

TECHNICAL GLOSSARY

37 °C CCR-Technology

37°C (98.6°F) CCR-Technology, developed by X-Technology®, helps your body regulate its temperature and lets your body's energy reserves support your performance.

3D Bionic Sphere® System

The patented, award-winning 3D Bionic Sphere® System stops unpleasant moisture, the feeling of overheating during rigorous activity and prevents cooling during rest and recovery phases.

3D-AirDuct Struktur

The three-dimensional knitted honeycomb chamber structure distributes pressure over a large area and simultaneously ventilates the skin. Sweat is quickly removed from the skin reducing the risk of chafing.

6-dimensionale Elastizität

6-dimensional elasticity allows for excellent freedom of movement in any situation. The material is abrasion-resistant and flexible and also extremely tear-resistant and protects against the wind and weather.

85° Technology Sleeve

Anatomically shaped sleeve, adapted to bike position.

Achilles Tendon Protector

The Achilles Tendon Protector is made of a highly abrasion-resistant and shock-absorbing material; it protects the Achilles tendon from pressure points and friction from the top of the shoe.

Air Guide®

Work like spacers and side stops along the Air-Conditioning Channels®.

Air-Conditioning Channel®

The permanent air movement along the Air-Conditioning Channel® effectively draws out and removes moisture from the sweat zones.

AirComPlex-Zone

At the solar plexus, directly under the 12th thoracic vertebra, major nerve fibres receive signals that influence one's overall well-being. This sensitive area is protected by special channels.

AirConditioning Zone

Increased air-permeability and a reduced insulation layer improve air exchange in the area of the inner thigh.

AirConditioningSpot

The AirConditioningSpot cools the knee without the risk of chilling.

AirCool Stripes

AirCool Stripes cool and ventilate feet even under the sole and provide incredible comfort even on the hottest days of summer.

AirDuct Pads

The AirDuct Pads offer an effectively ventilated padding that distributes the pressure from the backpack's waist belt over a large area.

AirDuct Protection

Friction, sweat and constant pressure changes can quickly become unpleasant on the buttocks. For this reason, a 5-millimetre thick AirDuct structure provides continuous ventilation and cushioning precisely in this zone.

AirDuct ShoulderPads

The anatomically formed structures maintain their air cushioning even under mechanical pressures, like those from heavy protective suits.

AirFlow Ankle Pads

A sickle-shaped arrangement of the AirFlow ankle pads gives the ankle the greatest possible protection during sports such as biking, skiing or motorcycling.

AirIntake

Fresh air enters the inside of the jacket through the front air vents, collects moisture and leaves the jacket through an opening at the top of the collar.

AirVent Shoulder-Pad

The AirVent Shoulder-Pad reliably keeps the shoulders pleasantly dry, even in the areas particularly stressed by the backpack.

Aktiv-Bund

The highly elastic Aktiv-Bund provides a secure fit and support without constricting movement.

Anatomically shaped footbed

The sole of the foot is cushioned and supported by the anatomically shaped footbed. The Air-Conditioning Channel[®] starts at the foot's arch and leads out of the shoe. Heat and moisture are continually regulated by the pumping effect which ensures that, with every step, fresh air flows around the foot.

Anatomisch geformte Gel-Pads

Provides effective shock absorption and uniform pressure distribution in the ischium area.

Asymmetric Compression

For one-sided sports such as tennis or golf, specifically increased compression enhances endurance, stability and muscle control on the more active arm.

Black Diamond

Black Diamond is almost as hard as a diamond and nearly indestructible. This hardness guarantees optimal protection against abrasions and durability.

Calf Protector

This Calf Protector provides both protection and ventilation: the horizontal and vertical padding contains wide channels to keep the area dry.

ClimaSphere System

The ClimaSphere system on the back effectively ventilates and transports moisture outwards. At the same time, the wave-shaped structure stores warm air and uses it as an insulator.

Climate Fix System

The Climate Fix System with 3D structures supports your body's own temperature management and works against overheating and cooling. It cools when you sweat and warms when you're cold.

Close Fit

Flexible fit that adjusts to every body contour. Sits closely without restricting and offers outstanding freedom of movement.

Cohesion-Wrap-Technology

Cohesion-Wrap-Technology gives the female connective tissue hold and support.

Comfort Cups

The seamless cups are made of extra-fine material to prevent unwanted friction and offer the athlete maximum comfort.

