

SURFING HARDWARE WETSUIT GUIDE

In most parts of Europe and especially the UK a wetsuit is the fundamental component to most water sport disciplines. The sole purpose of a wetsuit is to retain body heat and protect from environmental elements such as wind and rain, allowing the user to partake in their sport for extended periods of time.

Any manufacturer's brochure can be found listing complicated jargon of technical features and hybrid materials used in wetsuit construction, but to most consumers such terminology is worthless. This guide therefore aims to inform Surfing Hardware's prospective customers of the key issues surrounding contemporary wetsuits design, purchase and use, to simplify how they work and inform them why our brands have been carefully selected to meet the wide demands of our customers.

This guide presents the many styles of wetsuits available on the market and the many different material and construction types they comprise of, also what to look out for in your purchase and the best ways to look after your suit. Our intention is to not to bombard the reader with technical jargon, but inform them of the important aspects to consider when buying a wetsuit. Our aim is to ensure that our customers get the best product for them by providing extensive product knowledge (**note the downloadable PDF files available for each wetsuit on SH website when available**) alongside exceptional customer service.

Wetsuit Theory

"Its always summer on the inside" Jack O'Neil, Santa Cruz, California 1961

Wetsuits are constructed of neoprene, a 100% waterproof synthetic rubber containing thousands of minute air pockets that offer great insulation properties. Neoprene is available in different thicknesses for different disciplines and situations, and once cut to size and joined by stitching a neoprene wetsuit is born, providing a snug fit around the body that traps a thin layer of water between the user and the suit. The users' heat then warms this layer of water allowing a sustained and enhanced body temperature in cold situations; this suggests how surfers in West Ireland and Northern Scotland can surf during winter.

So why do you still get wet?

Water will penetrate a wetsuit. The seals around the neck, feet and hands, the entry zip and the stitching of the neoprene panels are the reasons for water infiltration; therefore a number of different seams and stitching types have been developed over the years to reduce water infiltration and retain body heat (discussed later).

Neoprene thickness:

The significance of neoprene thickness is now clear. The thicker the suit the warmer you will be, but this does not mean people that feel the cold need the thickest wetsuit on the market. Although more thickness retains more warmth it can also reduce flexibility and movement i.e. thicker arm paneling can reduce paddling capability and in warm conditions can lead to the body getting too hot. Getting the balance between the correct suit thickness for the right situation can therefore hugely affect your performance.

Wetsuit thickness is measured in Millimeters (mm) and usually stated in 2 or 3 numbers, i.e. 5/4/3 or 3/2. The highest number represents the neoprene on the core of the body (torso) where most heat is produced and needed to be retained. The next lowest number states the arm thickness, often 1mm thinner to retain adequate heat, yet allow for flexibility. The final number will always represent the legs. It can be assumed that a 3/2 mm wetsuit is for warmer conditions (summer) and 5/4/3, and 4/3 for cooler (winter) times; these are characterized by design.



Shorties are short armed and short legged.

Convertibles, short arms, long legs, common for surfing and sailing to allow for flexibility in the arms.

Spring suits, When the water's starting to warm up, but you don't want to paddle out and find yourself shivering.

Full Winter Suits, long arms long legs, winter protection designed for extensive use in cold conditions.

Hooded winter suit, for those breaking the ice off the windscreen before they get in the sea!

Ultimate protection for the ultimate winter enthusiast often comprising of 6/5/4 mm neoprene.

Exceptions to wetsuits with mixed neoprene thicknesses may be cheap wetsuits such as those found in beach huts in summer and supermarkets, not designed for heavy use and not likely to last long. Other suits with single thickness neoprene are often used in diving, which demands high heat retention in deep waters but doesn't require much flexibility.

Location

So where are you using the suit? How often? At Surfing Hardware we suggest that if your suit is solely for summer use, partaking in general water sports such as sailing,

surfing, wake boarding etc, in the UK then a 3/2mm is perfectly adequate, and style is down to preference and discipline, these include shorties, with short arms and legs, often flat lock stitched as water infiltration is not such an issue in summer. For those that wish to surf throughout the winter months 5/4/3 mm 4/3 mm wetsuits are a must.

Discipline and location

The location and season in which you surf plays a vital role in the wetsuit you need. The fundamental aim of Surfing Hardware is therefore to provide our customers with versatility with their products, i.e. adaptability to customer's disciplines; (many of our local customers partake in an array of water sports such as kite surfing and surfing and this needs consideration in providing our service).

