

Sirris compiles expertise in 5 anti-icing reports

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Five reports to help you understand, detect and prevent ice formation in industrial applications

In industries such as energy, aviation and transport, ice formation is a critical factor. It reduces efficiency, damages equipment and creates serious safety risks.

At Sirris, we've been addressing this challenge for years through the Fighting Icing project, funded by VLAIO within the COOCK programme (HBC.2019.2495). Together with the University of Antwerp and KU Leuven, we investigated how ice forms, how it can be detected and how coatings can help prevent it.

We have now brought this expertise together in **5 practical reports:**

Download the 5 anti-icing reports

Why it matters

Icing is a global issue. With the rise of renewable energy, the electrification of transport and stricter safety requirements, preventing icing has become both an economic and strategic necessity.

In moderate climates such as Belgium, icing occurs less often than in polar regions. But when it does, the consequences remain costly: performance loss, material degradation and safety incidents.

Companies that adopt reliable anti-icing strategies today will be better equipped to reduce risks, lower costs and stay competitive.

What’s inside the reports

1. Icing and its impacts

An introduction to how ice forms, the different types of icing and the conditions that trigger them. This report also covers standards, testing facilities and certification requirements. A solid knowledge base for making informed choices about mitigation strategies.

2. Overview of the state of the art methods and techniques for ice detection

A state-of-the-art overview of commercially available detection methods, from electrical to optical to mechanical sensors, with guidance to help you select the right solution for your application.

3. Anti-icing coatings

A review of coatings and surface treatments, from existing passive solutions to new developments and hybrid approaches that combine coatings with active de-icing. These technologies are especially relevant for wind energy, aviation and transport, where they can improve performance and reduce energy consumption.

4. Active-passive anti-icing coatings

A new multilayer coating concept is explored to tackle ice formation on exposed surfaces. By combining a heatable conductive layer with a hydrophobic top layer, the study shows potential for more efficient, durable and energy-saving ice protection.

5. Icephobic coatings: large-scale icing testing

This report presents large-scale icing tests on benchmarked icephobic coatings. It evaluates ice adhesion strength as well as durability against UV exposure and abrasive wear under realistic conditions. The results provide practical insights to support coating optimisation and accelerate time to market.

For innovators and decision-makers

These reports are designed for engineers, technology developers and business leaders who need to stay ahead of operational risks. Whether you're managing wind turbines, aircraft components or transport infrastructure, you'll find concrete guidance to evaluate solutions and make informed choices.

Take action today

Don't let ice compromise your performance or safety. Discover how you can detect, prevent and mitigate icing with the latest insights from Sirris.

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