Comfort4000FX Bike Pad

The Comfort4000 FX Bike Pad is anatomically formed and fits the female anatomy, removing pressure from sensitive capillaries and nerves.

Diffuser

A ribbed structure on the inside allows the moisture-enriched air to escape.

Dolphin Rider Neck

Ergonomically optimized and streamlined collar, based on typical position during cycling, to avoid helmet-collar-collisions.

Easy Access Pockets

Particularly easy to reach and use, with unrestricted freedom of movement at the same time. Elastic closing edges keep the contents safely stowed even during powerful rides.

Efficient communication concept

Our modern communication concept, E.CO, helps us save around 650 tonnes of paper every year. Instead of distributing hundreds of thousands of catalogues, we print a single catalogue for each product we sell: our packaging. Elastic Straps

The ergonomically shaped straps are wide to avoid pressure points and guarantee secure support.

Endurance4000FX Bike Pad

The Endurance4000 FX Bike Pad is anatomically formed and fits the male anatomy, removing pressure from sensitive capillaries and nerves.

Entlastungszone

Supports the unhindered 360° mobility of the arms. No pushing and no pulling. Simply a perfect fit.

Ergonomisches PubicPad

Protects the sensitive pubic bone with a breathable, cushioned lining.

Evaporation Surface Expander®

Due to the use of a split fibre, the evaporation surface area is enhanced enormously.

Expansion Flex Zone

The flexibility of the Expansion Flex Zone and the elasticity of the yarn enable resistance-free movement.

Expansion Flex Zone at the shoulder joint

The Expansion Flex Zone encircling the shoulder joint optimise arm movement. The arms act to set the tempo in running while also stabilizing and thus have a direct effect on running technique.

Expansion Ribs®

The flexibility of the Expansion Ribs® and the elasticity of the yarn allow unrestricted movement without the risk of cooling down.

ExpansionKnee

The ExpansionKnee protects the knee from cold even when bent.

ExpansionNeck

The highly flexible ExpansionNeck prevents cold air from running along the neck when turning or bending one's head.

ExtractorPort Pads

The innovative ExtractorPort pads vent warm, humid air, maintain circulation and create robust backpack pads.

Fennec®

The basis of the X-BIONIC® desert fox technology is the unique material XITANIT®, which reflects radiated heat and widely distributes sweat across the skin, to provide effective cooling.

Fixation Ribs

The Fixation Ribs on the abdomen position the shirt. It guarantees that THE TRICK® is positioned correctly on the back so it can work effectively.

Flexor Arm Cuff

Asymmetrical cuffs on the arm ensure stability and prevent chafing.

Fort X Support

The x-shaped construction stabilises the breast tissue optimally. The fine, horizontal bars counteract vibrations, absorb moisture immediately and prevent chafing.

Heat-Transfer-Zone

The extremely fine net structure between the compression bars allow heat to be optimally dissipated.

Heel Protector

The heel area is particularly prone to blisters: the Heel Protector absorbs friction and thus effectively decreases the risk of blistering.

Ideo-Waistband Pants

The ergonomically optimised waistband with a higher cut at the back ensures that the garment remains firmly in place even during prolonged movement.

Ideo-Waistband Shirt

The ergonomically optimised waistband with a lower cut at the back ensures that the garment remains firmly in place even during prolonged movement.

Innerlap AirConditioning Zone®

In terms of muscle performance, the inner thigh is less reactive to cold. The air permeability is increased in this area through the Innerlap AirConditioningZone®, the insulation layer is reduced, so air conditioning is strengthened by air exchange.

Instep Protector

A soft cushion spreads out the point pressure and provides for a pleasant feeling in the shoe.

Instep Protector with AirVent Zone

The 2 millimetre-high 3D knit technology keeps the material from clinging fully to the skin and therefore allows effective ventilation. Moist, warm air can escape upwards out of the shoe. The foot remains dry and resists blisters.

InsulationPads

The X-BIONIC® InsulationPads assist in the retention of heat in the thighs and thus reduce the risk of injury.

Intelliyarns Garne

Intelliyarns® are used to optimise surface properties, accelerate moisture transport, increase the cooling effect or stop bacteria and odours.

Intercooler

This 3D construction collects the sweat on the thigh and spreads it over a large area to evaporate thus effectively cooling the muscle group.

ISO-Base

The anatomically formed ISO-Base has special air channels that trap body heat and prevent the large gluteal muscles from undercooling.

