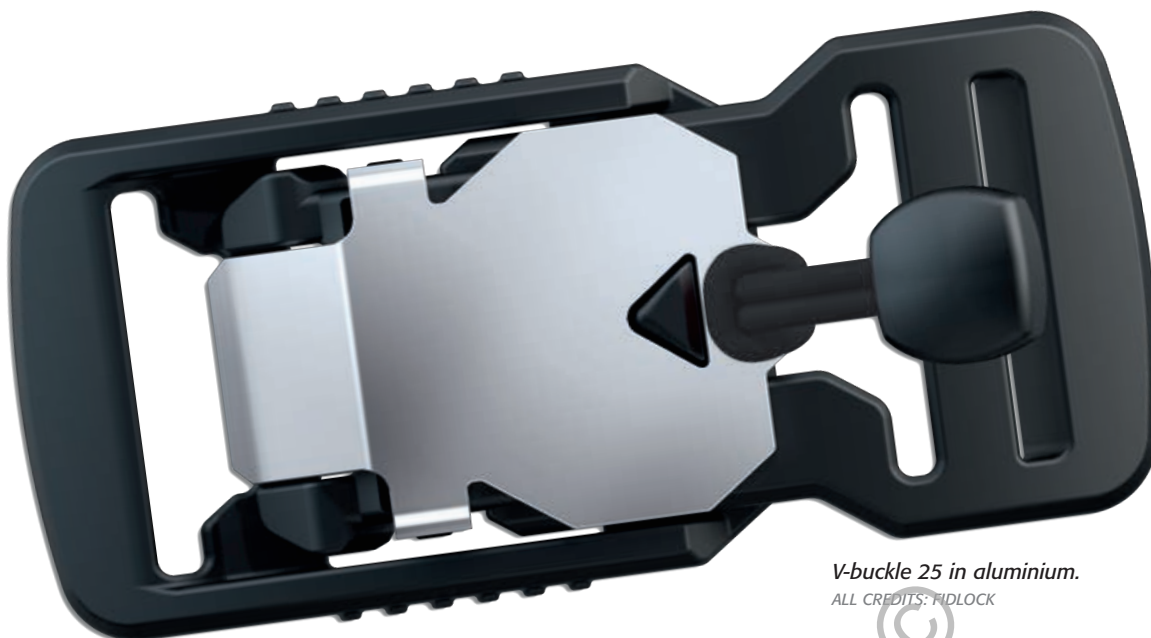




V-buckle 25 in aluminium.

ALL CREDITS: FIDLOCK

Fun and Function

The methods used to fasten footwear are as extensive as they are diverse. The most common is of course the simple lace as it is both functional and, by simply varying the length, thickness, profile and material used, it is suitable for a wide range of footwear types. This has not prevented many other systems from appearing over the years ranging from various types of buckles through to zippers and hook and loop. A more recent development has been by German company Fidlock that cleverly combines two principles, mechanical and magnetic, to create a range of fasteners that can be applied to a wide range of consumer products such as bags, clothing, motorcycle helmets and, increasingly, footwear.

Joachim Fiedler, the man behind Fidlock, started out as a professional cellist where he found that not only was carrying his cello case difficult, the bow holder inside it badly needed improvement. Sensing a commercial opportunity, he formed his first company, Fiedler Cases, to manufacture cases for various types of stringed instrument. It was here that he first had the idea of a magnetic closure system. This first system was designed to hold the bow in the case as well as

make it easier for it to be removed and replaced without having to let go of what could be an extremely expensive instrument. Being both a natural inventor and a born entrepreneur, he began to explore ways to adapt his magnetic closure idea to suit other markets and products.

The clever part of the resulting fasteners is that it is not the magnetic part that bears the load but rather the mechanical aspect. As Joachim Fiedler explains, "We developed a completely new system that did not exist before the Fidlock Principle was developed. We found a way to intelligently combine the advantages of two tried-and-tested fastening concepts, those of a magnetic and a mechanical fastener. It wasn't simply a case of adding functionality as we managed to successfully combine the individual advantages while, at the same time, excluding the disadvantages. Although it might look simple, it in fact involved an exciting development process, which resulted in the Fidlock Principle with over 30 patent applications."

