

How do we know it works?

→ By testing – in house and independent

As well as our in-house laboratory in East Sussex and a panel of critical gear testers all around the UK, we use the independent testing facility at Leeds University to ensure that our stringent standards for the Nikwax Analogy® label are consistently maintained.

The 'Rain Room' at Leeds University Textile Department (UK) enables realistic and independent assessment of outdoor fabrics as garments

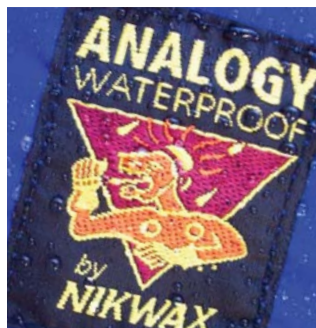
using the following process:

Mannequins are clothed in absorbent fleeces, cotton tracksuits and balaclavas, which do not wick easily, to aid detection of water movement, with test garments over the top.

The mannequin is placed under the shower in a walking position. It revolves six times per minute, for up to four hours while heavy rain is

simulated – via a range of drop diameters at an intensity of 28–32mm per hour (many times the intensity of normal UK heavy rain).

Standards guaranteed by the Nikwax Analogy® Label
Minimum four hour resistance to 3cm of rain per hour.



→ By what wearers of Directional Textiles tell us

"I recently bought the Parameta A shirt to go to Costa Rica – 90 in the shade with very high humidity. It was brilliant – keeping me as cool as possible, and despite high humidity dried quickly as good as new."
Clive Scott

"I've been wearing the Stretch Pants the last couple of days climbing and scrambling – think I'll be living in them!"
Christine Judge

SARDA



"I'm very impressed with your reversible shirts – they kept me comfortable in conditions ranging from very hot at lower altitudes to cold at 4000m. My previous experiences of walking in high temperatures meant feeling very hot on the move, then cold and damp when standing still. Certainly not the case with your shirt – I felt comfortable all the time, trekking up some of the steepest mountains I've ever encountered."
Sean McGachie

"I've tried just about every breathable system in the last 15–20 years and you grow tired of wearing an expensive crisp packet. No other systems come close to Nikwax Analogy. But the analogy goes deeper, it's like a second skin – comfortable, breathable and waterproof... and comes with a lifetime guarantee, is repairable and can be revitalised to perform as well as the day it was purchased. I can't recommend them highly enough."
Paul Cabby

"I'm so pleased with my Taiga fleece. The first time I wore it in the Lakes it got covered in water (I was bone dry even with it soaked). I put on my Alta jacket and came off the fells bone dry inside. Well impressed."
Phil George

"The windproof jacket proved the most versatile and reliable garment in the high Himalaya, worn almost everyday from the foothills to base camp at Pangpema, up Kanchenjunga Glacier and climbing the 7,000m Ramtang Peak. The featherweight yet robust jacket became a trusted friend."
David Nicholls

"My Nikwax Analogy jacket works brilliantly, outlasting all my previous Goretex jackets. It's more breathable and waterproof than anything else I've owned. I heard about Analogy when the North Lakes Mountain Rescue Dog Team started using it. This helped convince an absolute sceptic to try it. Thanks for kit that does what it says on the tin."
James Wardroper

→ How can I find out more and try out Nikwax® Directional Textiles?

To find out more about Nikwax® Directional Textiles:
Telephone: +44 (0)1892 786400
www.directionaltextiles.com

To find out more about Páramo® garments made with Nikwax® Directional Textiles and find Páramo® stockists:
Telephone +44 (0)1892 786444
www.paramo.co.uk

To find out more about Nikwax® Waterproofing and aftercare of Directional Textiles:
Telephone +44 (0)1892 786400
www.nikwax.com

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Photography: Dave Willis

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Nikwax® Directional Textiles are different – more than 'waterproof', better than 'breathable'.

