

WETSUITS

“Fit and comfort” is the mantra when it comes to wetsuits. If a suit fits like a second skin – plus keeps water at bay, thereby reducing heat loss – it has done its job. With all the choices in neoprene today, there’s no excuse for feeling uncomfortable in a wetsuit.

SEALS Seals at the neck, wrists and ankles keep water from entering the wetsuit. Rolled smooth-skin seals do the best job, but standard smooth-skin seals are also effective, followed by O-ring seals. Many suits use nylon cuffs in place of seals, which are comfortable, but they don’t block water intrusion.

ZIPPERS A high-quality zipper backed by a smooth-skin sealing system creates a water-blocking barrier that can’t be beat. Some suits employ zippers with overlapping teeth designed to reduce water seepage even further.

BODY ARMOR Flexible kneepads provide substantial coverage for the knee and leg area but don’t hinder swimming. Anti-abrasion patches on shoulders and rear protect the wetsuit in high-wear areas.

SEAMS Glued and blind-stitched seams eliminate water seepage because the needle doesn’t go through the fabric. Flat-seam or flat-lock stitching is softer against the skin but allows water in, making it better suited for warm-water suits.

MATERIALS Modern high-stretch neoprene increases comfort and flexibility. Traditional neoprene is stiffer but resists compression better. Many suits use both types: compression-resistant neoprene for its thermal advantages, and strategically placed, anatomically shaped high-stretch panels to address the flexibility issue.



Out of the Box

Before purchasing a wetsuit, be familiar with the materials and designs utilized in making wetsuits, and figure out what kind of diving you do.

HOW A WETSUIT WORKS

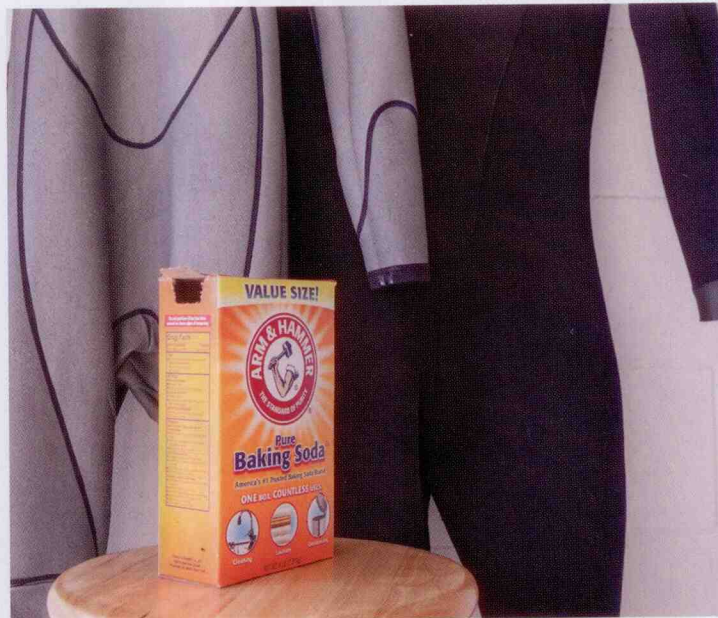
Wetsuits are made of neoprene rubber, a closed-cell foam that traps millions of tiny gas bubbles within its structure. Unlike open-cell foam (i.e., a sponge), water won't saturate neoprene, but the gas bubbles tend to give the material a lot of inherent buoyancy. When you put on a wetsuit, your 98.6-degree body temperature warms the gas bubbles in the neoprene, which act as insulation. This, combined with a snug fit, minimizes the amount of water that enters the suit and keeps body heat from escaping.

In order for a wetsuit to do its job, it should: 1) be the correct thickness for the water temperature you're diving in, 2) have seams, seals and zippers that minimize water intrusion, and 3) fit. The truth is, no one suit will deliver the same thermal performance for all divers. There are simply too many variables that need to be factored in. So when you hear a claim that one particular suit is warmer than another, you can't count on this being true for you. But what you can count on are a number of design and construction methods that make a high-quality suit. Find a suit with the right stuff, and you will find wetsuit nirvana.

ILLUSTRATIONS: BRUCE MORSE

HOW TO CARE FOR A WETSUIT

- ▶ **AFTER A DAY OF DIVING**, try to avoid putting your wetsuit in the sun or in the trunk of a hot car. And never wash in a washing machine. Instead, as soon as you can, soak your wetsuit in a tub of cold or lukewarm fresh water (hot water can cause the suit to lose some flexibility) with a mild solution of baking soda or wetsuit shampoo (never use bleach). Using a mild detergent will help prevent the neoprene from taking on an odor. Give it an occasional agitating swish like the motion of a washing machine. Soak for about 30 minutes, and then turn the suit inside out and let soak for an additional 30 minutes.
- ▶ **TURN THE WETSUIT INSIDE** out, and then hang it on a fat hanger (standard narrow hangers will crease the shoulders) out of direct sunlight. When dry, turn it right-side out and repeat.
- ▶ **ONCE COMPLETELY DRY** inside and out, lubricate the zippers and store back on the fat hanger.
- ▶ **DURING THE SOAK**, scrub zippers and Velcro patches with a toothbrush. Work the zipper car up and down the track to break loose any dirt caught in the teeth.
- ▶ **PULL THE WETSUIT** from the tub and give it a thorough rinse with a hose, inside and out.
- ▶ **INSPECT FOR TEARS** or gouges, especially along the seams. If necessary, resew the nylon with heavy polyester thread or repair the neoprene with wetsuit cement. Also check the zipper for broken teeth.



If that's not possible, fold it loosely on its own shelf, preferably with some crumpled newspaper or old T-shirts stuffed inside to give it some form. Make sure not to lay heavy gear on top because that will create dents and/or crush the neoprene, accelerating the loss of the suit's insulating capabilities. Store it where the temperature is consistent.

What You Need to Know About Neoprene Thickness vs. Water Temp

The colder the water, the thicker the wetsuit. But how cold, and how thick? Many factors enter into this equation. First, there's the personal. Everybody has a different body thermometer, based on gender, age, health, body fat, metabolism and individual comfort level. Then there's the diving itself. How many dives you make, how deep you go, how long you stay, not to mention the topside conditions — all of these make a difference. Given that, here is a general guide to choosing the correct thermal protection:

WATER TEMPERATURE	FOR WARM-BLOODED DIVERS	FOR DIVERS PRONE TO COLD
	85 Degrees and Above	Dive skin
80 to 84 Degrees	2 mm shorty to dive skin	2 mm to 1 mm fullsuit
73 to 79 Degrees	3 mm fullsuit to 2 mm shorty	5 mm to 3 mm fullsuit
66 to 72 Degrees	5 mm to 3 mm fullsuit	7 mm to 5 mm fullsuit
50 to 65 Degrees	8/7 mm semidry to 7 mm wetsuit	Drysuit
Below 50 Degrees	8/7 mm semidry or drysuit	Enjoy the water from the nearest coffee shop