

THINDOWN®



Modern science and centuries  
of use have proven

**DOWN IS THE WORLD'S  
BEST THERMAL INSULATOR**



**THINDOWN<sup>®</sup>**  
**INSIDE**

PRESENTING  
**ADVANCED COLD WEATHER PROTECTION**

THE FIRST AND ONLY **DOWN FABRIC** IN HISTORY  
DELIVERING **UNPRECEDENTED WARMTH** TO -70F AND BEYOND  
CAPABLE OF DOWNSIZING ECWCS 7 LAYER TO 4-5 LAYERS  
LESS BULK LESS WEIGHT  
**REDUCES SOLDIER LOAD, BETTER MANEUVERABILITY**

**LIGHT**

Light as a feather, fixed into fabric

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**WARM**

Paramount performance  
Vastly superior to polyester in current system

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**BREATHABLE**

Natural down loft allows maximum air flow

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**NO COLD SPOTS**

Even distribution of down means consistent warmth

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**THERMOREGULATOR**

Unparalleled heat retention

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**PREVENTS MIGRATION**

Fabric structure eliminates the need for additional seaming and channel quilting, an end to fuzzy leaks and feather clumps

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**THIN & PACKABLE**

Compact, flexible and purpose built without any fluff  
Compressible, less bulk

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**RESPONSIBLE**

An ethical and versatile alternative to traditional insulations. Made with traceable and sustainable down, RDS or GRD certified. OEKO-Tex certified for a more transparent future for textiles, our planet and our health.



THINDOWN®



**WE KEEP YOU OUTSIDE LONGER - WARMER - SAFER**

COLD WEATHER PROTECTION JUST GOT MUCH BETTER

**MORE WARMTH – LESS LOAD**

ENHANCING SOLDIER EFFECTIVENESS

**IN EXTREME COLD ENVIRONMENTS**

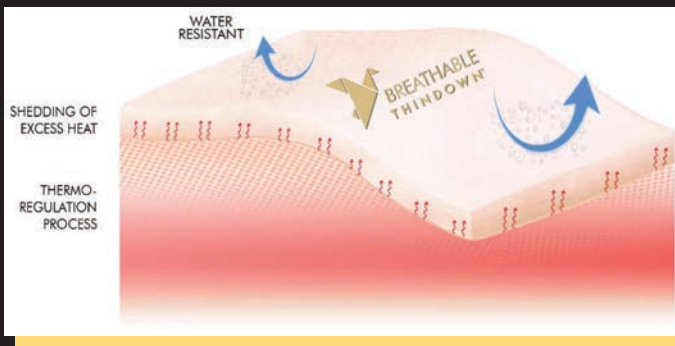
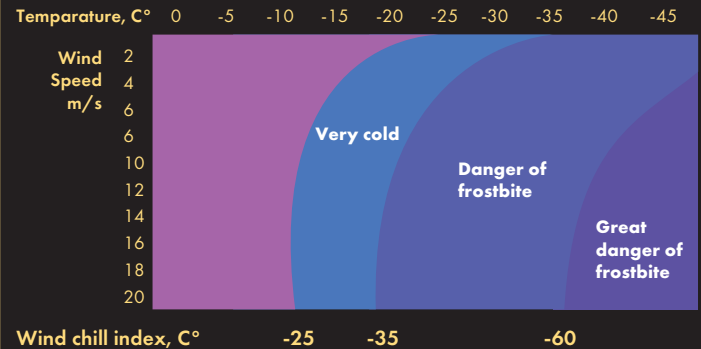




## The Thindown® Story The Science Behind Down

- ▶ Down allows the process of thermoregulation to occur. Much as it does in birds, Down clusters can wick away excess heat and help us regulate our body temperature.
- ▶ We traditionally measure warmth in CLO numbers, which describe the insulation value of a particular item of clothing. While CLO numbers are an important indicator of warmth, it doesn't tell the whole story.
- ▶ Capturing and retaining body heat is the most unique function of down clusters. This is critical in helping us prevent heat loss and hypothermia.

### WIND CHILL



- ▶ We are now better able to counteract the effects of severe cold and deal with the impacts of windchill.
- ▶ Thindown® can help to reimagine and perhaps reengineer cold weather protection and the layering system we create to trap air.
- ▶ A continuous flow of down plumes is the best air trap ever created. We can now also improve on nature's creation by calibrating the fabric to any thickness of down to suit any weather conditions to -70° F and beyond.