ISO-Blocker

The ISO-Blocker prevents from cold draughts and reduces the incidence of pressure points. Plus it ventilates and dries the area.

ISO-CalfPad

The ISO-CalfPad retains body heat. By holding body warmth in the channels, the cooling of the calf muscles is decisively delayed and increases to the body's overall sensation of warmth.

ISO-Pad

Through targeted insulation, body parts are protected from ambient cold. The ISO pads and the finer ISO pads isolate the hip bones and the buttocks, which serves to ensure the internal organ functions.

ISO-Shoulder Pads

The wave-like ISO-PADS on the shoulder reliably store body heat and thus effectively protect against cooling.

Kidney Ribs

Enhanced material for insulation in the particularly temperature-sensitive kidney and pelvis area.

Lambertz-Nicholson Achilles Tendon Protector

The Lambertz-Nicholson Achilles is constructed with a recess. The sensitive Achilles tendon is not loaded as it is protected in the opening of the pad.

MacroSphere System

The large three-dimensional MacroSphere System on chest and back provides a refreshing cooling effect. It reliably cools when you sweat and provides thermal insulation when you're cold.

Merino Wool

Soft, elastic and extremely durable sheep's wool. Warms and creates a pleasant feeling on skin.

Neuro-Response Bandage

The neuro-response bandage exerts targeted pressure on the muscle base, puts the receptors into action and improves muscle work.

Neuro-Response-Effekt

X-BIONIC® Partialkompression® puts peripheral nerve cells in a constant state of "fight or flight" via a steady stimulus. They then react quickly to stimulation, causing muscle contractions and reactions to increase.

Optimaler Schweißtransport

Improved sweat transport: thanks to new X-BIONIC® TWYCE γ -structure.

Partialkompression®

X-BIONIC® Partialkompression® applies targeted pressure on 1 mm-wide ridges. Left and right of the ridge is a compression-free area where compression could have a negative effect on blood circulation to the skin. In this way the blood flow through veins and capillaries remain unimpeded.

Passrippen

The fine rib structures ensure an optimal fit. Due to the elasticity of the material it adapts individually to your body's shape without constricting you.

Pressure Relief Zone

Relieving, lateral area increases wearing comfort

ProPrio-Padding

The neuromuscular reaction time of the stabilising musculature is improved with the lightest touch of the ribbed structures on these spots; actively ensuring the balance and stability of your entire body.

Reflektierendes Material

For better visibility and greater safety when it's dark.

Retina®

Depending on the desired effect, X-BIONIC® varies the material density and can compress it to a previously unexpected level. Thanks to Retina® technology, X-BIONIC® places functional zones more accurately than ever on the body.

RodTypePaddings

The RodTypePaddings on the back underneath the 3D Bionic Sphere® System and ThermoSyphon® absorb running sweat. Thanks to their high elasticity, the climate-regulating knit construction shapes to the body perfectly.

Shin Protector

Acts as a shock absorber and reduces the incidence of pressure points and the risk of sustaining scrapes and bruises.

Side Protector

The X-SOCKS® Side Protectors have been optimised for the use in boots. Special side impact protectors regulate and support the function of the Air-Conditioning Channel® in the respective application.

Silver NODOR

Silver NODOR®'s surface considerably reduces the growth of germs and bacteria, which reduces the chance of getting athlete's foot and bad foot odour.

Sinofit footbed

Thousands of tiny loops made of 99.9 % pure silver softly cocoon the foot and inhibit bacteria buildup effectively.

Skin NODOR®

This special high-tech fibre reduces bacterial growth and reduces odour formation through skin-neutral ions. SMC Technology X-BIONIC® is the only functional apparel worldwide that takes into account the asymmetrical demands of sports like golf. Result: a perfect positioning of the head of your club on the moment of impact.

SpaceFrame Technologie

SpaceFrames provide for open space between your back and the inside of the jacket. In this way, the evaporation process is optimised and a dry climate is maintained in the sweat-intensive back area.

Stabilisation Ribs

Fine rib structures ensure an optimal fit of the underwear. This ensures optimum functionality of the climate zones.

Stability Zone

The Stability Zone keeps the shirt in the right place and prevents uncomfortable riding up during dynamic torso movement.

Sweat Collector

Sweat collectors are placed where the body has the greatest accumulation of sweat. The sweat reaches the Sweat Distributor zones via this network of transport yarns.

