PVD/PECVD coatings / Tribological coatings

CERTESS® CARBON

\( \text{a-C:H} \) implemented by PECVD (Plasma Enhanced Chemical Vapor Deposition), and
\( \text{ta-C} \) implemented by PVD (Physical Vapor Deposition)
are both Diamond Like Carbon coatings.

DLC demonstrates a high hardness combined with excellent resistance to abrasive and adhesive wear together with extra low coefficient of friction.

This unique combination of properties offers the best solution to protect automotive components, to lower the coefficient of friction and consequently to reduce the \( \text{CO}_2 \) emissions.

Typical applications already mass production:
- Valve actuation
- Fuel system
- Transmission
- Etc.

DLC coatings can be multi-layered using materials such as \( \text{Cr, CrN, Si, W, WC- C} \) and an amorphous carbon top-layer hydrogenated or not.

The choice of the under-layer is based on the application (contact pressure, etc.)

www.hef.fr
The selection of the underlayer is based on several factors such as: the adhesion requirements, the mode of wear, the type of contact, the friction regimes encountered during operation, the applied load ...