

Home and dry

Footwear group Ecco made a splash at the 2018 World Water Congress in Tokyo when its tanning division, Ecco Leather, announced a breakthrough that promises important savings in chemicals, sludge and, most importantly, water compared to established leather manufacturing processes. It says its new system, DriTan, can save 20 litres of water per hide.

Ecco Leather, the in-house leather production group set up by vertically integrated footwear group Ecco, chose the 2018 World Water Congress in Tokyo in September to unveil a commemorative edition of its Soft 8 sneaker. It unveiled this version of a classic Ecco shoe to show the world a potentially much more important new idea, DriTan. The shoe is made from material that Ecco Leather produced using what it has called “game-changing technology” for its tanneries. DriTan, it states, will allow leather manufacturers to use to the full the moisture already present in hides and, therefore, utilise less water in the tanning process.

Apart from the savings in water, the technology will also reduce wastewater discharge from the tanneries and allow Ecco Leather to reduce its use of chemicals. At its tannery in Dongen in the Netherlands alone, Ecco Leather has calculated that it will eliminate 600 tonnes of sludge per year using DriTan. The technology is the fruit of five years’ research and development activity, which had as its starting point a question about the possibility of tanning with much less water in a world of increasing water scarcity. “It took a lot of research, investment and manpower,” head of applied research, Thomas Gøgsig, says. “But the biggest challenge was in opening our eyes. Tanning is a very old and traditional industry, so people tend to forget to ask if it can be done differently.”

Fresh eyes

The company’s in-house research team came up with some suggested amendments to the processes the company it already had in place. With proprietary tanning agents, the team found that it was possible to preserve

collagen in the hide without adding any water. This team, lead by Mr Gøgsig, already has something of a reputation in the leather industry for looking at age-old questions in leather production with fresh eyes and coming up with its own solutions. For example, although most of the leather the company produces is chrome-tanned, Mr Gøgsig is on the record as saying this method is “rather boring”, while vegetable-tanned leather is, in his mind, “like a wild animal, hard to control”, giving beautiful material, but also “headaches and frustrations”, for example by failing to hold colour the way the tanner would usually like.

As a combination of the best of both systems, the company has begun using silicium-doped aluminium tanning agents. “This comes directly from our innovation lab,” Mr Gøgsig explains. “Nobody is doing this except Ecco. But here you really have a mix of the best of both worlds: it’s chrome-free but with chrome properties. You will be able to make old-school, burnished, aging leathers, yet white leathers with tremendous brilliancy are also possible, as is everything in between, including pastel colours.”

In-house roll-out

The company has not said specifically if its work with silicium-doped aluminium tanning agents led to its breakthrough with DriTan, but it insists the development will allow it to save 20 litres of water per hide, and because it currently processes 1.25 million hides per year at its tannery in Dongen, it believes the new technology will help it save a total of 25 million litres of water per year there. Ecco Leather has confirmed that its use of DriTan will be confined to the tannery at Dongen to begin with and, depending on results, rolled out



The drums at the Ecco Leather tannery in Dongen, the Netherlands, process 1.25 million hides per year.

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DriTan works by employing proprietary tanning agents to maximise the moisture levels already present in hides, thereby requiring less additional water to process them.



Ecco produced a commemorative edition of its Soft 8 sneaker to coincide with its launch of the new DriTan system.
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from there to the group's other tanneries in Indonesia, Thailand and China. Beyond that, Thomas Gøgsig has explained that the company harbours hope of finding ways to share the new technology with its partners and "with the industry worldwide" once it learns "how it rolls out in-house".

He says DriTan will be the first step in a wider plan that Ecco Leather has to make the entire leather manufacturing process water-free, a target he describes as "very ambitious". At the very least, he is convinced DriTan can be a first step in that direction. "This process only involves what you already have to hand. You don't have to invest in new equipment. You don't have to look for what you might call exotic chemicals. You just use what is already available in the tannery, only in a different way."

One innovation from one company

The prize that could be on offer for the global leather industry is a spectacular one. Ecco Leather's calculation,

based on figures from the Leather Working Group, is that the leather industry across the world utilises 400 billion litres of water per year to make bovine leather alone. This figure, which equates roughly to 2,000 litres per hide, is on the high side, especially considering the levels tanners in the European Union are achieving. In Europe, tanners are averaging consumption of around 600 litres of water per hide and many are exceeding that performance. To save 20 litres per hide, in a European Union context, could represent a saving of 3.3%. Even if you stick with the global figure of 2,000 litres per hide, DriTan offers a saving of 1% and 1% of 400 billion litres of water is four billion litres per year.

Thomas Gøgsig's original question is still worth considering. Water scarcity across the world is likely to put increasing pressure on many manufacturing industries and other aspects of everyday life. The responsible reaction is for the leather industry to continue to seek ways of its own to reduce its consumption. ☺