→ They're different for a reason, providing significant benefits for active outdoor professionals and enthusiasts seeking gear to keep them comfortable, dry and safe in all weathers.

This leaflet introduces the Nikwax® family of seven unique Directional fabrics – explaining how they work and why they are different.

→ But why do we need Directionality...

...In weatherproof garments?

Directionality is a step up from breathability.

Breathability in waterproof textiles was hailed with excitement by outdoor enthusiasts as a huge improvement on 'plastic bag' technology, which kept the weather out, but couldn't let perspiration or encroaching water escape.

Breathable membranes allow water vapour inside a waterproof garment to escape to the outside, in the right conditions of temperature and humidity, without letting precipitation in.

It's essential to avoid a build-up of water in your clothing when you are working hard outside. Too much will lead to sudden and rapid cooling when you stop and rest.



However, fabric breathability alone is not enough

■ An adult working hard can produce 1 litre of sweat per hour – no existing 'breathable' waterproof fabric can transfer that amount.

■ Breathable waterproof fabrics can only transfer water vapour, not liquid.

■ Breathable waterproofs need a temperature and humidity gradient to move water vapour effectively – they stop altogether in the wrong conditions.

So, even in conventional 'breathable' waterproofs you can get an uncomfortable and dangerous build-up of water in your clothing.

Directionality in weatherproof clothing helps resolve these issues:

■ Constantly transferring both water vapour and liquid water from sweat or encroaching rain and splashes to the outside;

■ Consistently moving water whatever the outside temperature and humidity.

Directional – what's that?

Directional fabrics, uniquely engineered by Nikwax®, are designed to move water to exactly where you need it. They move not just water vapour, but liquid water too. All fabrics in the Nikwax® Textiles range have this advantage – from 'next-to-skin' fabrics Parameta® A and T to full outer protection fabric, Nikwax Analogy®.

The secret is in the fabric construction, using the properties of water and the arrangement of fibres to direct water to the right place. Investigating natural water movement in plants and understanding how fur and hair 'fibres' benefit mammals has helped achieve this Directionality in man-made fabrics.

We sweat when working hard to keep cool. But sweat is produced more at some parts of the body than others. Unless spread, that moisture can't evaporate to cool you down – so, you sweat more, ultimately leading to an even greater build-up of condensation in

your clothing. Not a pleasant feeling!

Directional fabrics next to your skin keep you more comfortable – they spread moisture evenly around your body to keep you cool and prevent 'pooling'.

Combine Directional base layers with Directional waterproofs – the result is a clothing system which directs water movement to achieve and maintain the optimum body temperature whatever the weather, whatever your activity, whatever your physiology.

Directionality = efficient water movement
= stable body temperature
→ comfort and safety in outdoor clothing



→ Who produces Directional Textiles?

■ Directional Textiles were conceived by Nick Brown, founder of Nikwax® and outdoor enthusiast. Nikwax® Waterproofing solutions are a proven success, offering an 'easier', 'safer' answer to keeping dry in The Great Outdoors. Now 30 years on, the huge range of Nikwax® products sold worldwide helps footwear, clothing and equipment to resist water. And without recourse to environmentally damaging solvents or aerosols.

■ In 1984 Nick, conscious of the drawbacks in conventional outdoor clothing, re-thought the fabric for outdoor garments, adapting natural methods of water transfer to enhance the performance of man-made fabrics.

■ In 1986, the resultant Directional clothing, tested in extreme conditions in the Colombian Andes, kept Nick warm, dry and comfortable at 3,800 metres. This was the birth of Nikwax Analogy®.



■ In 1995, the revolutionary reversible Parameta® S was added to Nikwax® Directional Fabrics – offering two distinct faces with complementary functions, perfect for Directional 'base layers'. Wear it fleecy side to the skin – you keep warm, smooth side to the skin – you stay cool.

■ More recent additions are Parameta® X (a stretch fabric), Parameta® A (maximum cooling

at high temperatures) and, in spring 2004, reversible Parameta® T (an ultra-light-weight, stretchy fabric).