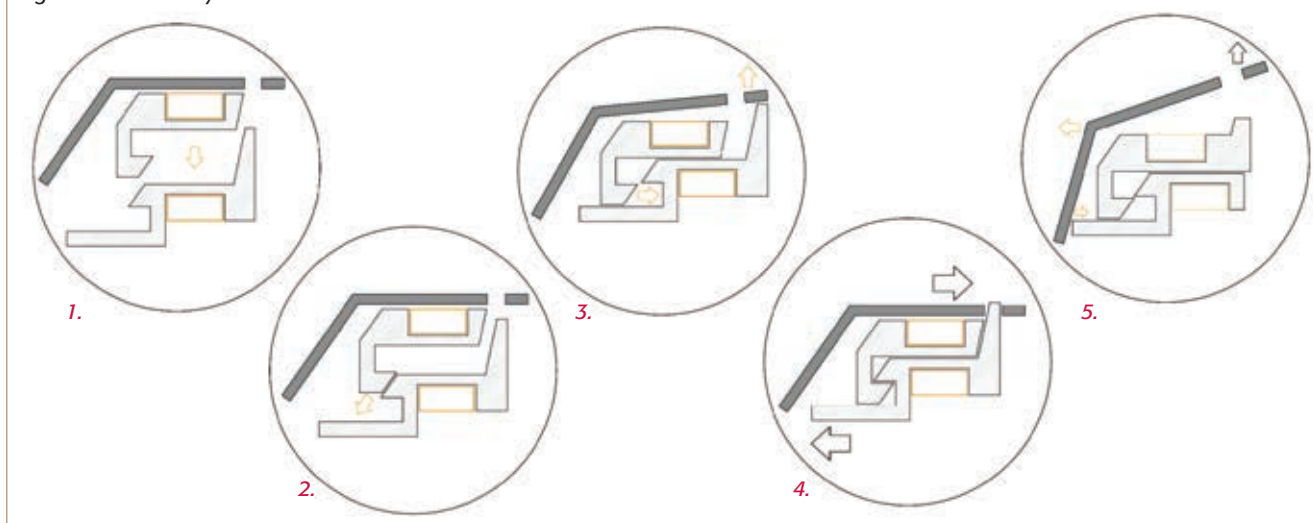
HOW DOES IT WORK?

The key to this lies in the combination of a magnetic fastener with mechanical snap function. Strong

magnets make the fasteners easy to close, while the snap function ensures a continuously high locking force. In addition, the opening and closing procedures differ from one another, which means they each function according to a different principle. This is an essential feature of all Fidlock fasteners. The functioning of a traditional mechanical fastener, for example, is always the same as in the case of a door: depress the handle, then open and close it. With the Fidlock Principle, magnets close it automatically and the fastener snaps securely shut. The latter can then be opened by simply sliding, tilting or rotating it, depending on the model. But even these procedures can differ from fastener to fastener. If a customer requires stronger magnetic force, a faster closing procedure or easier opening, a fastener can be adapted to their individual needs.

A good example is the V-buckle 25, developed for situations where a maximum degree of security is called for. The greater the weight bearing against it, the more force is required to open it, so that it could be said to be essentially self-securing. It is designed for 25mm width straps and Fidlock says it is able to withstand stresses of up to

Figure 1: V-buckle system.



70kg. The way in which it operates can be clearly seen in *Figure 1*.

1. The top section of the buckle attached to the strap is placed over the lower one attached to the upper or another strap.
2. The magnets start to pull the two sections together.
3. This causes the top section to slide diagonally over the lower one.
4. The two sections then lock tightly together.
5. The buckle is opened by simply tilting the stainless steel top plate upwards and the two sections simply slide apart.

ALTERNATIVE FASTENERS

Two other fasteners that can be used for footwear are the Snap and Hook types. The Snap range consists of a large selection of two-part connection pieces—male and female—that can be combined with each other in a wide number of configurations so designers can select the right model and type of fitting for different materials and material thicknesses. Due to its extremely compact design, number of variants and mechanical locking forces, it has a wide range of applications. Those with high-quality metal covers in different materials and finishes offer further design scope. They can be in brass or aluminium with brushed, polished, anodised, chrome-plated or even gold-plated finishes to create an individualistic and exclusive look to the finished shoe.

The Hook 25 is more like the V-buckle in the way it operates. Originally developed as a fastening for motorcycle

helmets, it is made from aluminium for 25mm wide straps, is extremely strong and said to be capable of withstanding loads of up to 200kg. Footwear of course does not call for the same degree of strength and so Fidlock also produces a version in high impact plastic that is perfectly adequate for footwear applications but also has the same 'high tech' visual appeal of the aluminium original. As with all Fidlock fasteners, there are several ways to attach them including stitching or welding them to webbing or straps, or directly onto the upper itself depending on the materials involved.

There would appear to be many different types of footwear where these fasteners could be used, including sports shoes, sneakers, sandals and safety footwear. Anywhere in fact that a secure and simple to use fastening is called for. The fact that they can also be seen as being more sophisticated than other fasteners is a further potential consumer attraction in a



The Fidlock SNAP range of fasteners is extremely versatile.

'high tech' age and a useful way of providing perceived added value to a shoe. Fidlock says this is a sound marketing point. It also says its fasteners are not just easy to use, they are also fun to use. "When users experience the principle for the first time, they are always pleasantly surprised; they simply enjoy playing with our system. Fun and function."

The Fidlock HOOK 25 offers a very 'high tech' appearance.

