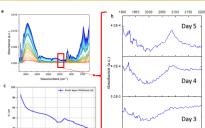
Corrosion research in the SURF group



Corrosion research is an important topic to improve the durability and sustainability of materials. It has many applications, e.g. the fields of automotive industry, aerospace, chemical industry, ... Here is an overview of the **exciting research** that we are conducting at the **Surface and Electrochemistry engineering research group (SURF)** at the Vrije Universiteit Brussel!

Surface treatment & characterization Anodizing of aluminium to add a protective oxide layer as a barrier against corrosion. ZnO Al₂O₂ Zn (hydr)oxid Mixed Zn-Al-Zr oxide Electrochemical conversion of metal substrates Al (hvdr)oxid Zn-Al (hydr)oxide H_2ZrF_6 Zinc Zinc for passivation and improved adhesion. Steel Steel Bare HDG steel Zr-based converted HDG stee Additive manufacturing changes the microstructure of materials and therefore corrosion properties. 100 um **Protective coatings** Monitoring water and ion transport to investigate the barrier properties prior to corrosion. $((3.85 \times 10^{11} e^{-5.9\xi})^{-1} + (1.49 \times 10^{17} e^{-24.0\xi})^{-1}$ Running extensive **failure tests** to predict the onset of corrosion.

Investigating **interfacial effects** on water and ion transport and coating failure.





Interested in **corrosion research**? Do you want to contribute to improve the **durability and sustainability** of materials? Are you interested in doing either experimental, computational or combined research? Please let us hear from you, we are very excited to work with you!



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See you soon!

