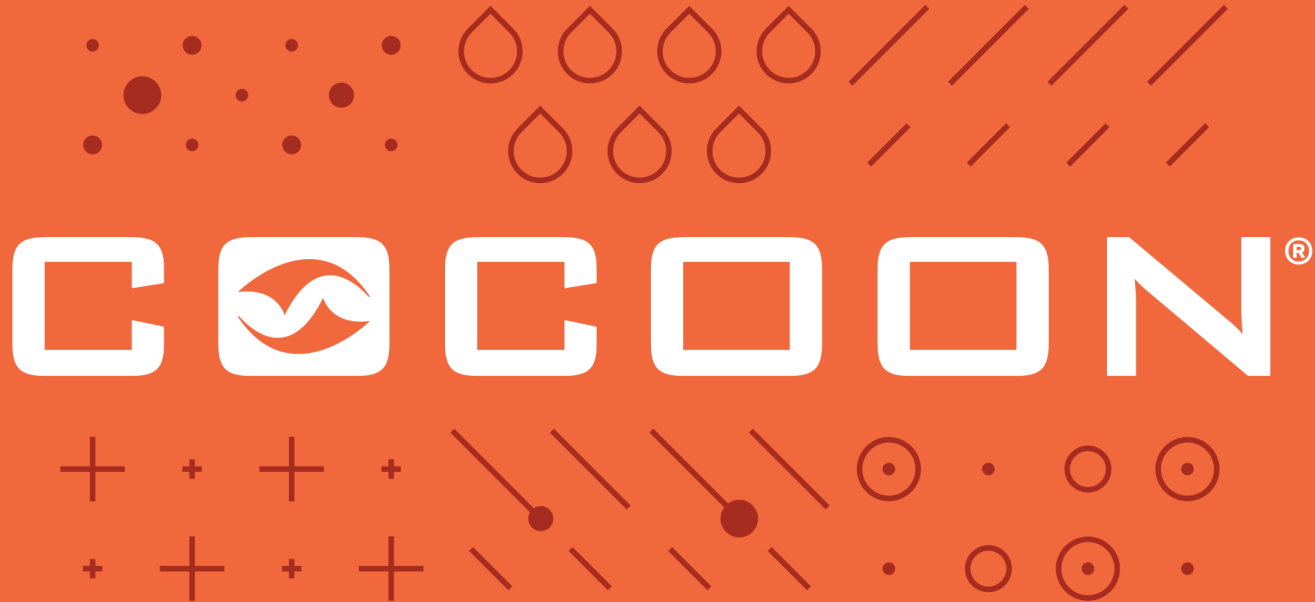


INTRODUCTORY BRIEF



Aviation Blankets

Improved Thermal & Acoustic Blanket (ITAB)

POC

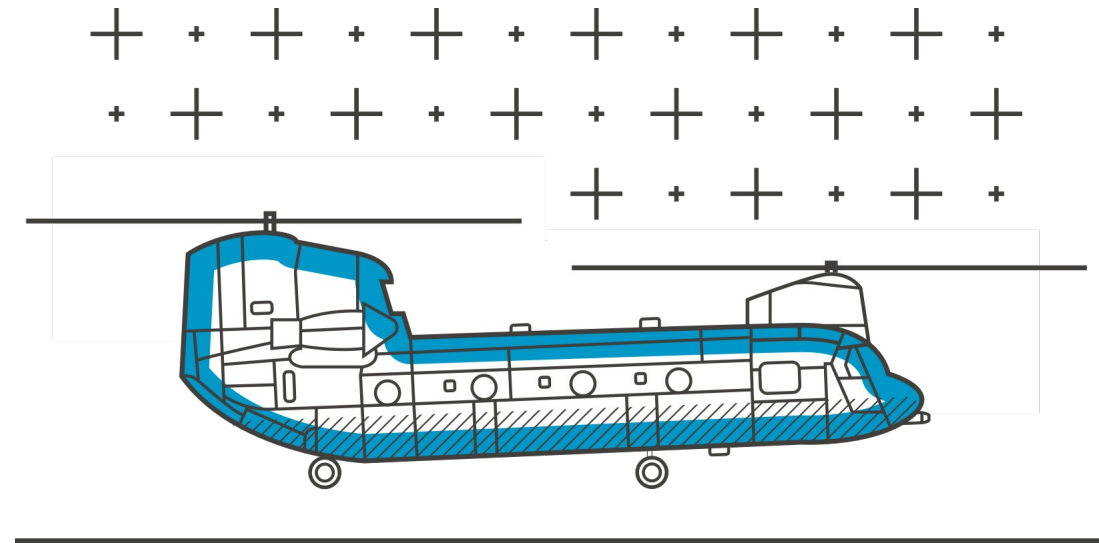
Cocoon, Inc.
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Our Improved Thermal Acoustic Blanket (ITAB)

