

Gentoo™ Aerospace Water Shedding Coating

Transparent Canopy Protection



Product Name: Gentoo™

Material Type: Polymeric Coating

Application: Aerospace

Revolutionary Advantages:

Durable hydrophobic and chemical resistant polymeric coating exhibits no change after extensive testing and evaluation in harsh operating conditions.

Technology Readiness Level 8:

Actual system completed and qualified through test and demonstration

Benefits

Enhanced durability for polycarbonate or stretched acrylic transparencies

Simple coating application process

High-speed rain erosion & sand abrasion resistance.

Excellent transparency - minimal haze

Reduces icing-low ice adhesion strength

Exceptional weatherability - transparency lasts throughout lifetime with minimal maintenance.

Government Contract No.

FA8222-18-C-0016

Solution

The Gentoo™ aerospace watershedding coating, developed by Luna Labs, is a groundbreaking solution that greatly enhances pilot visibility during precipitation. It is a highly innovative product that has the potential to revolutionize the aviation industry by addressing a long-standing challenge. Unlike conventional hydrophobic coatings, Gentoo™ offers exceptional durability, transparency, and fluid repellency on a wide range of surfaces. The coating utilizes advanced technology developed by Luna Labs, which can be applied to an aircraft canopy to improve visibility during takeoffs and landings.

With the Gentoo™ coating, pilots can experience an unprecedented level of visibility, even in challenging weather conditions. This coating is specifically designed to shed water rapidly, preventing it from obstructing the pilot's line of sight. By repelling water effectively, Gentoo™ ensures that the cockpit remains clear and free from any visual disturbances. This not only enhances pilot safety but also improves the overall efficiency of flight operations.

Gentoo™ Features

Hydrophobicity: Easily sheds fluids at low speeds and low inclination angles

Abrasion resistance: Improved wear protection compared to polycarbonate & acrylic materials

Rain erosion resistance: Passes ASTM G73 erosion test at 523 knots for more than 30 minutes

Thermal cycling: Flexible between -65°C to +65°C without delamination or cracking

Environmental stability: No change after 1000 hours of exposure to QUV testing

Chemical resistance: No change after 1-week exposure to transmission fluids, deicing fluids, and jet fuel

Opportunity

Our aerospace solution is available for purchase through our commercial partner Ultra Tech by going to www.gentoo coating.com

LUNA LABS CAPABILITIES

Military-Specific Materials Development
Performance Evaluation & Testing
Lightweight Materials & Structures
Chemical & Biological Defense

Material Synthesis & Characterization
Material Design & Optimization
Failure Analysis & Forensic Investigation
System Integration & Engineering Support

Advanced Coatings & Surface Engineering
Sustainability & Green Materials
Collaboration & Technology Transfer