■ The seven Directional Textiles have been tested extensively in the Nikwax® lab and in the conditions for which each was developed, before patenting. Existing fabrics are continually assessed and improved, while new fabrics are being developed and trialled for efficacy.

So which Directional Fabrics do what?

Nikwax® Textiles between them provide the four key functions that are important in any outdoor clothing system:

1. Wicking
2. Warmth
3. Windproofing
4. Waterproofing

Comfort outdoors depends on achieving the right balance between these to suit the weather conditions, your activity level and your physiology.

Open out the leaflet to find which Directional Textiles do which jobs and how they do it – which are ideal for warm weather and which will keep you comfortable in the cold and wet.

Directional: not just moving vapour, Directing liquid water to where you want it.

→ Who benefits from Nikwax Directional Textiles?

Páramo Directional Clothing Systems®, a major user of Nikwax® Directional Textiles, supply outdoor professionals and enthusiasts with garments made from these unique fabrics.

From shirts and legwear for trekkers and travellers, to next-to-skin layers, reversible shirts and 'more than breathable' waterproof jackets and trousers, all can be seen at www.paramo.co.uk. Designed to maximise comfort and safety during outdoor activities, the Directional fabrics play a crucial part in achieving this.



■ They're chosen by hikers and ramblers, climbers and mountaineers, backpackers and trekkers, cyclists and canoeists, bird watchers and dog walkers.

■ They've braved Scottish winters, visited both Poles, climbed the Alps and the Himalayas, crossed deserts, skied frozen wastes and sailed around the world!

■ Testament to their quality, Directional Textiles are routinely worn day in, day out by:

Mountain guides and outdoor instructors, including the Armed Forces Adventure Training Instructors;

Some 30 teams within the UK Mountain Rescue community and The National Search & Rescue Dog Association.

Outdoor workers from window cleaners to tree surgeons, plus English Nature, The Countryside Council of Wales and The National Trust for Scotland.



More than just breathable...

Directional!
Textiles by Nikwax®

Parameta® Fabrics



Parameta® A

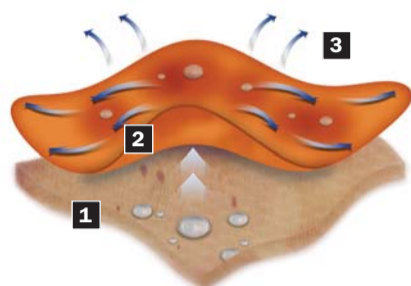
What it does:

Parameta® A is a Directional woven microfibre fabric that wicks very effectively, rapidly spreading perspiration over a large area for maximum evaporation, to keep you cool at higher temperatures. It also blocks out virtually all damaging UV rays. Parameta® A garments are ideal for travel and warm weather activities.

Key benefits:

- Lightweight and comfortable – you hardly know you're wearing it.
- Exceptional UV protection (SPF 50+).
- Wind resistant.
- Insect resistant because of dense weave.
- Antibacterial finish for freshness.
- Maximum evaporation and cooling through spread of perspiration over a large area.
- Rapid drying – eliminating cold spots after exercise by reducing 'pooling' of perspiration.
- Ideal when travelling – minimal weight to wear and carry, quick and easy to wash and dry on the move.

How it works:



- 1 Skin surface
- 2 Parameta® A fabric draws perspiration from the skin and spreads it rapidly over a large surface area
- 3 Moisture spreads and evaporates to ensure maximum cooling.



Parameta® T

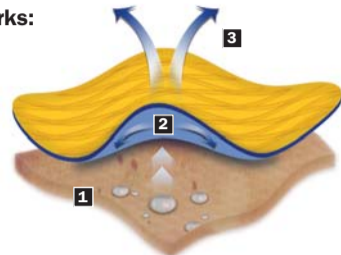
What it does:

The latest Directional fabric, reversible Parameta® T is amazingly lightweight and stretchy, and offers the choice of two levels of cooling. It is an asymmetrical, wicking fabric that directs water from one face to the other as well as rapidly spreading moisture to speed up evaporation and the resultant cooling.

