



The Chinese University of Hong Kong
Non-confidential Abstract of Technology Disclosure

Title:

Metallic White Decorative Hard Coatings with a Platinum-like Color

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Inventor:

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Patent Status:

US Patent Pending

Non-confidential abstract:

Conventional metallic white decorative hard coatings such as chromium and nickel coatings are deposited by electrochemical processes, and are known to reach a maximum hardness level of about 10-11 GPa. However, pollution problems associated with these processes, particularly those for chromium deposition, and skin allergy associated with nickel have been shrinking the market volume of these coatings. In addition, conventionally a thin overlayer of platinum, palladium, or rhodium is deposited on metallic white surfaces to increase their “whiteness” and “brightness” but the prices of these precious metals have been hiking continuously. The metallic white decorative hard coatings according to the invention comprise a nitride or oxynitride or oxycarbonitride of zirconium and aluminum, coatings which can be deposited by typical physical vapor deposition such as reactive cathodic arc deposition or magnetron sputtering. These metallic white decorative hard coatings can have a hardness in the range of 15-20Gpa, a color appearance close to that of platinum.

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