical vapour deposition are recognized as one of very interesting premium technologies for protection and modification of products surface, for the reason of the existing possibility to synthesize materials with unique physical and chemical properties, e.g. extremely high indentation hardness (40-80 GPa), good corrosion resistance, excellent resistance to a high temperature oxidization, as well as high resistance to abrasion and erosion. PVD hard coatings are, in general, well resistant to electrochemical corrosion. Nevertheless, a great part of PVD deposited is characteristic of high defect density, as e.g., pores and voids between neighbouring columns enabling penetration of the aggressive agents through the coating to the substrate. Authors reached a conclusion that the microstructure of the PVD coatings consisted of fine nanocrystallites, of an average size of 8 nm ±13 nm, depending on the coating type. The morphology of the coatings fracture is characteristic of a dense microstructure. Basing on the GIXRD pattern of the investigated coatings, only fcc phases was encountered. The tests carried out with the use of a GDOS technique indicate the occurrence of a transition zone between the substrate material and the coating. Deposition of the PVD coatings increases the hardness of the tool steel surface up to 22±40 GPa. The CrN coated sample showed the best corrosion resistance.