Key benefits:

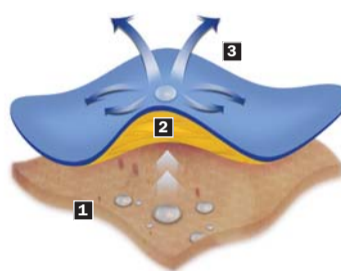
- Extremely lightweight, fine fabric feels good against the skin.
- Two fabric faces offer two levels of cooling – two garments for the price and weight of one.
- Moisture spreads very rapidly and evaporates quickly for maximum effect, so also reducing pooling of perspiration.
- Very quick and easy to wash and dry – perfect for travel.

How it works:



In hot conditions, especially when you are working hard and/or feel hot

- 1 Skin surface
- 2 Fabric's smooth water-attracting face worn next to the skin keeps water close to your skin
- 3 Moisture wicks and evaporates rapidly to cool you most effectively – maximum comfort during maximum perspiration.



When you need a lower level of cooling – in cooler conditions or if you feel cool

- 1 Skin surface
- 2 Fabric's honeycomb, air-containing face worn next to the skin, gives a feeling of dryness and offers a lesser level of cooling
- 3 Water is directed and held away from your skin, but effective evaporation of excess water still occurs.



Parameta® S

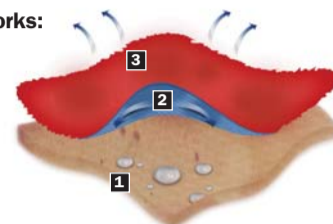
What it does:

Parameta® S is a reversible, asymmetrical, wicking, denier gradient fabric that directs water to one face and captures still air in the other, so it can cool you down or warm you up as you choose, to suit the temperature, your level of activity and your physiology.

Key benefits:

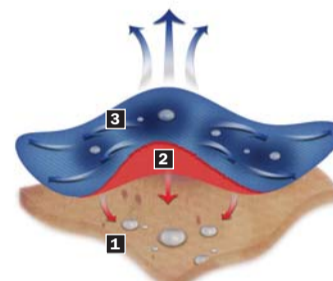
- Special fabric construction means water naturally concentrates in the smooth face of the fabric only.
- It protects from wind-blown mist or drizzle and recovers fast from immersion.
- Offers excellent temperature control and comfort – you can react to different temperature and activity levels depending on the way out you wear it.
- One garment fulfils the role of two – offering value for money and less to carry or wear.

How it works:



If you are working hard or are hot

- 1 Skin surface
- 2 Fabric's smooth, water-attracting face worn next to the skin holds water to cool you
- 3 Fleece face of Parameta® S.



If you are in colder conditions or keeping still

- 1 Skin surface
- 2 Fleece face of the reversible fabric worn next to the skin traps air and draws water away from the skin, warming the body
- 3 Smooth water-attracting face of Parameta® S draws water to the outer layer away from the skin.



Parameta® X

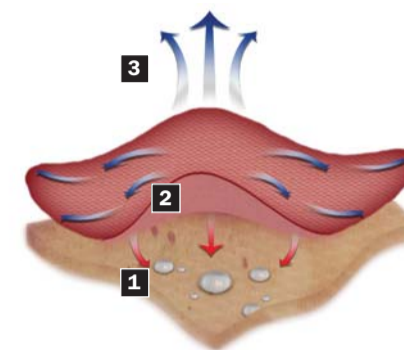
What it does:

Parameta® X is a lightweight, asymmetrical, wicking, density gradient stretch fabric that directs water away from the surface of the skin and traps air next to the skin to keep you both warm and dry.

