Improving the adhesion of DLC thin films on steel through the application of silicon-containing interlayers by PECVD

Diamond-like carbon (DLC) films is a class of materials consisting of amorphous carbon that has sp^3 and sp^2 bonds in its structure.

Fig 1. Structural difference between graphite, diamond and DLC[1]

Industrial Highlight Features:

- High hardness;
- Wear, abrasion and corrosion resistance;
- Low conductivity (thermal and electrical);
- Low friction coefficient.

Problem: Low adhesion of DLC films on ferrous alloy surfaces.

Solution: bonding interlayers.

- Research: Influence of the interlayer's deposition parameters on the adhesion of DLC thin films on ferrous alloys.

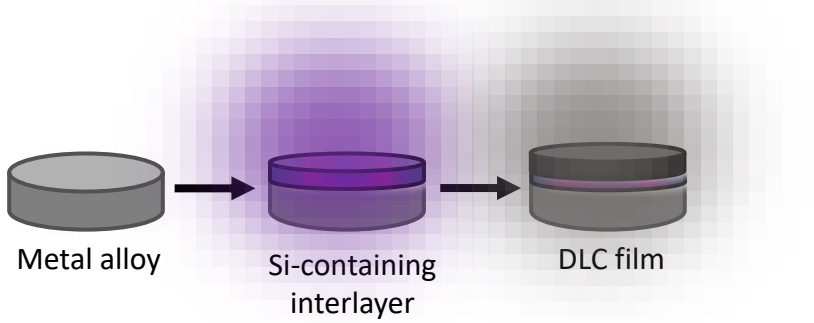

Fig 2. Process to obtain DLC films

[1] https://www.dynasil.com/optical-coatings/protect-your-ir-optics-with-diamond-like-carbon-dlc-coatings/

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