Cocoon's Improved Thermal Acoustic Blanket (ITAB) represents game-changing modernization of aviation blankets. It saves significant weight compared to the old blanket, while also mitigating mold, mildew, and corrosion.

APPLICATIONS:

- + CH-47 (80+ currently flying)
- + C130 (AWR expected 2024)





Problem Statement



Old Blanket Deficiencies

- + They are heavy to begin with, and only get heavier with use as they absorb fluids.
- + They trap moisture against the airframe, creating mold, mildew, and corrosion.
- + Their outdated design reduces both thermal and acoustic performance.
- + Chronic attachment failures force flight crews to use 550 cord to keep them in place.





The Challenge



Aviation Blankets

Cargo Helicopter challenged the market to develop a thermal and acoustic blanket that would:

- + Be waterproof and resist oils & lubricants while remaining highly air-permeable.
- + Filter out contaminants to 1 micron but retain air-permeability.
- + Reduce weight while improving acoustic and thermal properties.
- + Be durable but lightweight.
- + Be washable and repairable in the field.

- + Stay firmly attached but keep moisture from building up against the airframe.
- + Stay firmly attached but be easy to remove and install.
- + Be inherently fire-resistant (no chemical treatments).
- + Prevent static build-up in order to protect avionics and ordnance.





“It’s difficult to describe the challenge of finding the right combination of textiles that would repel water, oils, fluids, and particulates while remaining highly air-permeable – not to mention having to be inherently anti-static, acoustically absorbent, etc. It was truly painstaking, but the result was a game-changing breakthrough.”

