SUPERHARD COATINGS

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Superhard materials are known as incompressible solids with hardness ~ 40GPa and diamond is the only naturally occurring superhard material with hardness > 80GPa. Applications of superhard coatings increase the components' life by reducing the frictional wear and mechanical damage. In this paper, we have reviewed the development of several superhard coatings at CSIR-National Metallurgical Laboratory, (CSIR), Jamshedpur. Phase formation and mechanical properties of the coatings are discussed. The future potential of these coatings are specially emphasized.