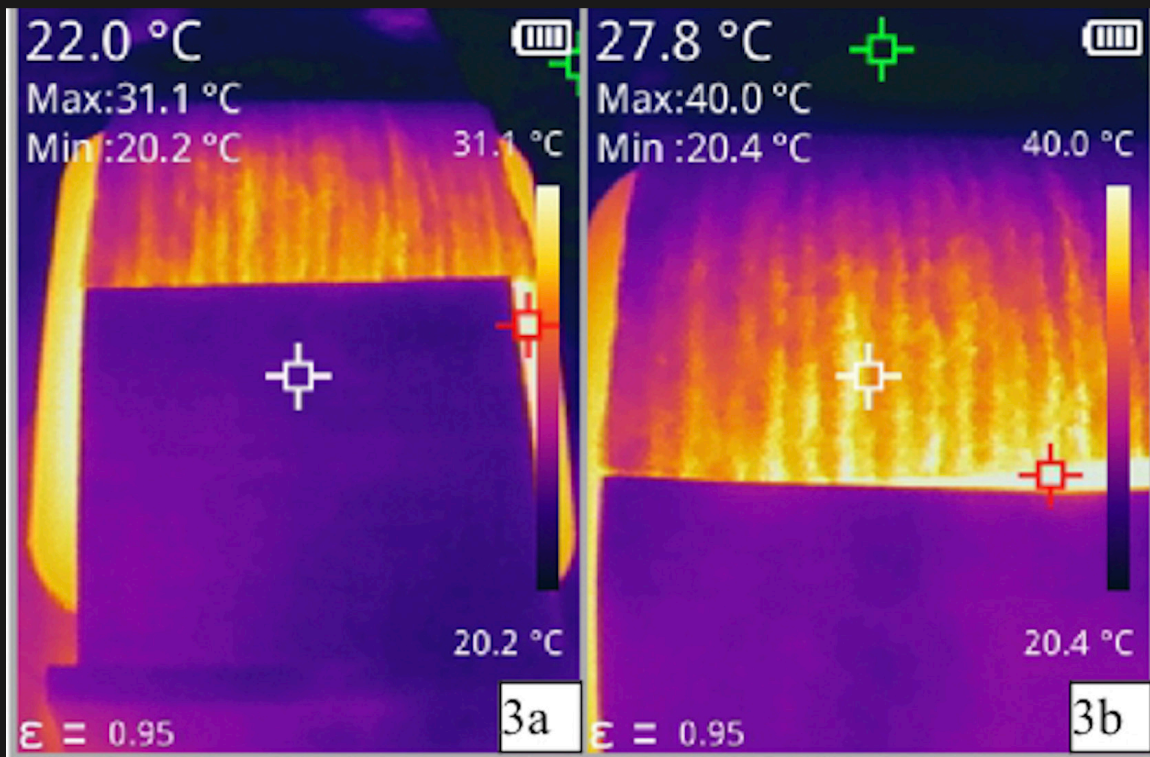
## The Thindown® Story Early Applications

- ▶ Thindown® is already in use in the luxury fashion and outdoor market as an insulation of choice by notable blue-chip brands including Armani, Brunello Cucinelli, Marella, Kanuk, Eddie Bauer, and Helly Hansen.
- ▶ While Thindown can play a role in fashion and outdoor recreational activities, it is most effective in cold environments where nearby shelter is not always available. Extended periods of time in harsh conditions can be incapacitating, can impede one's ability to think and act, and can even be lifethreatening. Under these circumstances, Thindown can deliver an improved level of comfort and safety.
- ▶ In addition to providing extreme cold weather protection, it is extremely light in weight and can highly compress and unfold in an instant, offering a greater degree of maneuverability and agility on long hikes and expeditions.





## THINDOWN® vs other fibers



THINDOWN

BRANDED POLYESTER

Demonstration of heat retention at 40°C with Thindown (purple square) and branded polyester (orange square). White target represents temp. of IR camera target, red target represents max. temp. within frame, and green target represents min. temp. within frame.

### TEST RESULTS

For the purposes of this trial, we compared Thindown (120GSM) with a branded polyester (120GSM) at 40°C (figure above). This can represent any synthetic polyester material with slight variation.

### CONCLUSION

Thindown consistently provided improved heat retention compared to polyester. The approximate different of 5°C between each fabric's exterior surface significantly indicates better heat retention of Thindown over polyester. The consistency of heat retention is also critical. A small opening or migration of material in the insulation can have a significant adverse effect over a few hours in releasing heat to the exterior as well as allowing cold penetration into the interior.