Sweat Distributor

In the Sweat Distributor, the sweat that the Sweat Transporters bring in is collected over a large area and made available for the cooling mechanism. When heat is generated, it immediately counteracts evaporation.

Sweat Transporter

Wrapping around the body, this system continuously transports excess sweat via channels to the zones where it can have the largest possible cooling effect on overheated muscles.

Sweat Traps®

Large dimensioned sweating traps under the arm prevent the sweat from dripping and provide active cooling.

Symbionic® Membran

Inspired by amphibious cutaneous respiration system, the bionic membrane transports water vapour and sweat droplets.

Symbionic® Superlite Membran

The symbionic® superlite membrane by X-BIONIC® not only transports water vapour but also water droplets to the outside. It prevents moisture on the inside of the jacket and excludes the risk of overheating.

SystemGear

SystemGear makes the air exchange between at least two layers worn together possible. Moisture is absorbed and then most effectively distributed.

Textiler Sitzkomfort

The hand-cut and glued gel foam pads offer excellent pressure distribution and shock absorption.

THE TRICK®

A special weave along the spinal column simulates overheating of the body. As a result, the brain triggers sweat production long before overheating can occur. Early sweating permits more effective cooling that sustains energy reserves.

ThermoSyphon® System

ThermoSyphon® - The next generation of the 3D Bionic Sphere® system with improved natural thermodynamics. It cools when you sweat and warms when you're cold.

Thorny Devil Technology

The Thorny Devil Technology guides sweat directly to heat-intensive muscle areas. There, it evaporates for an optimal cooling effect.

Toe Protector

The asymmetric Toe Protector absorbs pressure and perfectly hugs the contour of the asymmetric toe area. In this way it protects them from blisters, chafing and wounds.

ToeTip Protector

ToeTip Protector cushions and protects the especially sensitive tips of the toes.

Traverse AirFlow Channel System

The three-channel cross-ventilation system helps to conduct warmth and moisture into the Air-Conditioning Channel®.

Triple Air Guide®

Thanks to the use of the newly developed air deflector system at the edges and in the core of the Air-Conditioning Channel®, their effectiveness was increased by 25% as was their stability.

Two-Step Front 3D Bionic Sphere® System

The 3D Bionic Sphere® system stops chafing which often leads to sores and open wounds. The collected sweat is used for cooling and excess sweat evaporates.

TWYCE Cool Zone

Hydrophilic and hydrophobic fibres collect excess sweat from the ThermoSyphon® and 3D Bionic Sphere® System and allow it to evaporate over a broad area to provide extra cooling.

Ultra-leichtes Material

The special 3D knitting technology enables extreme weight reduction for maximum efficiency and performance.

Venus XT Rib

A vertical ventilation channel increases air circulation and regulates perspiration.

Windskin®

The highly elastic material Windskin® repels wind and rain, and protects areas that are exposed and sensitive to cold.

Windskin® Formula 2.0

Windskin® Formula 2.0 with optimized moisture transport and improved breathability, repels wind and rain, and protects areas that are exposed and sensitive to cold.

Wüstenfuchs Technologie

The X-BIONIC® desert fox technology reflects heat radiation and distributes sweat over a large area of the skin for effective cooling. At the same time, the bacteriostatic yarn dissipates excess heat.

X-Cross® Bandage

X-Cross® Bandage is a cross ankle bandage knitted from an elastic material, which stabilises the ankle and optimally supports the foot's function without limiting the freedom of movement.

X-Impact Technology

X-Impact Technology stabilises blood vessels and eases the burden on your cardiovascular system. As a result of a speedy venous return of blood to your heart, muscles and organs are replenished more quickly with performance-promoting oxygen and nutrients.

X-Lowpounds

The newly developed, multifilament microfibre with a surprising warmth property - despite its low specific weight compared to conventional fibers, it provides excellent insulating performance.

Xitan®

Xitan® absorbs no water and is therefore waterresistant from the outside as well as highly breathable.

XITANIT®

The revolutionary material XITANIT® features high conductivity and is able to reflect radiated heat.

XITANIT® 2.0

The strong capillary action of the fibres accelerates sweat transport and shortens drying time. The surface reflects more heat and offers increased ability to store warmth and insulate with its microfilament construction method.

ZERO-Constriction Area

A highly flexible structure is used in the region around the bladebone so the shirt does not obstruct the arm during the backswing.

ZERO-Insulation Zone

The ZERO-insulation zone functions like valves as a part of the AirConditioning Channels®.