This guide is fundamentally based on surfing wetsuits, such types of wetsuit are applicable to most water sports due to the heavy demands surfers have on suits; these include unlimited movement, regular use and effective heat retention for long cool water sessions. Surfing wetsuits can be seen as often the market leaders and the most versatile available.

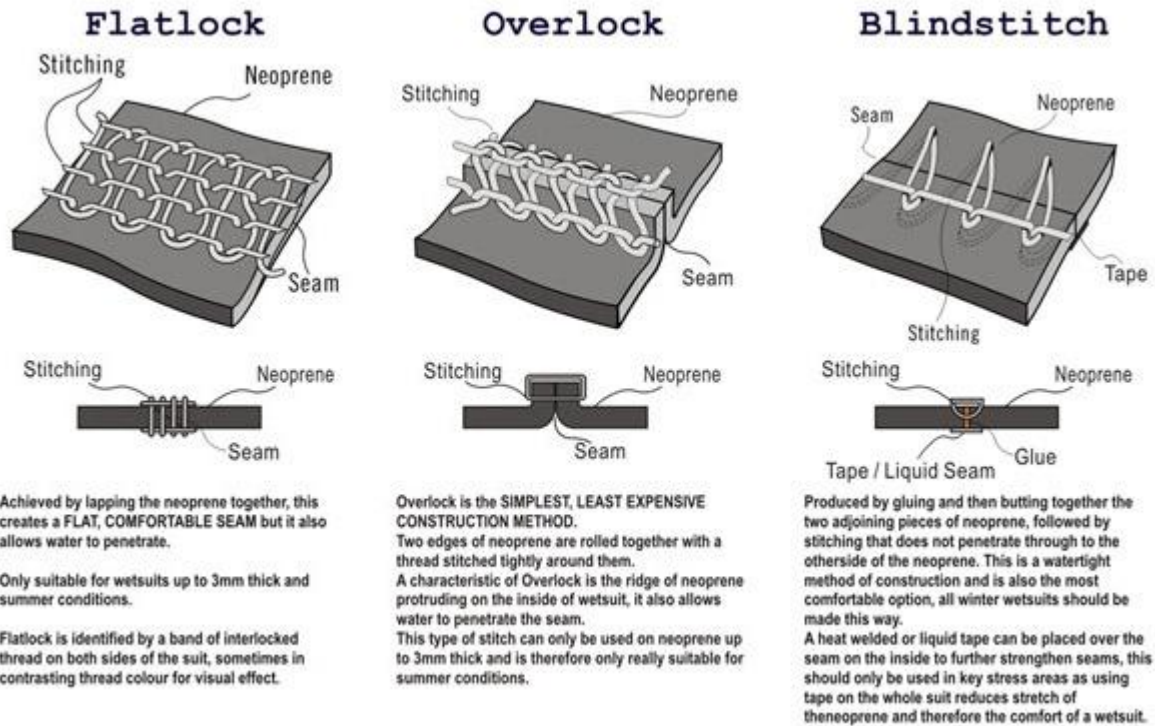
Wetsuit Brands

Over the last decade wetsuit manufacture, as like many consumer durables has relocated to the Far East to reduce labour costs. This has brought the retail prices of technical wetsuits down, yet increased the stock of cheap products coming onto the European market. As ASDA, Sainsburys and Tesco continue to flood the market with poorly designed suits many retailers, especially those with retail outlets continue to suffer. Our brands are all English and all market leaders. Being a Cornish company we promote both [C-Skins](#) and [Gul](#), 2 Cornish brands with extensive experience in design, construction, quality assurance and customer loyalty. Finally [Rhino](#), a top Devonshire surfing company that supply first class surfing accessories designed and delivered by top surfers.

Material Construction and stitching

Different suits will have different constructions that help categories their type and price. Relating back to issues of water infiltration, wetsuit construction is a vital aspect of a good suit. The fundamental reason for this is that seams and stitching allow what is known as 'flushing' when water gets into the suit. The zip, in which you enter the suit also plays a significant role in flushing. This is because stitching in wetsuit construction and the addition of a zip in which to enter the suit requires needle and thread; these create holes for water to infiltrate the suit. Such stitching is known as flatlock and overlock. Such stitching in a suit is adequate for summer wetsuits when water temperatures are higher, but in winter will be a vast disadvantage to sustaining body temperature, even in thicker winter designed suits (5/4/3).