Key benefits:

- Provides excellent comfort and freedom of movement through stretchiness.
- Protects your insulation by trapping air between fabric and skin.
- Keeps you comfortable by wicking away perspiration and reducing pooling of perspiration.

How it works:



- 1 Skin surface
- 2 Parameta® X fabric draws water away from the skin to keep you dry, capturing air between fabric and skin to warm the body
- 3 Water is directed away from the skin.

Parameta® fabric aftercare

Care of all Parameta® fabrics is simple and quick whether done at home or on the move:

- We recommend washing in normal detergent on a 40 degree synthetic cycle, or handwashing in warm water.
- We suggest that you don't use fabric conditioners in your final rinse and that you do not waterproof any of these fabrics.
- Garments can be dried naturally or tumble dried on a cool setting.

Analogy® Fabrics



Nikwax® Windproof

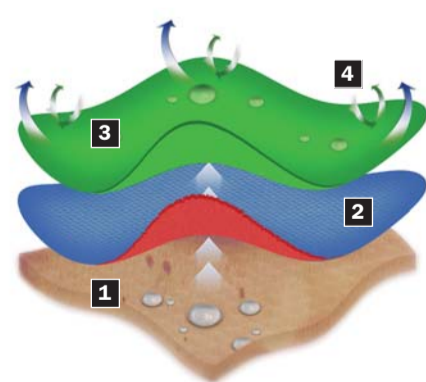
What it does:

Nikwax® Windproof is a closely woven microfibre fabric which cuts wind chill to protect your insulation but still allows movement of moisture away from the body. It can be treated with Nikwax® durable water-repellency to deflect the rain.

Key benefits:

- Prevents wind chill, to keep you warm.
- Easily treated with Nikwax TX.Direct® Wash-In to keep you dry too.
- Excellent moisture vapour transfer or breathability minimises condensation.
- Extremely resilient and durable fabric, it won't degrade in UV light.
- Folds or compresses without damage making it ideal to carry.
- Can be layered with Nikwax Analogy® Fleece to make a warm, waterproof, fully Directional system.

How it works:



- 1 Skin surface
- 2 Parameta® S is shown here worn next to the skin drawing water away to keep you dry
- 3 Nikwax® Windproof's closely woven microfibre provides windproofing and Nikwax® durable water-repellency
- 4 Wind is deflected away from the body, while perspiration as water vapour can escape. If treated with Nikwax® Waterproofing it also provides durable and renewable water-repellency.



Nikwax Analogy® Fleece

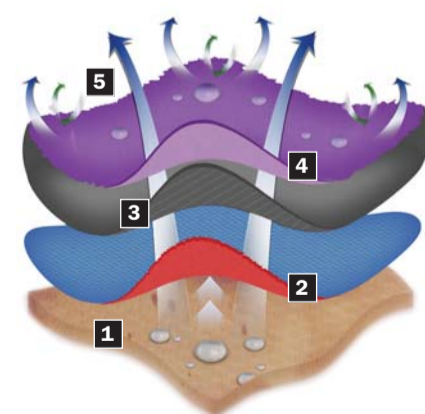
What it does:

Nikwax Analogy® Fleece, like mammal fur, repels water and actively pushes both liquid water and water vapour away from the body. Fleeces keep you warm by trapping still air between their fibres. Soak a conventional fleece in water and it loses up to 95% of its insulation. Nikwax® Fleece offers superior comfort, especially in humid conditions.

Key benefits:

- Two layer construction traps still air giving both insulation and wind resistance to keep you warm.
- The fabric combination provides water-repellency whilst actively pushing liquid moisture away from the body to keep you dry from precipitation, perspiration and condensation.
- Works just as effectively even in high humidity or very cold conditions.
- Water-repellency is easily renewed with Nikwax® aftercare.
- The fabric is soft, flexible and hard-wearing.

