If the bicycle were your sofa, the padding of your cycling shorts would be the cushion – made to make you feel more comfortable on the ride. But, unlike your sofa cushion, the longer the ride takes and the more professional you are, the thinner your padding gets. So it's a bit more like your local pub. The regulars don't sit on comfy chairs somewhere near the fire place – they're on the hard stools right next to the bar. They don't mind this as they're used to it.

Saddling up in comfort

The apparel most associated with cycling is cycling shorts. Like swimming trunks when going into the pool, bike shorts are a 'must have' for anyone mounting a bicycle, especially when it comes to longer rides, when bike pants are an essential piece of clothing. They cushion and protect your bottom – or at least alleviate the discomfort to a certain extent. The human backside was not really designed for sitting on a narrow piece of leather and pedalling hard for hours and hours and on the world's hardest non-stop race – the Race Across America (RAAM) – even cycling shorts cannot prevent athletes from getting horrible eczema. However, in slightly less extreme races, bike shorts do make cycling a lot more enjoyable, not only in terms of comfort. Cycling shorts also constitute a large proportion of sales in the cycling apparel business. Asked for the best selling bike wear categories, manufacturer Sugoi says, "Bike shorts continue to be the highest volume category." This is in spite of the fact that the number of cycling jersey styles available outweighs the number of styles in cycling shorts by three to one.



Gonso has moved away from black as the only colour for shorts.

Gonso

For all occasions

The number of styles available in cycling shorts equals the number of required uses. In general one can differentiate them according to the type of bicycle being used and therefore the sitting position on the bike and the bike geometry i.e. street/racing, mountain bike/freeride, trekking/leisure and indoor/ spinning. This influences the style of the pant, the cut, the size and the positioning of the padding on the insert.

Cycling shorts originated in street racing and cycling tights are the classic style. They have a body hugging fit due to the high percentage of elastic fibre and their advantages are evident: no chafing that could cause soreness; no flapping in the wind that would slow the cyclist down unnecessarily; and, last but not least, additional warmth due to contact with the muscle. Standard tights are short, covering only the thigh and are

held in place with anti-slip rubber at the bottom of the leg. Some years ago, regular eight-piece tights were state-of-the-art; today's possibilities with welded seam technology allow bike tights to be made in irregular patterns to allow an even better fit and support for muscle groups by creating special pressure points.

In terms of length, next to short tights, you will find ankle long pants – for training or winter cycling – and pants that end just below the knee. Racing tights often also have bibs, which guarantee a perfect fit by reducing the possibility of the pants slipping down or the shirt sliding up, leaving part of the body uncovered and distracting the cyclist.

Even though many mountain bikers often wear tights like street racers, mountain biking is regarded as a younger sport, demanding 'cooler' apparel. Therefore loose-fitting bike baggies or shorts are more associated with mountain biking, and in particular free riding. The shorts are made of durable fabrics so as to withstand falls – which are more common – and have additional protector units as either fixed entities or as removable inserts. Mountain bike shorts have pockets like normal shorts and sometimes they even have removable padding so they can be adapted to normal style shorts for everyday use.

Bike pants for touring don't differ in style to standard cycling shorts. "Anything goes" seems to be the motto here. According to Ludger Tabelling, marketing manager at German producer Gonso, "Multi-functionality is in focus." Older cyclists or heavy weight users like cycling pants that are disguised as normal shorts. These shorts often come with removable padding and it is quite common for people on bike tours to use a base layer with a bike insert. Although the danger of friction increases with the number of layers worn, this solution is very popular. It avoids the need to buy special cycling shorts and the padding provided is sufficient for short leisure use. And, as weekend or holiday cyclists won't overdo it, the risk of soreness through friction is low.

For training in the gymnasium standard cycling tights are the norm. They are warm enough to use all-year-around, and they project the desired sporty image. These are the most common pants for sale.

Turning the insides out

The core component of cycling shorts is the built in padding insert or chamois. This insert was originally real chamois but nowadays day all of the fabrics used are synthetic and artificial suede is used as a covering for easy care and laundering. However, the name chamois has survived – especially in US terminology. Apart from actually padding the shorts, the main job of the insert is to absorb moisture and thus prevent chafing and saddle soreness.

In Europe, the production of inserts is an Italian speciality. The biggest producers come from Northern Italy and include TMF, Cytech and Teo Sport. Ever since TMF took up the development and production of cycling inserts in 1984, the company has collaborated closely with Swiss knitter Christian Eschler AG, which also markets the pads, and 'Eschler inserts' have become a brand name in bike wear.

As a priority, TMF/Eschler communicate the special functions of each cycling pad, and then it is up to the customer to position the pad and adapt it to their own specific needs or ranges. Customised products can vary in terms of colour, they can be personalised with a logo or even remodelled – but the function will be the same. At present, TMF and Eschler offer ten pads with special constructions and functionality.