The ability of down to retain heat is due to the intricate 3D structure of the down clusters. These contain 2 million air pockets per one ounce of down, a feat of nature that has not been replicated with any synthetic materials. Down maintained the greatest recovery, highest bulk, lowest thermal conductivity, and was the best thermal insulation compare to other fibers.



## The Thindown® Story Cuttable Thindown®

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- ▶ Cuttable Thindown®-now user friendly with many possibilities
  - Garment mapping
  - Individualized warmth zones
  - Adjustable & interchangeable warmth panels



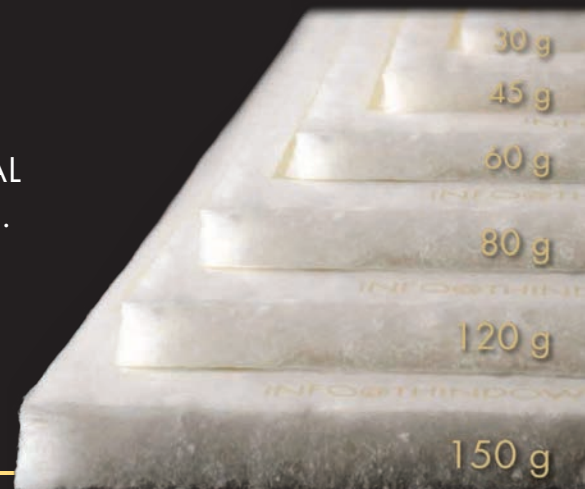
- ▶ Compression, breathability, light weight, and warmth allow for new applications in:
  - Footwear, headgear, gloves
  - New engineered jackets
  - Sleeping systems
  - Etc...

## Down Completely Reimagined

OUR PATENTED TECHNOLOGY DELIVERS ALL THE NATURAL BENEFITS OF DOWN IN THE THINNEST POSSIBLE PROFILE.

### REAL DOWN FABRIC GOOSE OR DUCK

85% REAL DOWN  
15% PET/PE



## Royal Canadian Mounted Police - RCMP

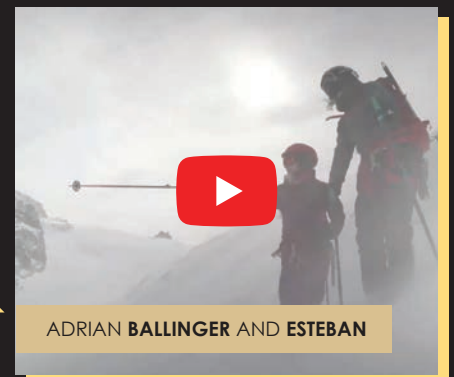
- ▶ The Royal Canadian Mounted Police placed its first Thindown® order in February 2021.
- ▶ The force has a legendary role in law enforcement across Canada, especially in the High Arctic.
- ▶ Following two years of testing, Thindown® met and exceeded the RCMP's rigorous standards and was adopted as the insulation of choice for the next generation of winter clothing across Canada.
- ▶ Thindown® insulation allows for production of protective apparel appropriate for all weather fluctuations and offering greater versatility.
- ▶ Work is underway to promote the adoption of Thindown® for gloves, footwear, headgear, and more with the RCMP and other services.







PROFESSIONALLY PROVEN IN THE FIELD  
NATURAL INSULATION PRODUCTS INC (NIPI)



# RIGOROUSLY PROVEN IN

HIMALAYAS & ANTARCTICA  
DOD NATICK TESTED & VALIDATED  
THINDOWN® IS TRADEMARKED & PATENTED

NEW LOOK OF THE DOWN,  
THINDOWN.

HIMALAYAS



ANTARCTICA





A NEW DIMENSION IN  
**WARMTH AND COMFORT**  
EXPLORE THE POSSIBILITIES  
WITH OUR ADVANCED COLD  
WEATHER **PROTECTION SYSTEM**



## APPLICATIONS

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JACKETS / PANTS / OVERALLS

FOOTWEAR

MITTS & GLOVES

HEADGEAR

PONCHOS

SLEEPING BAGS

BLANKETS

TENTS / SHELTERS

**THINDOWN® / NIPI, Inc.**

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Down: Master Sailor Dan Bard, Canadian Forces Combat Camera, Canadian Armed Forces Photo  
THINDOWN® IS TRADEMARKED AND PATENTED