PETER LORD, MATERIALS ENGINEER



The COCOON ITAB

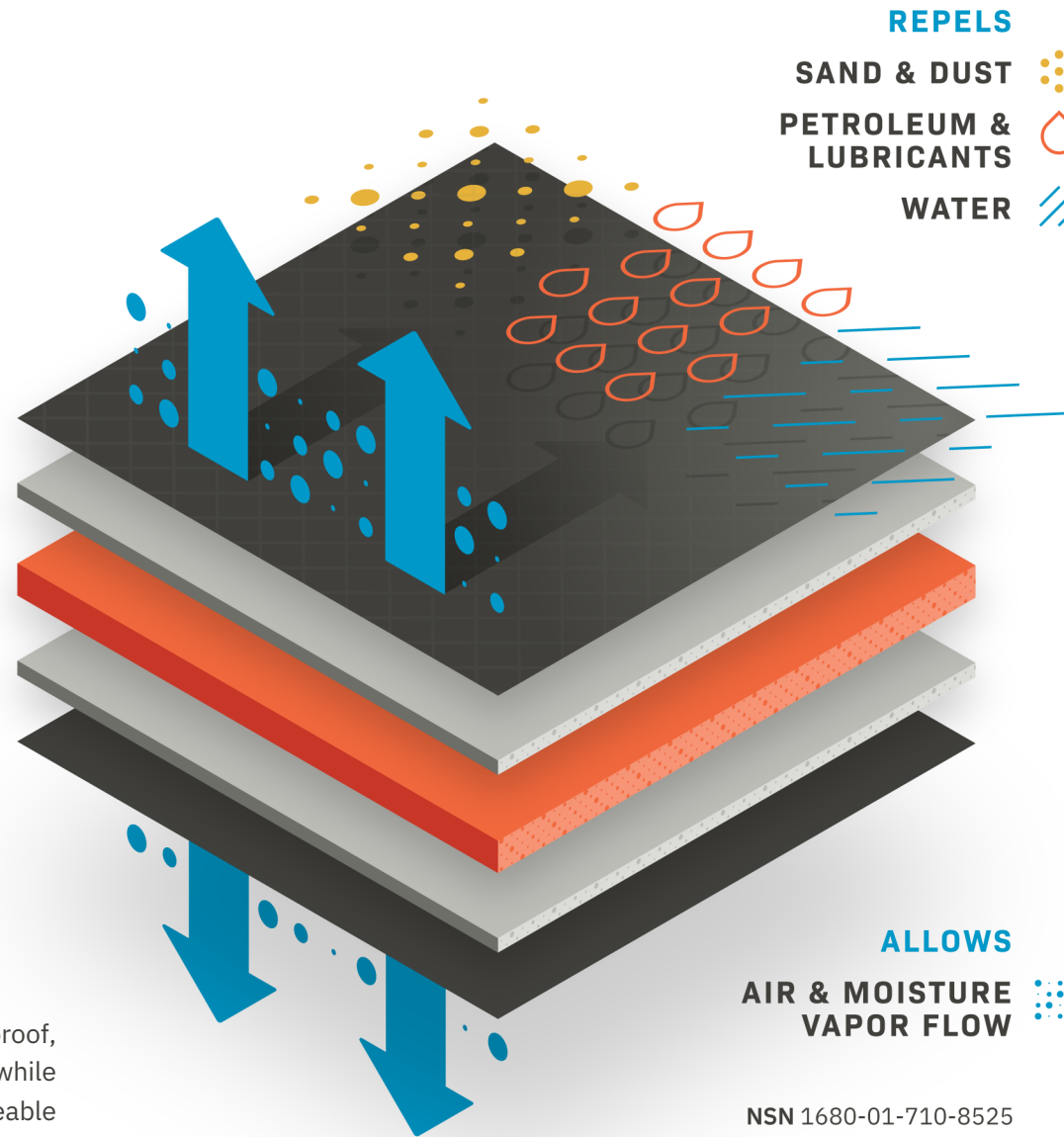


Aviation Blankets


The Breakthrough: Technology Meets Textile

- + Cocoon's ITAB is the product of many years of lab testing and field testing in order to meet Cargo PM's ITAB Performance Specification.
- + The resulting blanket system can best be described as advanced technology in the form of a textile.

Cocoon's ITAB is waterproof, hydrophobic, and oleophobic while remaining highly air-permeable



NSN 1680-01-710-8525
Patent US 10,770,055 B2

 Aviation Blankets



Cocoon's ITAB hasn't just modernized aviation blankets, **it has revolutionized them.**



After-use, the ITAB saves 140+ lbs. compared to the old blanket.



The ITAB offers a 40% improvement in acoustic performance.



Being air-permeable, the ITAB won't trap moisture against the airframe – preventing mold, mildew, and corrosion.



An improved attachment system eliminates the need for 550 cord.