How it works:



- 1 Skin surface
 - 2 Parameta® S is shown here worn next to the skin, drawing water away to keep you dry
 - 3 Nikwax Analogy® Windproof Liner provides wind resistance
 - 4 Nikwax® Fleece outer fabric traps air between the liner and outer to give insulation
 - 5 Outer fabric is treated to give Directional water-repellency, deflecting water away from the body.
- Nikwax® Fleece can be further combined with Nikwax® Windproof to provide a fully Directional waterproof and windproof system.



Nikwax Analogy® Waterproof

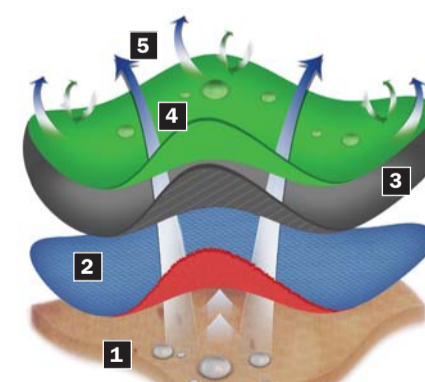
What it does:

The Nikwax Analogy® Pump Liner mimics the action of animal fur – pushing liquid water outwards to protect you from rain, condensation and perspiration, while protecting your insulation. This is combined with a Directional microfibre outer to deflect wind and rain.

Key benefits:

- Two layer construction traps still air giving superior insulation to keep you warm.
- Outer layer provides water-repellency while the Pump Liner actively pushes liquid moisture away from the body keeping you dry from precipitation, perspiration and condensation.
- Works just as effectively even in high humidity or very cold conditions.
- Water-repellency is easily renewed with Nikwax® aftercare.
- Soft, strong, silent and durable fabric still works even if you puncture it.

How it works:



- 1 Skin surface
- 2 Parameta® S is shown here worn next to the skin, drawing water away to keep you dry
- 3 Nikwax Analogy® Pump Liner pumps water away from the body
- 4 Closely woven microfibre outer provides windproofing and Nikwax® durable water-repellency. Air is trapped between Pump Liner and outer to give insulation
- 5 Wind and rain is deflected away from the body while perspiration and condensation as liquid water or water vapour can escape.

Why Analogy®?

Nikwax Analogy® got its name because of the way it mimics animal fur in providing both insulation and water-shedding which works in all conditions.



In the same way that seals, otters and bears keep warm in very wet conditions, the Nikwax Analogy® Pump Liner pushes liquid outwards to keep you warm and dry inside.

This gives superior waterproof protection from the elements. Plus while both soft-shell and conventional waterproof breathable fabrics can only cope with around 20% of the sweat you produce when working hard, Nikwax® Directionality will pump away all of it.

The special characteristics of Nikwax Analogy® result in significant advantages over conventional waterproofs and soft-shell:

- 1 **Warmth** – providing warmth as well as waterproofing allows you to leave some of your insulation layers at home.
- 2 **Works as effectively in all conditions** – Both conventional waterproofs and soft-shells fail in conditions of high humidity, while Nikwax Analogy® continues to pump water away whatever the weather.
- 3 **Soft but very strong fabrics** – because Nikwax Analogy® doesn't need coatings or laminates to work, the fabrics are much softer and more flexible but just as strong and tough.
- 4 **Silent** – Nikwax Analogy® is rustle-free, a pleasure to walk in or with.
- 5 **Immune to puncture** – You could fill a Directional Waterproof garment with pins, take them out, wear the garment in the rain and still stay dry! Puncture of the outer or inner fabric will not lead to leakage.
- 6 **Renewable** – The performance of Directional Waterproofs can be indefinitely renewed by caring for them with Nikwax® products, while conventional membranes can eventually crack and cannot then be repaired.

Rejuvenate the performance of Directional Waterproofs by regularly washing in Nikwax Tech Wash®. When needed, restore waterproofness by treating with Nikwax TX.Direct® Wash-In as per instructions.