

# Metallic Foam to Reduce Turbofan Engine Noise



*Williams International*

## TECHNOLOGY

This patent-pending metallic foam acoustic liner, placed over the rotor of an aircraft engine, reduces engine fan noise by as much as 4 dB and could serve as a tip rub strip. The durable material can withstand high pressure and temperature variations, maintaining its efficacy even after simulated rub excursions or absorbing hydraulic fluids.

## COMMERCIAL APPLICATIONS

- ◆ Engine or nacelle manufacturers
- ◆ Ground power systems
- ◆ Cooling/ventilating fans
- ◆ Ducted propellers

## SOCIAL / ECONOMIC BENEFIT

- ◆ Reduces aircraft engine noise that plagues communities surrounding airports by as much as 4 dB.
- ◆ Brings aircraft closer to meeting stringent restrictions imposed by governments in the United States and Europe on aviation noise.
- ◆ Can be designed to minimize aerodynamic loss; increases noise suppression area, and doubles as a rotor-tip rub strip.



*Metallic foam acts as rotor-tip rub strip and reduces noise.*

## NASA APPLICATIONS

- ◆ Engineers at NASA's Subsonic Fixed Wing project will apply this technology to their goal of meeting the ever more stringent restrictions in the United States and Europe pertaining to aviation noise.

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