

1st National Seminar on Structural Mechanics and Materials (SNMSM'25)

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University Mohamed Boudiaf of M'Sila
Faculty of Technology
Mechanical Engineering Department

CERTIFICATE of APPRECIATION

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Title : Elaboration and characterization of certain coatings applied in industry

In recognition for giving a PLENARY Talk in the 1st National Seminar on Structural Mechanics and Materials (SNMSM'25), held at M'Sila University, Algeria, on October 29-30th 2025.

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***Elaboration and characterization of certain coatings
applied in industry***

Younès Benarioua^{*1}

¹ Department of Mechanical Engineering, Faculty of Technology, University of M'sila, Bordj Bou Arréridj Road, 28000 M'sila.

*Corresponding author: younes.benarioua@univ-msila.dz

Abstract – Surface treatments for materials are increasingly used. They allow the modification of the surface characteristics of these materials to optimize their applications. These treatments also enable parts to fulfill opposing functions, such as core ductility and good resistance to wear and corrosion. Among these surface treatments, we can distinguish between surface treatments by structural transformation of mechanical or thermal origin, thermochemical treatments, and the deposition of thin films and coatings. The surface treatment of metallic materials, polymers, glass, and ceramics is therefore largely a service used by many industrial sectors, including automotive, heavy industry, light industry, eyewear, decoration, currency, clothing, telecommunications, renewable energy, construction, medical, aerospace, aeronautics, and nuclear energy. Our purpose is to present various surface treatments applied to certain materials to enhance their surface properties. Regarding the treatments discussed, we will then present some research work that addresses the development and characterization of thin films and metallic coatings deposited on certain materials to improve their mechanical behavior, particularly hardness and adhesion.

Keywords – Coating ; thin films ; surface treatment ; hardness ; adhesion;