'Argent-X' is the first cycling pad incorporating the silver fibre technology X-Static for antimicrobial properties. As cycling shorts are usually worn directly against the skin, the silver has a very hygienic and therapeutic effect too. As well as X-Static, Eschler also uses another antimicrobial fabric that it calls 'Hygienic'. This is based on silver ions which prevent odour and bacterial growth. Hygienic is used as a cover fabric in combination with several other functions, e.g. 'Quadro', 'Monolith' or 'Cool Pad'. The M.L.P. (Multi Level Pad)—which uses the Hygienic fabric—improves comfort by relieving the pressure points through different levels of padding and better shock absorption. The H.A.P. (High Absorbent Pad) also has variable foam thickness. Its major difference is the polyester micro-fibre with exceptional moisture vapour transport. The bi-elastic properties of the 4-Way-Pad gives the fit of the shorts a new dimension and the cyclist more freedom of movement. The 'Quadro' is a further development of the older 'Air Stripe'-pad. Both have channels for better air circulation. The Quadro has a reduced add-on surface and uses CoolMax for maximum moisture transport.

'The Cool Pad' and the 'LiquiCell Pad' are TMF's and Eschler's latest innovations. The Cool Pad is the first pad to use the Phase Change Foam 'ComforTemp' to absorb excessive body heat and cool the groin area which is said to help to prevent infertility. The 'LiquiCell' uses a LiquiCell gel-filled insert that ensures better distribution of body pressure and so reduces friction and soreness.

Cytech and Teo Sport have different approaches regarding their marketing concepts. Cytech divides its 'Chamois Platform' into three performance segments: 'Freedom of Movement', 'Long Distance' and 'Multiple Activities'. Each is then split into more specific subdivisions with different uses in mind. Accordingly, Cytech has



Eschler also recently introduced ceramic printing technology in cycling apparel.

Eschler

developed a foam platform and a fabric platform. With this modular system the clients can assign a chamois which is best-suited to a certain performance. Teo Sport offers two insert lines, premium and classic inserts, from which customers choose different technologies, but it does not say that some styles are solely for mountain or race biking. Andi Settler, freelance designer and one of the product managers for Teo Sport argues that many firms themselves don't want to assign one insert for one performance. Nevertheless, he himself does see that there could be a necessity for special products, due to the different sitting positions on mountain or race bikes. But, being a sales man, he knows that the industry's main aim is to keep costs balanced and to cover as many customer demands with one insert as possible.

Trends and demands

There is only one point that is undisputed concerning cycling short inserts. A difference between men's and women's inserts does exist. All bike companies distinguish between the two, making the men's pad longer to protect the testicles and the women's pad wider at the coccyx. Due to the high percentage of elastic fibres, bike short patterns and cuts don't vary too much. In terms of styles there are some fashionable distinctions and a functional problem to solve. From a fashion point of view, women's tights can vary regarding the leg bottom. Gonso has a special 'Ladies' Hot Pants 3/4 Jacky' where the leg isn't elasticised and has no anti-slip rubber, but a little slit in the seam to give a more comfortable knee width and a fashionable touch. Gonso has dedicated itself to finding women's bike pants solutions and has tried to solve the problem of bike bib-pants straps cutting across the breasts. Gonso itself says, "The ladies' bib-pants 'Pia' stirs the women's emotions. Highly praised or deeply despised." The disputed bib 'Pia' has a front middle Y-strap that comes up between the breasts like a pair of braces turned back to front. Italian producer Biemme even has a women's hot pants style of cycling tights.

In the thick of it

The thickness and density of the padding are heavily disputed. The problem with padding is that the thicker it is, the more it will absorb energy. And thicker padding won't necessarily prevent chafing any better and sometimes the contrary can even be true. Furthermore, thick padding gives users the sensation that they are wearing a nappy – something many users don't like. Stefan Weiss, marketing manager Europe for American bike specialist Pearl Izumi and former professional cyclist, argues that cyclists develop the ability to sit for hours – thus they can live with less padding. Pearl Izumi's bike inserts decrease in thickness according to the time spent on the bike. While its Tour chamois is made of 12mm dual density foam, professionals only get 8mm of padding. But not all companies follow this rationale and companies only use one size insert and differentiate purely in terms of style.

Very surprisingly, nanotechnology has not yet been acknowledged in cycling shorts. Although mountain biking and street racing can be a very wet and dirty business, leaving cyclists covered in mud, nobody has so far integrated nanotechnology into bike apparel. With cycling shorts, this is due to the high percentage of elastic fibres used for fit which make nano-compatibility a difficult issue. Nevertheless, nano in bike pants is a promising theme and the fabric industry is working hard to make it possible.

Another promising development is happening in terms of the colour of bike tights — and this is much needed. A couple of years ago, the saying went that one could sell any colour in bike tights as long as it was black — light black, dark black even night black. However, it seems that the industry, retailers and end-users are finally getting fed up with black and are willing to try different colours. Castelli's Road Shorts Mini Ergo (with bib) and Ergo 2 come in nine colours including yellow, orange, red, royal and white. The same applies to Biemme's basic line pants with blue, royal, and red as alternatives to silver and black. Gonso has produced its high-end bib and shorts Universe, state-of-the-art tights with UPF, Lycra Power and various Meryl fibres, in white with the motif of the whole PR-campaign. And even Vaude, not a classic bike company and always eager to keep on the safe side, now offers white bike tights to lighten up the black scenario in retail.



Pearl Izumi offers different inserts for various cycling activities.

Pearl Izumi