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Structure and tribological behavior of alloyed dlc nanocomposite coatings

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The structure, composition, mechanical and tribological properties of alloyed DLC nanocomposite coatings obtained by two technologies of plasma-assisted (PA) vapor deposition has been investigated. One method was based on a PACVD method using silicon-organic precursors, and the other on reactive magnetron sputtering of metallic chrome target in an active atmosphere containing pure acetylene or acetylene-nitrogen mixtures of different compositions. The use of a mixed $C_2H_2 + N_2$ atmosphere has allowed us to demonstrate the effect of a second phase inclusions on tribological and mechanical properties of alloyed DLC coatings. The details of research have been published elsewhere.