

ICEYE

# Dunmore and ICEYE– An Innovation Story



Credit photo: ICEYE

Advanced monitoring is possible with ICEYE Synthetic Aperture Radar (SAR) supported by Dunmore's Multilayer Insulation (MLI) films

#### WHAT IS ICEYE?

ICEYE is a pioneering company that uses Synthetic Aperture Radar (SAR) technology to monitor changes across the globe.

With the world's largest constellation of SAR satellites, ICEYE offers unique and clockwise monitoring capabilities for any location on earth and delivers near real-time insights and actionable data that can be collected day or night—even through cloud cover.

ICEYE technology helps clients:

- Protect the global environment
- Respond to natural catastrophes
- Detect and track maritime oil spills
- Monitor floods, wildfires, and earthquakes

## POTENTIAL HAZARDS FOR SATELLITES OVER TIME

At Low Earth Orbit (LEO), the earth's atmosphere consists of about 90% atomic oxygen (AO) which is highly reactive and can break chemical bonds on the surface of many materials, causing damage to satellites.

Additionally, satellite parts in orbit for 5-10 years can exhibit dramatic corrosion due to high UV exposure, the outgassing of silicone from paints/ coatings, and redeposit of contaminants.

"Dunmore films offer us a wide range of materials with good radiative properties and compliant to low outgassing."

- ICEYE

Continued

## POTENTIAL HAZARDS FOR SATELLITES OVER TIME (Continued)

| ICEYE product definition | SAR for earth monitoring   |
|--------------------------|--|
| Location of Dunmore film | SAR antenna  |
| Film uses                | <ul><li>Insulation</li><li>Grounding</li><li>Venting</li><li>AO protection</li></ul> |



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## HOW DUNMORE HELPS MEET THE CHALLENGE

To protect satellites over the long term, ICEYE uses Dunmore's MO 18046 film as protective MLI on the antenna. The film's unique combination of layers delivers dedicated features to meet the challenge of the harsh LEO environment.

The advantages:

- Protection against heat
- Excellent bleed-off of electrostatic charge
- Superior resistance to AO
- Wider range of Radio Frequency (RF) transparency compared to Germanium

## GET THE FACTS ABOUT DUNMORE MLI FILMS

| MO 18046 | StaMet/100 GA Black Kapton® CB Polyimide Film  |   |
|----------|--|---|
| Features | <ul><li>Electrically conductive</li><li>Excellent thermal and radiation resistance</li><li>StaMet coated on one side</li></ul>                               |   |
| Benefits | <ul> <li>Excellent bleed off</li> <li>Low outgassing (ASTM E595-93 according to NASA)</li> <li>High emissivity</li> <li>Superior resistance to AO</li> </ul> | Learn how Dunmore<br>can help with your<br>next project.<br>Visit <b>dunmore.com</b> or call<br><b>+1 215 781 8895</b> for <b>USA</b> |

| DE330    | VDA/200 GA Kapton <sup>®</sup> Polyimide Film   |
|----------|---|
| Features | <ul><li>Outer layer 2 mil</li><li>1st mirror VDA</li></ul>  |
| Benefits | <ul> <li>Low outgassing (ASTM E595-93 according to NASA)</li> <li>Low emissivity and low absorptance</li> <li>Superior resistance to low and high T° ( -250°C to +290°C)</li> </ul> |



and + 33 6 78 55 28 69 for Europe.