

their success being certain have the best long-term prospects. It is predicted that they will be widely used in the nearest 20 years for producing hard tools, especially cutting tools for machining metallic, non-ferrous and hard-to-machine materials for the aviation, automotive, military industry and for civil engineering. Somewhat slower but regular growth of the physical vapour deposition of the complex, classical monolayer coatings (L), the multilayer coatings with the number of layers of $n < 10$ (N) and the step-graded coatings (R) is foreseen, depending on the environment conditions and the individual, specialised uses of such technologies. The least promising technologies include the physical vapour deposition of the simple monolayer coatings (K) and the chemical vapour deposition of the multilayer coatings with the number of layers of $n < 10$ (O) to be forced out by other technologies allowing to achieve better mechanical and functional properties. When evaluating the importance of the state-of-art hard abrasive wear coatings deposited in PVD/CVD processes onto sintered tool materials presented in the chapter, their broad scale of future applications in the industry should be emphasised. Hence, they will be very important in the nearest 20 years amongst other technologies of engineer materials surface engineering, which justifies their position in The Critical Technologies Book.

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