DIAMOND-LIKE CARBON COATINGS – A NEW DESIGN ELEMENT FOR TRIBOLOGICAL APPLICATIONS

J. BRAND, C. BECKMANN, K. BEWILOGUA
Fraunhofer Institut für Schicht- und Oberflächentechnik IST, Bienroder Weg 54 E, 38108 Braunschweig, GERMANY, e-mail: brand@ist.fhg.

B. BLUG, G. KONRATH, T. HOLLSTEIN
Fraunhofer Institut für Werkstoffmechanik IWM, Wöhlerstrasse 11, 79108 Freiburg; GERMANY, e-mail: bbl@iwm.fhg.de

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ABSTRACT
Hard coatings with a low friction coefficient are an effective way to reduce wear and the use of lubricants in many tribological systems. Amorphous diamond-like carbon coatings, DLC, deposited by various CVD- or PVD-processes at temperatures below 200 °C, show excellent wear and friction properties in different technical applications. Dependent on the used process and the chemical composition the properties like hardness or surface energy of theses coatings can be well defined in a wide range. This allows to adapt the coatings to the real profile of load of nearly any tribosystem.

The poster shows the variation of carbon based coatings and their different properties. The high efficiency of these coatings in dependence of the realised film properties were shown by some industrial applications. Carbon coatings could be a new design element for creating new products with a new multifunctional surface profile.