

High Power Pulsed Magnetron Sputtered CrNx Films



Introduction High density, corrosion-, and wear- resistant physical vapor deposition (PVD) hard coatings with excellent adhesion to steel are in high demand for a wide range of applications in the metal forming, plastic moulding, machining, automotive, petro- chemical, food industries and as decorative applica- tions. Existing PVD techniques such as magnetron sputtering and arc evaporation suffer from porous microstructure due to low ionization in the former or from defects generated by macroparticles in the latter case. A number of theoretical and experimen- tal works have indicated an enhanced densification of growing films when high ion-to-neutral ratios are present in the plasma and the deposition flux [1-3]. An appropriate control of the energy of ion bombardment during deposition allows the microstructure density and surface roughness to be tailored to specific wear or corrosion intensive applications. Important to the performance of coat- ings, especially in demanding metal cutting appli- cations, is the adhesion to the substrates [4]. Metal ion implantation prior to coating deposition on steel substrates has been shown to promote localized epitaxial growth and improve the adhesion of even highly stressed superhard nanoscale composition- ally modulated coating systems [5, 6].

Rating: Not Rated Yet

Price

Price with discount: 1,78 €

1,78 €

Sales price without tax: 1,78 €

Tax amount:

[Ask a question about this product](#)