The below diagrams illustrate how the stitching works.



Over lock

Although this type of stitching is strong, over lock stitching is a thing of the past, cheap but 'uncheerful' as it allows water in through the hundreds of needle holes it demands. Over lock is the simplest of stitching of the two neoprene edges. Common in low end suits, it's uncomfortable, avoid where possible!

Flat lock

Flat lock was developed from overlock stitching, its also strong, more comfortable than overlock, but still prone to high water infiltration due to the many holes it uses. This stitching is acceptable for short summer aquatic activity but also makes a great recipe for hyperthermia in the winter!

Seams

Here's when we can sort the men from the boys, GLUES! Glues and seams create a 100% waterproof seal between the panels, water will not come in, and will only penetrate your suit through the neck, arm and leg seals. Although this technical feature will often be more expensive it is by far the best method in which to prevent water infiltration and promote body temperature.

Blind stitched

Blind stitching compared to lock stitching is like Hawaii compared to Mavericks! We can recognise this with the introduction of glue, which is used to butt neoprene panels together to form a watertight seam. Although stitching is still used, it is not as severe as the previous stitches discussed, passing only along the surface of the neoprene, and not through it, guaranteeing a waterproof seal. Blind stitched suits will be more expensive, but a must for cooler conditions and lengthy sessions in cooler conditions. They remain flexible, strong, and useful for all water sport disciplines.

Glued and Taped

Recently, liquid tape, a flat silicon beading that is heated onto glued seams (inside or out) has further revolutionised wetsuit technology by guaranteeing zero water

infiltration. Although the most expensive construction available; such features are a must for year round European water sport activities.

Zippers!

The final issue in flushing is the zip – which is needed to enter the suit. The longer the zip the easier the entry, but also the more stitching required. A common way designers have combated the use of stitching has been through the ‘zipperless’ wetsuit which has arrived as neoprene flexibility and stretch has improved. A zipperless suit means the entry point is through the neck, which eliminates rear stitching and reduces water infiltration.

Other leading designs have arrived from C Skins, which have no rear zip, who rely on neck entry, neoprene that goes over the head and is tightened by a small front zip to form a tight seal around the neck which this reduces infiltration. Such suits are leading wetsuit technology and user warmth.

Zipped wetsuits remain widespread, this is because zipperless suits may not be applicable for everyone as they demand user flexibility to get on and off. Suits with zips (that accommodates water infiltration) have therefore been developed by inserting additional neoprene layers behind the zip stitching to prevent flushing, labelled ‘batwings’, ‘flaps’ and ‘heat shields’.

Maintenance and care

Good maintenance is key to long lifespan. Salt water will erode stitching, therefore rinsing wetsuits in fresh water is vital, not in washing machine! This will stretch, spin and distort the neoprene. Warm soapy water and specific [Wetsuit Shampoo](#) all maintain a healthy suit, as well as storing it out of the sun to prevent fading and in a dry cool area.

We understand how cold it can be at times and the last thing you want to do when you get out of the water is take off your suit but the thing you must not do is force it off and tread or stand on it. If you abuse your suit in this way it may void your warranty. A way to avoid this is to stand on a towel when taking off the suit or you can get yourself a [wetsuit-changing mat](#).

If however you do damage your wetsuit then please take it back to your local shop as soon as possible in order to get it repaired or refunded. If your warranty has ran out then you can always purchase a [wetsuit repair kit](#). These kits offer wetsuit glue and extra pieces of neoprene to cover any holes, alternatively contact us and we will arrange for a quote for a professional repair.

We really must stress the importance of looking after your wetsuit. Your suit is a vital piece of equipment that should be looked after at all times. If there are any questions related to wetsuit care then please contact us here at the barriers.

Final Word

We hope this guide has been useful to better understand wetsuit principles, features and the jargon often found in brands advertising materials. By now the type of suit you need, for whatever discipline and location should be clear, together with the stitching types required and how it should be cared for. Summer = thinner suits, maybe shorter arms or legs, stitching not so important, winter = full suits, maybe

hoods, gloves, boots – look for liquid seams and blind stitching, the key to staying warm and staying in longer! Surfing hardware are happy to answer any further wetsuit queries you may have.