



The future of functionalising surfaces

16 October 2018, 02:00

Olivier Malek

Patrick Cosemans

The choice for either textures or coatings depends greatly on the desired function, application and production process requirements (batch vs. in-line). The general outlook is that increasingly advanced functionalities thanks to either coatings, textures or a combination of both will be developed, and in such a manner that their application will be economically feasible.

Anti-icing surfaces are a perfect example of this. Currently, certain textures can inhibit the formation of ice due to rain drops, however, ice formed by rime/condensation cannot be avoided. Novel nanotextures on the slopes of microtextures or a hydrophobic nanocoating will be needed to create a true icephobic surface. The potential scope of application of these surfaces is immense, from wind turbine blades to aircraft wings, antennas, power lines and even rockets filled with LOX (Liquid Oxygen) can benefit from icephobic properties.

To achieve this, continuing research efforts among research institutes, universities and end users is required. It is noteworthy that the quality of these functionalities is greatly dependent on the technologies associated with either the coating or the texturing process. Therefore, the main trends in these fields will dominate the development of novel surface functionalities in the near future.

You can read further on these trends in laser texturing and coating in our [e-book](#).

Authors



Olivier Malek



Patrick Cosemans