**The Cocoon ITAB:
Game-Changing
Technology**

 Aviation Blankets
ITAB in Place



80+ ITAB sets currently flying on CH-47s



Test-fitting the Cocoon ITAB in the C-130 H/J

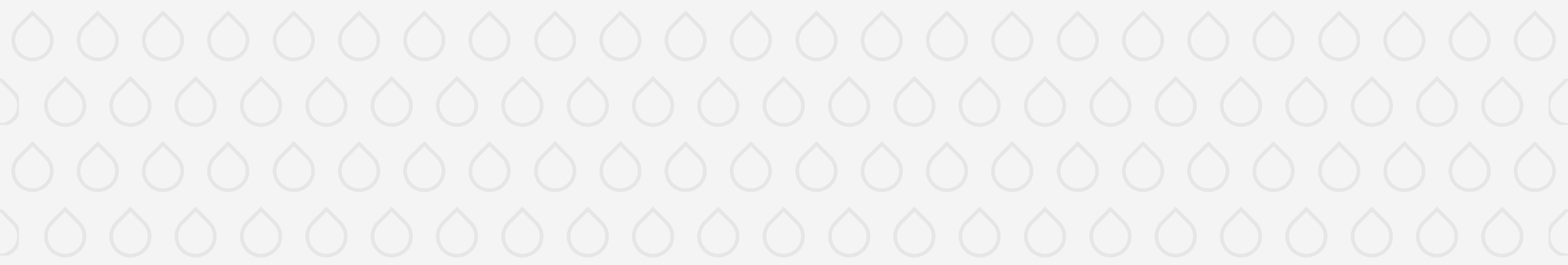
ITAB Features



FEATURE	BENEFIT	COCOON ITAB	OLD BLANKET
LIGHTWEIGHT	Significantly reduces weight when installed and after use	Weight new: 126 lbs Weight after use: 126 lbs	Weight new: 186 lbs Weight after use: 270 lbs
AIR PERMEABLE	Prevents moisture against the airframe	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MOLD/MILDEW RESISTANT	Prevents mold/mildew by eliminating moisture behind blanket	<input checked="" type="checkbox"/>	<input type="checkbox"/>
THERMALLY EFFICIENT	12% Improvement in thermal efficiency	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ACOUSTICALLY ABSORBENT	Exceeds ASTM E90 standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>
HYDROPHOBIC	Will not absorb fluids: wet weight=dry weight	<input checked="" type="checkbox"/>	<input type="checkbox"/>
OLEOPHOBIC	Resistant to oils, lubricants, and fuels; washable	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ANTI-STATIC	Inherently anti-static (for use with munitions/sensitive electronics)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SAND/DUST PROOF	99.7% filter efficiency for particulates down to 0.3 microns	<input checked="" type="checkbox"/>	<input type="checkbox"/>
WATERPROOF	Won't absorb fluids, eliminating weight gain	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FREEZEPROOF	Blanket won't freeze, or freeze to anything else	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FIRE RESISTANT	Inherently nonflammable (no chemicals added); prevents spread of fire	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IMPROVED ATTACHMENT SYSTEM	Blanket panels won't come lose or sag; no need for 550 cord	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Conclusion



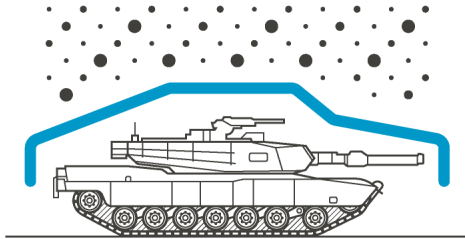
A major **leap forward**

- + The old blanket is deficient in numerous areas and outdated in design & performance.
- + Cocoon's ITAB meets every requirement of the Cargo PM Performance Spec.
- + Cocoon's ITAB is 60 lbs. lighter out of the box and 140+ lbs. lighter after use than the old blanket.
- + Cocoon's ITAB mitigates mold, mildew, and corrosion.

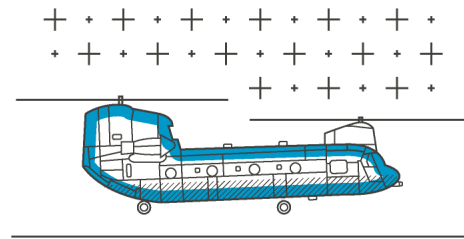


- + The Cocoon ITAB represent a 40% improvement in acoustic performance.
- + The Cocoon ITAB utilizes an advanced attachment system – eliminating the need for 550 cord.
- + The Cocoon ITAB received Air-Worthiness Certification in 2017.
- + The Cocoon ITAB is part of the IETM.
- + There are multiple procurement paths to make the Cocoon ITAB easy to purchase.

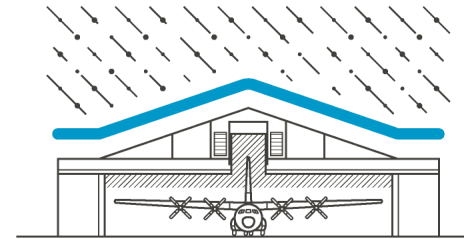
Increase readiness while reducing maintenance costs.



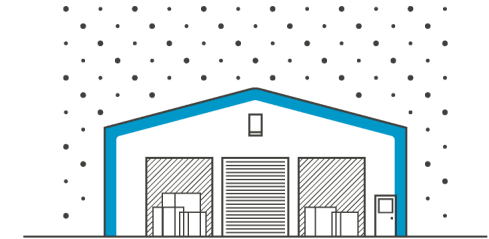
 PROTECTIVE COVERS



 AVIATION BLANKETS



 FABRIC STRUCTURES



 CORROSION-FREE ENVIRONMENTS